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NAVFAC
Naval Facilities Engineering Command

# Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, SDG BSI18

*Marine Corps Ballistics Base Barstow*
*Barstow, California*

November 2019

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

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# DoD Type I Data Package

**Prepared for:**

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

Project: Barstow Site Inspection
Soil Samples
Collected on 11/01/18

## SDG# BSI18

| GROUP | SAMPLE NUMBERS |
|---|---|
| 2006161 | 9885160-9885165 |

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:** **01/28/2019**

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 BSI18
## 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 |
|---|---|---|---|
| 9885160 | OU1-Bldg53-S-02-01 | 11/01/2018 12:51 | 11/06/2018 10:35 |
| 9885161 | OU1-Bldg53-S-02-03 | 11/01/2018 13:02 | 11/06/2018 10:35 |
| 9885162 | OU1-Bldg53-S-02-03 MS | 11/01/2018 13:02 | 11/06/2018 10:35 |
| 9885163 | OU1-Bldg53-S-02-03 MSD | 11/01/2018 13:02 | 11/06/2018 10:35 |
| 9885164 | OU1-Bldg53-S-02-05 | 11/01/2018 13:09 | 11/06/2018 10:35 |
| 9885165 | OU1-Bldg53-S-02-08 | 11/01/2018 13:12 | 11/06/2018 10:35 |

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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.

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**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 14:41

**Project: Barstow Site Inspection**

Account #: 43806
Group Number: 2006161
SDG: BSI18
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-Bldg53-S-01-12 Grab Soil | 11/01/2018 12:27 | 9885159 |
| OU1-Bldg53-S-02-01 Grab Soil | 11/01/2018 12:51 | 9885160 |
| OU1-Bldg53-S-02-03 Grab Soil | 11/01/2018 13:02 | 9885161 |
| OU1-Bldg53-S-02-03 MS Grab Soil | 11/01/2018 13:02 | 9885162 |
| OU1-Bldg53-S-02-03 MSD Grab Soil | 11/01/2018 13:02 | 9885163 |
| OU1-Bldg53-S-02-05 Grab Soil | 11/01/2018 13:09 | 9885164 |
| OU1-Bldg53-S-02-08 Grab Soil | 11/01/2018 13:12 | 9885165 |

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

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Project Name: Barstow Site Inspection
ELLE Group #: 2006161

**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: 9885160

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

Sample #s: 9885162

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

Sample #s: 9885163

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

Batch #: 18316029 (Sample number(s): 9885160-9885165 UNSPK: 9885161)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: NEtFOSAA

**SM 2540 G-1997 %Moisture Calc, Wet Chemistry**

Batch #: 18312820008B (Sample number(s): 9885160-9885165 BKG: 9885161)

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

**Sample Description:** **OU1-Bldg53-S-01-12 Grab Soil**
**MCLB Barstow**

**Project Name:** **Barstow Site Inspection**

Submittal Date/Time: 11/06/2018 10:35
Collection Date/Time: 11/01/2018 12:27
SDG#: BSI18-01

**Gutierrez Canales Engineering**
**ELLE Sample #:** **SW 9885159**
**ELLE Group #:** **2006161**

**Sample Comments**

CA ELAP Lab Certification No. 2792

**Sample Description:** **OU1-Bldg53-S-02-01 Grab Soil**
**MCLB Barstow**

**Project Name:** **Barstow Site Inspection**

Submittal Date/Time: 11/06/2018 10:35
Collection Date/Time: 11/01/2018 12:51
SDG#: BSI18-02

**Gutierrez Canales Engineering**
**ELLE Sample #: SW 9885160**
**ELLE Group #: 2006161**
**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. | 0.47 | 1.9 | 2.8 | 1 |
| | NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | NMeFOSAA | 2355-31-9 | N.D. | 0.47 | 1.9 | 2.8 | 1 |
| | NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.19 | 0.56 | 0.75 | 1 |
| 14478 | Perfluorodecanoic acid | 335-76-2 | N.D. | 0.28 | 0.64 | 0.94 | 1 |
| 14478 | Perfluorododecanoic acid | 307-55-1 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.19 | 0.60 | 0.75 | 1 |
| 14478 | Perfluorohexanoic acid | 307-24-4 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.19 | 0.61 | 0.75 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| 14478 | Perfluorotetradecanoic acid | 376-06-7 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| 14478 | Perfluorotridecanoic acid | 72629-94-8 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| 14478 | Perfluoroundecanoic acid | 2058-94-8 | N.D. | 0.19 | 0.64 | 0.75 | 1 |
| **Wet Chemistry** | **SM 2540 G-1997 %Moisture Calc** | | **%** | **%** | **%** | **%** | |
| 00111 | Moisture | n.a. | 3.0 | 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 | 18316029 | 11/13/2018 23:33 | Marissa C Drexinger | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 2 | 18316029 | 11/12/2018 16:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18312820008B | 11/08/2018 13:57 | Larry E Bevins | 1 |

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

**Sample Description:** **OU1-Bldg53-S-02-03 Grab Soil**
**MCLB Barstow**

**Project Name:** **Barstow Site Inspection**

Submittal Date/Time: 11/06/2018 10:35
Collection Date/Time: 11/01/2018 13:02
SDG#: BSI18-03BKG

**Gutierrez Canales Engineering**
**ELLE Sample #: SW 9885161**
**ELLE Group #: 2006161**
**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. | 0.47 | 1.9 | 2.8 | 1 |
| | NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | NMeFOSAA | 2355-31-9 | N.D. | 0.47 | 1.9 | 2.8 | 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. | 0.28 | 0.64 | 0.95 | 1 |
| 14478 | Perfluorododecanoic acid | 307-55-1 | N.D. | 0.19 | 0.64 | 0.76 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.19 | 0.64 | 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 | 0.64 | 0.76 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.64 | 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 | 0.64 | 0.76 | 1 |
| 14478 | Perfluorotetradecanoic acid | 376-06-7 | N.D. | 0.19 | 0.64 | 0.76 | 1 |
| 14478 | Perfluorotridecanoic acid | 72629-94-8 | N.D. | 0.19 | 0.64 | 0.76 | 1 |
| 14478 | Perfluoroundecanoic acid | 2058-94-8 | N.D. | 0.19 | 0.64 | 0.76 | 1 |
| **Wet Chemistry** | **SM 2540 G-1997 %Moisture Calc** | | **%** | **%** | **%** | **%** | |
| 00111 | Moisture | n.a. | 3.2 | 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 | 18316029 | 11/13/2018 23:42 | Marissa C Drexinger | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 2 | 18316029 | 11/12/2018 16:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18312820008B | 11/08/2018 13:57 | Larry E Bevins | 1 |

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

**Sample Description:** **OU1-Bldg53-S-02-03 MS Grab Soil**
**MCLB Barstow**

**Project Name:** **Barstow Site Inspection**

Submittal Date/Time: 11/06/2018 10:35
Collection Date/Time: 11/01/2018 13:02
SDG#: BSI18-03MS

**Gutierrez Canales Engineering**
**ELLE Sample #: SW 9885162**
**ELLE Group #: 2006161**
**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 | 1.6 J | 0.49 | 1.9 | 2.9 | 1 |
| | NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | NMeFOSAA | 2355-31-9 | 1.0 J | 0.49 | 1.9 | 2.9 | 1 |
| | NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.2 | 0.19 | 0.58 | 0.78 | 1 |
| 14478 | Perfluorodecanoic acid | 335-76-2 | 1.5 | 0.29 | 0.66 | 0.97 | 1 |
| 14478 | Perfluorododecanoic acid | 307-55-1 | 1.3 | 0.19 | 0.66 | 0.78 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 1.6 | 0.19 | 0.66 | 0.78 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.2 | 0.19 | 0.62 | 0.78 | 1 |
| 14478 | Perfluorohexanoic acid | 307-24-4 | 1.5 | 0.19 | 0.66 | 0.78 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 1.4 | 0.19 | 0.66 | 0.78 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 1.1 | 0.19 | 0.63 | 0.78 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.4 | 0.19 | 0.66 | 0.78 | 1 |
| 14478 | Perfluorotetradecanoic acid | 376-06-7 | 1.5 | 0.19 | 0.66 | 0.78 | 1 |
| 14478 | Perfluorotridecanoic acid | 72629-94-8 | 1.5 | 0.19 | 0.66 | 0.78 | 1 |
| 14478 | Perfluoroundecanoic acid | 2058-94-8 | 1.4 | 0.19 | 0.66 | 0.78 | 1 |
| **Wet Chemistry** | **SM 2540 G-1997 %Moisture Calc** | | **%** | **%** | **%** | **%** | |
| 00118 | Moisture | n.a. | 3.2 | 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 | 18316029 | 11/13/2018 23:51 | Marissa C Drexinger | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 2 | 18316029 | 11/12/2018 16:00 | Anthony C Polaski | 1 |
| 00118 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18312820008B | 11/08/2018 13:57 | Larry E Bevins | 1 |

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

**Sample Description:** **OU1-Bldg53-S-02-03 MSD Grab Soil**
**MCLB Barstow**

**Project Name:** **Barstow Site Inspection**

Submittal Date/Time: 11/06/2018 10:35
Collection Date/Time: 11/01/2018 13:02
SDG#: BSI18-03MSD

**Gutierrez Canales Engineering**
**ELLE Sample #: SW 9885163**
**ELLE Group #: 2006161**
**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 | 1.8 J | 0.50 | 2.0 | 3.0 | 1 |
| | NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | NMeFOSAA | 2355-31-9 | 1.2 J | 0.50 | 2.0 | 3.0 | 1 |
| | NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.3 | 0.20 | 0.60 | 0.80 | 1 |
| 14478 | Perfluorodecanoic acid | 335-76-2 | 1.4 | 0.30 | 0.68 | 1.0 | 1 |
| 14478 | Perfluorododecanoic acid | 307-55-1 | 1.3 | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 1.6 | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.2 | 0.20 | 0.64 | 0.80 | 1 |
| 14478 | Perfluorohexanoic acid | 307-24-4 | 1.5 | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 1.5 | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 1.3 | 0.20 | 0.65 | 0.80 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.6 | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorotetradecanoic acid | 376-06-7 | 1.5 | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorotridecanoic acid | 72629-94-8 | 1.5 | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoroundecanoic acid | 2058-94-8 | 1.4 | 0.20 | 0.68 | 0.80 | 1 |
| **Wet Chemistry** | **SM 2540 G-1997 %Moisture Calc** | | **%** | **%** | **%** | **%** | |
| 00118 | Moisture | n.a. | 3.2 | 0.50 | 0.50 | 0.50 | 1 |
| 00121 | Moisture Duplicate | n.a. | 2.8 | 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 | 18316029 | 11/14/2018 00:00 | Marissa C Drexinger | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 2 | 18316029 | 11/12/2018 16:00 | Anthony C Polaski | 1 |
| 00118 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18312820008B | 11/08/2018 13:57 | Larry E Bevins | 1 |
| 00121 | Moisture Duplicate | SM 2540 G-1997 %Moisture Calc | 1 | 18312820008B | 11/08/2018 13:57 | Larry E Bevins | 1 |

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

**Sample Description:** **OU1-Bldg53-S-02-05 Grab Soil**
**MCLB Barstow**

**Project Name:** **Barstow Site Inspection**

Submittal Date/Time: 11/06/2018 10:35
Collection Date/Time: 11/01/2018 13:09
SDG#: BSI18-04

**Gutierrez Canales Engineering**
**ELLE Sample #: SW 9885164**
**ELLE Group #: 2006161**
**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. | 0.50 | 2.0 | 3.0 | 1 |
| | NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | NMeFOSAA | 2355-31-9 | N.D. | 0.50 | 2.0 | 3.0 | 1 |
| | NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.60 | 0.80 | 1 |
| 14478 | Perfluorodecanoic acid | 335-76-2 | N.D. | 0.30 | 0.68 | 1.0 | 1 |
| 14478 | Perfluorododecanoic acid | 307-55-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.64 | 0.80 | 1 |
| 14478 | Perfluorohexanoic acid | 307-24-4 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.65 | 0.80 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorotetradecanoic acid | 376-06-7 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorotridecanoic acid | 72629-94-8 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoroundecanoic acid | 2058-94-8 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| **Wet Chemistry** | **SM 2540 G-1997 %Moisture Calc** | | **%** | **%** | **%** | **%** | |
| 00111 | Moisture | n.a. | 2.5 | 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 | 18316029 | 11/14/2018 00:09 | Marissa C Drexinger | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 2 | 18316029 | 11/12/2018 16:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18312820008B | 11/08/2018 13:57 | Larry E Bevins | 1 |

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

**Sample Description:** **OU1-Bldg53-S-02-08 Grab Soil**
**MCLB Barstow**

**Project Name:** **Barstow Site Inspection**

Submittal Date/Time: 11/06/2018 10:35
Collection Date/Time: 11/01/2018 13:12
SDG#: BSI18-05

**Gutierrez Canales Engineering**
**ELLE Sample #: SW 9885165**
**ELLE Group #: 2006161**
**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. | 0.50 | 2.0 | 3.0 | 1 |
| | NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | NMeFOSAA | 2355-31-9 | N.D. | 0.50 | 2.0 | 3.0 | 1 |
| | NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid. | | | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.60 | 0.80 | 1 |
| 14478 | Perfluorodecanoic acid | 335-76-2 | N.D. | 0.30 | 0.68 | 1.0 | 1 |
| 14478 | Perfluorododecanoic acid | 307-55-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.64 | 0.80 | 1 |
| 14478 | Perfluorohexanoic acid | 307-24-4 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.65 | 0.80 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorotetradecanoic acid | 376-06-7 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorotridecanoic acid | 72629-94-8 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoroundecanoic acid | 2058-94-8 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| **Wet Chemistry** | **SM 2540 G-1997 %Moisture Calc** | | **%** | **%** | **%** | **%** | |
| 00111 | Moisture | n.a. | 3.5 | 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 | 18316029 | 11/14/2018 00:18 | Marissa C Drexinger | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 2 | 18316029 | 11/12/2018 16:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18312820008B | 11/08/2018 13:57 | Larry E Bevins | 1 |

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

# Quality Control Summary

Client Name: Gutierrez Canales Engineering Group Number: 2006161
Reported: 01/18/2019 14:41

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: 18316029 | Sample number(s): 9885160-9885165 | | | |
| 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: 18316029 | Sample number(s): 9885160-9885165 | | | | | | | | |
| NEtFOSAA | 1.36 | 1.60 | | | 117 | | 70-130 | | |
| NMeFOSAA | 1.36 | 1.34 | | | 99 | | 70-130 | | |
| Perfluorobutanesulfonate | 1.20 | 1.26 | | | 105 | | 70-130 | | |
| Perfluorodecanoic acid | 1.36 | 1.49 | | | 109 | | 70-130 | | |
| Perfluorododecanoic acid | 1.36 | 1.50 | | | 110 | | 70-130 | | |
| Perfluoroheptanoic acid | 1.36 | 1.59 | | | 117 | | 70-130 | | |
| Perfluorohexanesulfonate | 1.29 | 1.31 | | | 102 | | 70-130 | | |
| Perfluorohexanoic acid | 1.36 | 1.48 | | | 109 | | 70-130 | | |
| Perfluorononanoic acid | 1.36 | 1.50 | | | 111 | | 70-130 | | |
| Perfluoro-octanesulfonate | 1.30 | 1.22 | | | 94 | | 70-130 | | |
| Perfluorooctanoic acid | 1.36 | 1.47 | | | 108 | | 70-130 | | |
| Perfluorotetradecanoic acid | 1.36 | 1.50 | | | 110 | | 70-130 | | |
| Perfluorotridecanoic acid | 1.36 | 1.56 | | | 115 | | 70-130 | | |
| Perfluoroundecanoic acid | 1.36 | 1.50 | | | 110 | | 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 14:41

Group Number: 2006161

## 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: 18312820008B | Sample number(s): 9885160-9885165 | | | | | | | | |
| Moisture | 89.5 | 89.37 | | | 100 | | 99-101 | | |
| Moisture | 89.5 | 89.37 | | | 100 | | 99-101 | | |
| Moisture Duplicate | 89.5 | 89.37 | | | 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: 18316029 | Sample number(s): 9885160-9885165 UNSPK: 9885161 | | | | | | | | | |
| NEtFOSAA | N.D. | 1.28 | 1.56 | 1.32 | 1.75 | 122 | 133* | 70-130 | 12 | 30 |
| NMeFOSAA | N.D. | 1.28 | 0.967 | 1.32 | 1.17 | 75 | 89 | 70-130 | 19 | 30 |
| Perfluorobutanesulfonate | N.D. | 1.14 | 1.13 | 1.17 | 1.27 | 99 | 109 | 70-130 | 12 | 30 |
| Perfluorodecanoic acid | N.D. | 1.28 | 1.44 | 1.32 | 1.33 | 113 | 101 | 70-130 | 8 | 30 |
| Perfluorododecanoic acid | N.D. | 1.28 | 1.26 | 1.32 | 1.27 | 98 | 96 | 70-130 | 0 | 30 |
| Perfluoroheptanoic acid | N.D. | 1.28 | 1.51 | 1.32 | 1.54 | 118 | 117 | 70-130 | 2 | 30 |
| Perfluorohexanesulfonate | N.D. | 1.21 | 1.15 | 1.25 | 1.18 | 94 | 95 | 70-130 | 3 | 30 |
| Perfluorohexanoic acid | N.D. | 1.28 | 1.42 | 1.32 | 1.41 | 111 | 107 | 70-130 | 0 | 30 |
| Perfluorononanoic acid | N.D. | 1.28 | 1.39 | 1.32 | 1.46 | 109 | 111 | 70-130 | 5 | 30 |
| Perfluoro-octanesulfonate | N.D. | 1.23 | 1.08 | 1.26 | 1.26 | 88 | 100 | 70-130 | 15 | 30 |
| Perfluorooctanoic acid | N.D. | 1.28 | 1.38 | 1.32 | 1.59 | 108 | 121 | 70-130 | 14 | 30 |
| Perfluorotetradecanoic acid | N.D. | 1.28 | 1.44 | 1.32 | 1.43 | 112 | 108 | 70-130 | 1 | 30 |
| Perfluorotridecanoic acid | N.D. | 1.28 | 1.48 | 1.32 | 1.42 | 115 | 108 | 70-130 | 4 | 30 |
| Perfluoroundecanoic acid | N.D. | 1.28 | 1.39 | 1.32 | 1.40 | 109 | 106 | 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: 18312820008B | Sample number(s): 9885160-9885165 BKG: 9885161 | | | |
| Moisture | 3.17 | 2.80 | 13* | 5 |
| Moisture | 3.17 | 2.80 | 13* | 5 |
| Moisture Duplicate | 3.17 | 2.80 | 13* | 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 14:41

Group Number: 2006161

## 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: 18316029

| | 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) |
| 9885160 | 89 | 0.55 | 95 | 0.36 | 93 | 0.55 | 96 | 0.55 | 96 | 0.55 | 93 | 0.82 |
| 9885161 | 87 | 0.55 | 94 | 0.37 | 91 | 0.55 | 89 | 0.55 | 96 | 0.55 | 98 | 0.83 |
| 9885162 | 78 | 0.57 | 83 | 0.38 | 81 | 0.57 | 84 | 0.57 | 91 | 0.57 | 88 | 0.85 |
| 9885163 | 80 | 0.58 | 92 | 0.39 | 91 | 0.58 | 89 | 0.58 | 88 | 0.58 | 82 | 0.87 |
| 9885164 | 74 | 0.59 | 80 | 0.39 | 75 | 0.59 | 77 | 0.59 | 82 | 0.59 | 81 | 0.88 |
| 9885165 | 90 | 0.58 | 97 | 0.39 | 89 | 0.58 | 95 | 0.58 | 97 | 0.58 | 94 | 0.87 |
| Blank | 87 | 1.2 | 93 | 0.80 | 91 | 1.2 | 94 | 1.2 | 97 | 1.2 | 93 | 1.8 |
| LCS | 83 | 1.2 | 88 | 0.80 | 85 | 1.2 | 87 | 1.2 | 93 | 1.2 | 91 | 1.8 |
| MS | 78 | 0.57 | 83 | 0.38 | 81 | 0.57 | 84 | 0.57 | 91 | 0.57 | 88 | 0.85 |
| MSD | 80 | 0.58 | 92 | 0.39 | 91 | 0.58 | 89 | 0.58 | 88 | 0.58 | 82 | 0.87 |
| 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) |
| 9885160 | 101 | 0.36 | 98 | 0.55 | 104 | 0.82 | 104 | 0.55 | 86 | 0.82 | 93 | 0.55 |
| 9885161 | 95 | 0.37 | 91 | 0.55 | 83 | 0.83 | 90 | 0.55 | 68 | 0.83 | 84 | 0.55 |
| 9885162 | 89 | 0.38 | 81 | 0.57 | 82 | 0.85 | 81 | 0.57 | 69 | 0.85 | 81 | 0.57 |
| 9885163 | 91 | 0.39 | 91 | 0.58 | 77 | 0.87 | 89 | 0.58 | 64 | 0.87 | 85 | 0.58 |
| 9885164 | 82 | 0.39 | 79 | 0.59 | 62 | 0.88 | 83 | 0.59 | 56 | 0.88 | 79 | 0.59 |
| 9885165 | 92 | 0.39 | 91 | 0.58 | 83 | 0.87 | 95 | 0.58 | 71 | 0.87 | 87 | 0.58 |
| Blank | 98 | 0.80 | 89 | 1.2 | 84 | 1.8 | 89 | 1.2 | 79 | 1.8 | 86 | 1.2 |
| LCS | 90 | 0.80 | 89 | 1.2 | 102 | 1.8 | 87 | 1.2 | 88 | 1.8 | 84 | 1.2 |
| MS | 89 | 0.38 | 81 | 0.57 | 82 | 0.85 | 81 | 0.57 | 69 | 0.85 | 81 | 0.57 |
| MSD | 91 | 0.39 | 91 | 0.58 | 77 | 0.87 | 89 | 0.58 | 64 | 0.87 | 85 | 0.58 |
| Limits: | 50-150 | | 50-150 | | 50-150 | | 50-150 | | 50-150 | | 50-150 | |

| | 13C2-PFTeDA | |
|---|---|---|
| | %Rec | LOD (ng/g) |
| 9885160 | 88 | 0.55 |
| 9885161 | 85 | 0.55 |
| 9885162 | 79 | 0.57 |
| 9885163 | 82 | 0.58 |
| 9885164 | 76 | 0.59 |
| 9885165 | 83 | 0.58 |

*- 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: 2006161
Reported: 01/18/2019 14:41

## 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: 18316029

| | 13C2-PFTeDA %Rec | LOD (ng/g) |
|---|---|---|
| Blank | 81 | 1.2 |
| LCS | 83 | 1.2 |
| MS | 79 | 0.57 |
| MSD | 82 | 0.58 |
| 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

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only
Acct. # 430016 Group # 2000101 Sample # 9085759-65

**COC #** 568583

| Client Information | | Matrix | Analysis Requested | For Lab Use Only |
|---|---|---|---|---|
| Client: GCE | Acct. #: | | Preservation and Filtration Codes | FSC: |
| Project Name/#: 14G-C719-006 Barstow Site Inspections | PWSID #: | | | SCR#: |
| Project Manager: Eric Rider | P.O. #: | | | Preservation Codes: H=HCl, T=Thiosulfate, N=$HNO_3$, B=NaOH, S=$H_2SO_4$, P=$H_3PO_4$, F=Field Filtered, O=Other |
| Sampler: Haydar Azzouz | Quote #: | | | Remarks |
| State where samples were collected: CA | For Compliance: Yes ☐ No ☒ | | | |

Matrix: Soil ☒ Sediment ☐ Tissue ☐ | Water: Potable ☐ Ground ☐ Surface ☐ NPDES ☐ | Other: ____

| Sample Identification | Collected Date | Collected Time | Grab | Composite | Total # of Containers | PFAs (EPA 537 Mod) | Remarks |
|---|---|---|---|---|---|---|---|
| OU1-Bldg 53-S-01-12 | 11/1/18 | 12:27 | X | | 2 | ARCHIVE | ARCHIVE |
| OU1-Bldg 53-S-02-01 | 11/1/18 | 12:51 | X | | 2 | ✓ | |
| OU1-Bldg 53-S-02-03 | 11/1/18 | 13:02 | X | | 6 | ✓ | MS/MSD |
| OU1-Bldg 53-S-02-05 | 11/1/18 | 13:09 | X | | 2 | ✓ | |
| OU1-Bldg 53-S-02-08 | 11/1/18 | 13:12 | X | | 2 | ✓ | |
| OU1-Bldg 53-S-02-10 | 11/1/18 | 13:19 | X | | 2 | ARCHIVE | ARCHIVE |
| OU1-Bldg 53-S-02-12 | 11/1/18 | 13:21 | X | | 2 | ARCHIVE | ARCHIVE |
| OU1-Bldg 2-S-01-01 | 11/1/18 | 13:50 | X | | 2 | ✓ | |
| OU1-Bldg 2-S-01-03 | 11/1/18 | 14:00 | X | | 6 | ✓ | MS/MSD |
| OU1-Bldg 2-S-01-05 | 11/1/18 | 14:12 | X | | 2 | ✓ | |

**Turnaround Time (TAT) Requested** (please circle)
Standard (circled) 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) (circled) | 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 |
|---|---|---|---|---|---|
| [signature] | 11/5/18 | 1700 | [signature] | | |
| Relinquished by | Date | Time | Received by | Date | Time |
| Relinquished by | Date | Time | Received by | Date | Time |
| Relinquished by | Date | Time | Received by | Date | Time |
| Relinquished by | Date | Time | Received by [signature] | 11-6-18 | 1035 |

EDD Required? Yes (circled) No
If yes, format: NEBO, EDF

Site-Specific QC (MS/MSD/Dup)? Yes (circled) No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature upon receipt 0.9-2.8 °C

eurofins | Lancaster Laboratories Environmental

# Sample Administration Receipt Documentation Log

Doc Log ID: 232250

Group Number(s):

Client: GCE

200161

## Delivery and Receipt Information

| | | | |
|---|---|---|---|
| Delivery Method: | Fed Ex | Arrival Timestamp: | 11/06/2018 10:35 |
| Number of Packages: | 4 | Number of Projects: | 4 |
| State/Province of Origin: | CA | | |

## Arrival Condition Summary

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

*Unpacked by Melvin Sanchez (8943) at 17:10 on 11/06/2018*

## Samples Chilled Details

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

| Cooler # | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|---|---|---|---|---|---|---|---|
| 1 | DT131 | 1.1 | DT | Wet | Y | Bagged | N |
| 2 | DT131 | 1.4 | DT | Wet | Y | Bagged | N |
| 3 | DT131 | 2.8 | DT | Wet | Y | Bagged | N |
| 4 | DT131 | 0.9 | DT | Wet | Y | Bagged | N |



2425 New Holland Pike
Lancaster, PA 17601 717-656-2300

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.

This report shall not be reproduced except in full, without the written approval of the laboratory.

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.

**WARRANTY AND LIMITS OF LIABILITY** - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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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: BSI18**

## PFAS Group

**Fraction: PFAS by LC/MS/MS**

| Sample # | Client ID | Matrix Liquid | Matrix Solid | DF | Comments |
|---|---|---|---|---|---|
| 9885160 | OU1-Bldg53-S-02-01 | | X | 1 | |
| 9885161 | OU1-Bldg53-S-02-03 | | X | 1 | Unspiked |
| 9885162 | OU1-Bldg53-S-02-03 MS | | X | 1 | Matrix Spike |
| 9885163 | OU1-Bldg53-S-02-03 MSD | | X | 1 | Matrix Spike Duplicate |
| 9885164 | OU1-Bldg53-S-02-05 | | X | 1 | |
| 9885165 | OU1-Bldg53-S-02-08 | | 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:

**MS/MSD**

Batch#: 18316029 (Sample number(s): 9885160-9885165, UNSPK: 9885161)
The recovery(ies) for the following analyte(s) in the MSD exceeded the acceptance window indicating a positive bias:NEtFOSAA

### 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: BSI18**

## 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: BSI18**

**Fraction: PFAS by LC/MS/MS**

| Analysis | Batch Number | Sample Number | Analysis Date |
|---|---|---|---|
| PFAS in Soil by LC/MS/MS-DoD | 18316029 | BLK316029B | 11/13/2018 23:06 |
| | | LCS316029Q | 11/13/2018 23:15 |
| | | 9885160 | 11/13/2018 23:33 |
| | | 9885161 UNSPK | 11/13/2018 23:42 |
| | | 9885162 MS | 11/13/2018 23:51 |
| | | 9885163 MSD | 11/14/2018 00:00 |
| | | 9885164 | 11/14/2018 00:09 |
| | | 9885165 | 11/14/2018 00:18 |

**Quality Control Summary**
**Method Blank**
**PFAS Group**
**SDG: BSI18**
**Matrix: SOLID**

**Fraction: PFAS by LC/MS/MS**

| 18316029 / BLK316029B<br>Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| Perfluorooctanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorononanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorodecanoic acid | 11/13/18 | N.D. | ng/g | 0.30 | 0.68 | 1.0 |
| Perfluoroundecanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorododecanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorotridecanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorotetradecanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorohexanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluoroheptanoic acid | 11/13/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorobutanesulfonate | 11/13/18 | N.D. | ng/g | 0.20 | 0.60 | 0.80 |
| Perfluorohexanesulfonate | 11/13/18 | N.D. | ng/g | 0.20 | 0.64 | 0.80 |
| Perfluoro-octanesulfonate | 11/13/18 | N.D. | ng/g | 0.20 | 0.65 | 0.80 |
| NEtFOSAA | 11/13/18 | N.D. | ng/g | 0.50 | 2.0 | 3.0 |
| NMeFOSAA | 11/13/18 | N.D. | ng/g | 0.50 | 2.0 | 3.0 |

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI18
Matrix: SOIL

| 18316029 | | 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 |
| BLK316029 | 11/13/18 23:06 | 86 | 81 | 87 | 91 | 94 |
| LCS316029 | 11/13/18 23:15 | 84 | 83 | 83 | 85 | 87 |
| 9885160 | 11/13/18 23:33 | 93 | 88 | 89 | 93 | 96 |
| 9885161 | 11/13/18 23:42 | 84 | 85 | 87 | 91 | 89 |
| 9885162MS | 11/13/18 23:51 | 81 | 79 | 78 | 81 | 84 |
| 9885163MSD | 11/14/18 00:00 | 85 | 82 | 80 | 91 | 89 |
| 9885164 | 11/14/18 00:09 | 79 | 76 | 74 | 75 | 77 |
| 9885165 | 11/14/18 00:18 | 87 | 83 | 90 | 89 | 95 |

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI18
Matrix: SOIL

| 18316029 | | 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 |
| BLK316029 | 11/13/18 23:06 | 93 | 89 | 89 | 97 | 93 |
| LCS316029 | 11/13/18 23:15 | 88 | 89 | 87 | 93 | 91 |
| 9885160 | 11/13/18 23:33 | 95 | 98 | 104 | 96 | 93 |
| 9885161 | 11/13/18 23:42 | 94 | 91 | 90 | 96 | 98 |
| 9885162MS | 11/13/18 23:51 | 83 | 81 | 81 | 91 | 88 |
| 9885163MSD | 11/14/18 00:00 | 92 | 91 | 89 | 88 | 82 |
| 9885164 | 11/14/18 00:09 | 80 | 79 | 83 | 82 | 81 |
| 9885165 | 11/14/18 00:18 | 97 | 91 | 95 | 97 | 94 |

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI18
Matrix: SOIL

| 18316029 | | 13C9-PFNA | D3-NMEFOSAA | D5-NETFOSAA |
|---|---|---|---|---|
| | **Limits** | 50-150 | 50-150 | 50-150 |
| **LAB SAMPLE ID** | **DATE/TIME** | % Recovery | % Recovery | % Recovery |
| BLK316029 | 11/13/18 23:06 | 98 | 84 | 79 |
| LCS316029 | 11/13/18 23:15 | 90 | 102 | 88 |
| 9885160 | 11/13/18 23:33 | 101 | 104 | 86 |
| 9885161 | 11/13/18 23:42 | 95 | 83 | 68 |
| 9885162MS | 11/13/18 23:51 | 89 | 82 | 69 |
| 9885163MSD | 11/14/18 00:00 | 91 | 77 | 64 |
| 9885164 | 11/14/18 00:09 | 82 | 62 | 56 |
| 9885165 | 11/14/18 00:18 | 92 | 83 | 71 |

* Outside QC Limits

## PFAS Group

**Fraction: PFAS by LC/MS/MS**

| UNSPK: 9885161<br>MS: 9885162<br>MSD: 9885163<br>**Analyte** | Batch: **18316029** (Sample number(s): 9885160-9885165 ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **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 | 1.28 / 1.32 | N.D. | 1.38 | 1.59 | 108 | 121 | 70-130 | 14 | 30 |
| Perfluorononanoic acid | 1.28 / 1.32 | N.D. | 1.39 | 1.46 | 109 | 111 | 70-130 | 5 | 30 |
| Perfluorodecanoic acid | 1.28 / 1.32 | N.D. | 1.44 | 1.33 | 113 | 101 | 70-130 | 8 | 30 |
| Perfluoroundecanoic acid | 1.28 / 1.32 | N.D. | 1.39 | 1.40 | 109 | 106 | 70-130 | 1 | 30 |
| Perfluorododecanoic acid | 1.28 / 1.32 | N.D. | 1.26 | 1.27 | 98 | 96 | 70-130 | 0 | 30 |
| Perfluorotridecanoic acid | 1.28 / 1.32 | N.D. | 1.48 | 1.42 | 115 | 108 | 70-130 | 4 | 30 |
| Perfluorotetradecanoic acid | 1.28 / 1.32 | N.D. | 1.44 | 1.43 | 112 | 108 | 70-130 | 1 | 30 |
| Perfluorohexanoic acid | 1.28 / 1.32 | N.D. | 1.42 | 1.41 | 111 | 107 | 70-130 | 0 | 30 |
| Perfluoroheptanoic acid | 1.28 / 1.32 | N.D. | 1.51 | 1.54 | 118 | 117 | 70-130 | 2 | 30 |
| Perfluorobutanesulfonate | 1.14 / 1.17 | N.D. | 1.13 | 1.27 | 99 | 109 | 70-130 | 12 | 30 |
| Perfluorohexanesulfonate | 1.21 / 1.25 | N.D. | 1.15 | 1.18 | 94 | 95 | 70-130 | 3 | 30 |
| Perfluoro-octanesulfonate | 1.23 / 1.26 | N.D. | 1.08 | 1.26 | 88 | 100 | 70-130 | 15 | 30 |
| NEtFOSAA | 1.28 / 1.32 | N.D. | 1.56 J | 1.75 J | 122 | 133 * | 70-130 | 12 | 30 |
| NMeFOSAA | 1.28 / 1.32 | N.D. | 0.967 J | 1.17 J | 75 | 89 | 70-130 | 19 | 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: BSI18**
**Matrix: SOLID**

## PFAS Group
**Fraction: PFAS by LC/MS/MS**

| LCS: LCS316029Q | Batch: **18316029** (Sample number(s): 9885160-9885165 ) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **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 | 1.47 | NA | 108 | NA | 70-130 | NA | NA |
| Perfluorononanoic acid | 1.36 | 1.50 | NA | 111 | NA | 70-130 | NA | NA |
| Perfluorodecanoic acid | 1.36 | 1.49 | NA | 109 | NA | 70-130 | NA | NA |
| Perfluoroundecanoic acid | 1.36 | 1.50 | NA | 110 | NA | 70-130 | NA | NA |
| Perfluorododecanoic acid | 1.36 | 1.50 | NA | 110 | NA | 70-130 | NA | NA |
| Perfluorotridecanoic acid | 1.36 | 1.56 | NA | 115 | NA | 70-130 | NA | NA |
| Perfluorotetradecanoic acid | 1.36 | 1.50 | NA | 110 | NA | 70-130 | NA | NA |
| Perfluorohexanoic acid | 1.36 | 1.48 | NA | 109 | NA | 70-130 | NA | NA |
| Perfluoroheptanoic acid | 1.36 | 1.59 | NA | 117 | NA | 70-130 | NA | NA |
| Perfluorobutanesulfonate | 1.20 | 1.26 | NA | 105 | NA | 70-130 | NA | NA |
| Perfluorohexanesulfonate | 1.29 | 1.31 | NA | 102 | NA | 70-130 | NA | NA |
| Perfluoro-octanesulfonate | 1.30 | 1.22 | NA | 94 | NA | 70-130 | NA | NA |
| NEtFOSAA | 1.36 | 1.60 J | NA | 117 | NA | 70-130 | NA | NA |
| NMeFOSAA | 1.36 | 1.34 J | NA | 99 | NA | 70-130 | NA | NA |

**Fraction: PFAS by LC/MS/MS**

| 14478: PFAS in Soil by LC/MS/MS-DoD<br>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 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| Perfluorobutanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.042 | 0.20 | 0.235 | 17.3 | ±30 |
| CAL2 | 0.104 | 0.60 | 0.577 | -3.8 | ±30 |
| CAL3 | 0.413 | 2.00 | 2.291 | 14.5 | ±30 |
| CAL4 | 1.471 | 8.00 | 8.148 | 1.9 | ±30 |
| CAL5 | 3.863 | 20.00 | 21.403 | 7.0 | ±30 |
| CAL6 | 9.099 | 50.00 | 50.404 | 0.8 | ±30 |
| CAL7 | 17.644 | 100.00 | 97.743 | -2.3 | ±30 |

| Perfluoropentanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.042 | 0.20 | 0.245 | 22.5 | ±30 |
| CAL2 | 0.114 | 0.60 | 0.661 | 10.2 | ±30 |
| CAL3 | 0.421 | 2.00 | 2.435 | 21.8 | ±30 |
| CAL4 | 1.502 | 8.00 | 8.694 | 8.7 | ±30 |
| CAL5 | 3.622 | 20.00 | 20.969 | 4.8 | ±30 |
| CAL6 | 8.759 | 50.00 | 50.702 | 1.4 | ±30 |
| CAL7 | 16.773 | 100.00 | 97.094 | -2.9 | ±30 |

| Perfluorobutanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.040 | 0.18 | 0.192 | 8.5 | ±30 |
| CAL2 | 0.107 | 0.53 | 0.510 | -4.0 | ±30 |
| CAL3 | 0.404 | 1.77 | 1.921 | 8.5 | ±30 |
| CAL4 | 1.452 | 7.08 | 6.906 | -2.5 | ±30 |
| CAL5 | 3.809 | 17.70 | 18.121 | 2.4 | ±30 |
| CAL6 | 9.475 | 44.20 | 45.072 | 2.0 | ±30 |
| CAL7 | 18.318 | 88.40 | 87.136 | -1.4 | ±30 |

| 4:2 fluorotelomersulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.071 | 0.19 | 0.192 | 2.5 | ±30 |
| CAL2 | 0.191 | 0.56 | 0.518 | -7.5 | ±30 |
| CAL3 | 0.720 | 1.87 | 1.954 | 4.5 | ±30 |
| CAL4 | 2.675 | 7.47 | 7.263 | -2.8 | ±30 |
| CAL5 | 6.655 | 18.70 | 18.070 | -3.4 | ±30 |
| CAL6 | 17.824 | 46.70 | 48.392 | 3.6 | ±30 |
| CAL7 | 34.069 | 93.40 | 92.499 | -1.0 | ±30 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| Perfluorohexanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.059 | 0.20 | 0.246 | 22.8 | ±30 |
| CAL2 | 0.149 | 0.60 | 0.622 | 3.7 | ±30 |
| CAL3 | 0.544 | 2.00 | 2.272 | 13.6 | ±30 |
| CAL4 | 1.973 | 8.00 | 8.239 | 3.0 | ±30 |
| CAL5 | 5.022 | 20.00 | 20.968 | 4.8 | ±30 |
| CAL6 | 11.605 | 50.00 | 48.453 | -3.1 | ±30 |
| CAL7 | 21.693 | 100.00 | 90.577 | -9.4 | ±30 |

| Perfluoropentanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.022 | 0.19 | 0.209 | 11.4 | ±30 |
| CAL2 | 0.048 | 0.56 | 0.470 | -16.4 | ±30 |
| CAL3 | 0.202 | 1.88 | 1.960 | 4.3 | ±30 |
| CAL4 | 0.773 | 7.50 | 7.508 | 0.1 | ±30 |
| CAL5 | 1.906 | 18.80 | 18.506 | -1.6 | ±30 |
| CAL6 | 4.880 | 46.90 | 47.375 | 1.0 | ±30 |
| CAL7 | 9.641 | 93.80 | 93.602 | -0.2 | ±30 |

| Perfluoroheptanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.071 | 0.20 | 0.235 | 17.7 | ±30 |
| CAL2 | 0.178 | 0.60 | 0.591 | -1.5 | ±30 |
| CAL3 | 0.706 | 2.00 | 2.342 | 17.1 | ±30 |
| CAL4 | 2.590 | 8.00 | 8.586 | 7.3 | ±30 |
| CAL5 | 6.218 | 20.00 | 20.612 | 3.1 | ±30 |
| CAL6 | 14.612 | 50.00 | 48.434 | -3.1 | ±30 |
| CAL7 | 27.372 | 100.00 | 90.732 | -9.3 | ±30 |

| Perfluorohexanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.039 | 0.18 | 0.190 | 4.5 | ±30 |
| CAL2 | 0.097 | 0.55 | 0.470 | -14.1 | ±30 |
| CAL3 | 0.396 | 1.82 | 1.920 | 5.5 | ±30 |
| CAL4 | 1.518 | 7.30 | 7.361 | 0.8 | ±30 |
| CAL5 | 3.681 | 18.20 | 17.849 | -1.9 | ±30 |
| CAL6 | 9.372 | 45.60 | 45.444 | -0.3 | ±30 |
| CAL7 | 18.895 | 91.20 | 91.615 | 0.5 | ±30 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| 6:2 fluorotelomersulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.076 | 0.19 | 0.183 | -3.6 | ±30 |
| CAL2 | 0.226 | 0.57 | 0.547 | -3.8 | ±30 |
| CAL3 | 0.886 | 1.90 | 2.143 | 12.8 | ±30 |
| CAL4 | 3.371 | 7.58 | 8.157 | 7.6 | ±30 |
| CAL5 | 8.392 | 19.00 | 20.308 | 6.9 | ±30 |
| CAL6 | 18.720 | 47.40 | 45.301 | -4.4 | ±30 |
| CAL7 | 31.980 | 94.80 | 77.388 | -18.4 | ±30 |

| Perfluoroheptanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.040 | 0.19 | 0.213 | 12.0 | ±30 |
| CAL2 | 0.093 | 0.57 | 0.491 | -14.0 | ±30 |
| CAL3 | 0.397 | 1.90 | 2.089 | 10.0 | ±30 |
| CAL4 | 1.378 | 7.61 | 7.252 | -4.7 | ±30 |
| CAL5 | 3.704 | 19.00 | 19.496 | 2.6 | ±30 |
| CAL6 | 9.168 | 47.60 | 48.262 | 1.4 | ±30 |
| CAL7 | 17.908 | 95.20 | 94.267 | -1.0 | ±30 |

| Perfluorooctanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.045 | 0.20 | 0.243 | 21.4 | ±30 |
| CAL2 | 0.113 | 0.60 | 0.603 | 0.4 | ±30 |
| CAL3 | 0.424 | 2.00 | 2.262 | 13.1 | ±30 |
| CAL4 | 1.537 | 8.00 | 8.207 | 2.6 | ±30 |
| CAL5 | 4.087 | 20.00 | 21.830 | 9.2 | ±30 |
| CAL6 | 9.558 | 50.00 | 51.047 | 2.1 | ±30 |
| CAL7 | 18.088 | 100.00 | 96.608 | -3.4 | ±30 |

| Perfluoro-octanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.046 | 0.19 | 0.202 | 9.3 | ±30 |
| CAL2 | 0.119 | 0.56 | 0.520 | -6.4 | ±30 |
| CAL3 | 0.430 | 1.85 | 1.881 | 1.7 | ±30 |
| CAL4 | 1.679 | 7.40 | 7.341 | -0.8 | ±30 |
| CAL5 | 4.296 | 18.50 | 18.789 | 1.6 | ±30 |
| CAL6 | 10.528 | 46.30 | 46.040 | -0.6 | ±30 |
| CAL7 | 21.179 | 92.60 | 92.617 | 0.0 | ±30 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| Perfluorononanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.062 | 0.20 | 0.223 | 11.4 | ±30 |
| CAL2 | 0.179 | 0.60 | 0.644 | 7.4 | ±30 |
| CAL3 | 0.663 | 2.00 | 2.391 | 19.5 | ±30 |
| CAL4 | 2.279 | 8.00 | 8.218 | 2.7 | ±30 |
| CAL5 | 6.168 | 20.00 | 22.243 | 11.2 | ±30 |
| CAL6 | 14.066 | 50.00 | 50.720 | 1.4 | ±30 |
| CAL7 | 26.723 | 100.00 | 96.360 | -3.6 | ±30 |

| Perfluorononanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.024 | 0.19 | 0.169 | -11.9 | ±30 |
| CAL2 | 0.075 | 0.58 | 0.523 | -9.2 | ±30 |
| CAL3 | 0.271 | 1.92 | 1.893 | -1.4 | ±30 |
| CAL4 | 1.009 | 7.68 | 7.057 | -8.1 | ±30 |
| CAL5 | 2.715 | 19.20 | 18.997 | -1.1 | ±30 |
| CAL6 | 6.755 | 48.00 | 47.262 | -1.5 | ±30 |
| CAL7 | 13.960 | 96.00 | 97.666 | 1.7 | ±30 |

| Perfluorodecanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.045 | 0.20 | 0.238 | 18.9 | ±30 |
| CAL2 | 0.106 | 0.60 | 0.562 | -6.3 | ±30 |
| CAL3 | 0.415 | 2.00 | 2.198 | 9.9 | ±30 |
| CAL4 | 1.539 | 8.00 | 8.159 | 2.0 | ±30 |
| CAL5 | 3.946 | 20.00 | 20.920 | 4.6 | ±30 |
| CAL6 | 9.190 | 50.00 | 48.722 | -2.6 | ±30 |
| CAL7 | 16.908 | 100.00 | 89.640 | -10.4 | ±30 |

| 8:2 fluorotelomersulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.088 | 0.19 | 0.206 | 7.1 | ±30 |
| CAL2 | 0.225 | 0.58 | 0.524 | -8.8 | ±30 |
| CAL3 | 0.899 | 1.92 | 2.096 | 9.2 | ±30 |
| CAL4 | 2.969 | 7.66 | 6.923 | -9.6 | ±30 |
| CAL5 | 8.524 | 19.20 | 19.873 | 3.5 | ±30 |
| CAL6 | 20.513 | 47.90 | 47.825 | -0.2 | ±30 |
| CAL7 | 35.402 | 95.80 | 82.540 | -13.8 | ±30 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| Perfluorooctanesulfonamide | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.045 | 0.20 | 0.217 | 8.7 | ±30 |
| CAL2 | 0.112 | 0.60 | 0.545 | -9.1 | ±30 |
| CAL3 | 0.429 | 2.00 | 2.098 | 4.9 | ±30 |
| CAL4 | 1.526 | 8.00 | 7.455 | -6.8 | ±30 |
| CAL5 | 4.189 | 20.00 | 20.460 | 2.3 | ±30 |
| CAL6 | 10.242 | 50.00 | 50.024 | 0.0 | ±30 |
| CAL7 | 18.353 | 100.00 | 89.642 | -10.4 | ±30 |

| NMeFOSAA | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.027 | 0.20 | 0.150 | -25.0 | ±30 |
| CAL2 | 0.074 | 0.60 | 0.421 | -29.9 | ±30 |
| CAL3 | 0.351 | 2.00 | 1.983 | -0.8 | ±30 |
| CAL4 | 1.424 | 8.00 | 8.048 | 0.6 | ±30 |
| CAL5 | 3.462 | 20.00 | 19.564 | -2.2 | ±30 |
| CAL6 | 8.928 | 50.00 | 50.461 | 0.9 | ±30 |
| CAL7 | 17.725 | 100.00 | 100.173 | 0.2 | ±30 |

| Perfluorodecanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.021 | 0.19 | 0.190 | -1.3 | ±30 |
| CAL2 | 0.060 | 0.58 | 0.543 | -6.0 | ±30 |
| CAL3 | 0.206 | 1.93 | 1.869 | -3.2 | ±30 |
| CAL4 | 0.838 | 7.70 | 7.592 | -1.4 | ±30 |
| CAL5 | 2.167 | 19.30 | 19.633 | 1.7 | ±30 |
| CAL6 | 5.189 | 48.20 | 47.020 | -2.4 | ±30 |
| CAL7 | 10.744 | 96.30 | 97.353 | 1.1 | ±30 |

| Perfluoroundecanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.091 | 0.20 | 0.238 | 19.2 | ±30 |
| CAL2 | 0.211 | 0.60 | 0.551 | -8.1 | ±30 |
| CAL3 | 0.810 | 2.00 | 2.119 | 5.9 | ±30 |
| CAL4 | 3.310 | 8.00 | 8.654 | 8.2 | ±30 |
| CAL5 | 7.672 | 20.00 | 20.055 | 0.3 | ±30 |
| CAL6 | 18.813 | 50.00 | 49.183 | -1.6 | ±30 |
| CAL7 | 34.057 | 100.00 | 89.032 | -11.0 | ±30 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| NEtFOSAA | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.028 | 0.20 | 0.149 | -25.7 | ±30 |
| CAL2 | 0.121 | 0.60 | 0.636 | 6.0 | ±30 |
| CAL3 | 0.461 | 2.00 | 2.418 | 20.9 | ±30 |
| CAL4 | 1.449 | 8.00 | 7.596 | -5.1 | ±30 |
| CAL5 | 3.724 | 20.00 | 19.520 | -2.4 | ±30 |
| CAL6 | 9.630 | 50.00 | 50.481 | 1.0 | ±30 |
| CAL7 | 18.030 | 100.00 | 94.517 | -5.5 | ±30 |

| Perfluorododecanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.041 | 0.20 | 0.207 | 3.4 | ±30 |
| CAL2 | 0.112 | 0.60 | 0.571 | -4.8 | ±30 |
| CAL3 | 0.432 | 2.00 | 2.198 | 9.9 | ±30 |
| CAL4 | 1.541 | 8.00 | 7.847 | -1.9 | ±30 |
| CAL5 | 4.136 | 20.00 | 21.062 | 5.3 | ±30 |
| CAL6 | 9.606 | 50.00 | 48.914 | -2.2 | ±30 |
| CAL7 | 17.225 | 100.00 | 87.711 | -12.3 | ±30 |

| 10:2-fluorotelomersulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.069 | 0.19 | 0.229 | 18.4 | ±30 |
| CAL2 | 0.188 | 0.58 | 0.627 | 8.6 | ±30 |
| CAL3 | 0.634 | 1.93 | 2.111 | 9.4 | ±30 |
| CAL4 | 2.056 | 7.71 | 6.849 | -11.2 | ±30 |
| CAL5 | 6.339 | 19.30 | 21.113 | 9.4 | ±30 |
| CAL6 | 15.209 | 48.20 | 50.658 | 5.1 | ±30 |
| CAL7 | 27.838 | 96.40 | 92.724 | -3.8 | ±30 |

| NMePFOSAE | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.051 | 0.20 | 0.214 | 7.1 | ±30 |
| CAL2 | 0.133 | 0.60 | 0.554 | -7.6 | ±30 |
| CAL3 | 0.533 | 2.00 | 2.216 | 10.8 | ±30 |
| CAL4 | 1.886 | 8.00 | 7.850 | -1.9 | ±30 |
| CAL5 | 5.021 | 20.00 | 20.896 | 4.5 | ±30 |
| CAL6 | 12.781 | 50.00 | 53.193 | 6.4 | ±30 |
| CAL7 | 23.037 | 100.00 | 95.876 | -4.1 | ±30 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| NMePFOSA | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.030 | 0.20 | 0.150 | -25.2 | ±30 |
| CAL2 | 0.114 | 0.60 | 0.562 | -6.3 | ±30 |
| CAL3 | 0.390 | 2.00 | 1.923 | -3.8 | ±30 |
| CAL4 | 1.632 | 8.00 | 8.049 | 0.6 | ±30 |
| CAL5 | 4.385 | 20.00 | 21.631 | 8.2 | ±30 |
| CAL6 | 9.828 | 50.00 | 48.485 | -3.0 | ±30 |
| CAL7 | 17.679 | 100.00 | 87.214 | -12.8 | ±30 |

| Perfluorododecanesulfonate | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.012 | 0.19 | 0.218 | 12.3 | ±30 |
| CAL2 | 0.033 | 0.58 | 0.580 | -0.3 | ±30 |
| CAL3 | 0.107 | 1.94 | 1.876 | -3.3 | ±30 |
| CAL4 | 0.440 | 7.74 | 7.707 | -0.4 | ±30 |
| CAL5 | 1.081 | 19.40 | 18.940 | -2.4 | ±30 |
| CAL6 | 2.811 | 48.40 | 49.234 | 1.7 | ±30 |
| CAL7 | 5.510 | 96.80 | 96.500 | -0.3 | ±30 |

| NEtPFOSAE | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.075 | 0.20 | 0.240 | 20.2 | ±30 |
| CAL2 | 0.178 | 0.60 | 0.573 | -4.6 | ±30 |
| CAL3 | 0.687 | 2.00 | 2.204 | 10.2 | ±30 |
| CAL4 | 2.595 | 8.00 | 8.324 | 4.0 | ±30 |
| CAL5 | 6.492 | 20.00 | 20.830 | 4.1 | ±30 |
| CAL6 | 15.157 | 50.00 | 48.629 | -2.7 | ±30 |
| CAL7 | 27.283 | 100.00 | 87.532 | -12.5 | ±30 |

| NEtPFOSA | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.045 | 0.20 | 0.207 | 3.7 | ±30 |
| CAL2 | 0.139 | 0.60 | 0.637 | 6.1 | ±30 |
| CAL3 | 0.463 | 2.00 | 2.124 | 6.2 | ±30 |
| CAL4 | 1.801 | 8.00 | 8.269 | 3.4 | ±30 |
| CAL5 | 4.664 | 20.00 | 21.421 | 7.1 | ±30 |
| CAL6 | 10.701 | 50.00 | 49.142 | -1.7 | ±30 |
| CAL7 | 21.557 | 100.00 | 98.999 | -1.0 | ±30 |

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

SDG No.: BSI18

Instrument ID: 27631
Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00
Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

| Perfluorotridecanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.037 | 0.20 | 0.234 | 16.8 | ±30 |
| CAL2 | 0.090 | 0.60 | 0.569 | -5.1 | ±30 |
| CAL3 | 0.335 | 2.00 | 2.117 | 5.8 | ±30 |
| CAL4 | 1.293 | 8.00 | 8.159 | 2.0 | ±30 |
| CAL5 | 3.309 | 20.00 | 20.884 | 4.4 | ±30 |
| CAL6 | 7.738 | 50.00 | 48.838 | -2.3 | ±30 |
| CAL7 | 13.241 | 100.00 | 83.569 | -16.4 | ±30 |

| Perfluorotetradecanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.040 | 0.20 | 0.223 | 11.6 | ±30 |
| CAL2 | 0.102 | 0.60 | 0.572 | -4.6 | ±30 |
| CAL3 | 0.398 | 2.00 | 2.228 | 11.4 | ±30 |
| CAL4 | 1.458 | 8.00 | 8.171 | 2.1 | ±30 |
| CAL5 | 3.737 | 20.00 | 20.945 | 4.7 | ±30 |
| CAL6 | 8.923 | 50.00 | 50.021 | 0.0 | ±30 |
| CAL7 | 17.596 | 100.00 | 98.638 | -1.4 | ±30 |

| Perfluorohexadecanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.019 | 0.20 | 0.231 | 15.7 | ±30 |
| CAL2 | 0.048 | 0.60 | 0.575 | -4.2 | ±30 |
| CAL3 | 0.177 | 2.00 | 2.109 | 5.4 | ±30 |
| CAL4 | 0.654 | 8.00 | 7.793 | -2.6 | ±30 |
| CAL5 | 1.653 | 20.00 | 19.691 | -1.5 | ±30 |
| CAL6 | 4.347 | 50.00 | 51.786 | 3.6 | ±30 |
| CAL7 | 8.277 | 100.00 | 98.615 | -1.4 | ±30 |

| Perfluorooctadecanoic acid | Area Ratio | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|---|
| CAL1 | 0.015 | 0.20 | 0.204 | 2.1 | ±30 |
| CAL2 | 0.038 | 0.60 | 0.528 | -11.9 | ±30 |
| CAL3 | 0.147 | 2.00 | 2.045 | 2.3 | ±30 |
| CAL4 | 0.559 | 8.00 | 7.786 | -2.7 | ±30 |
| CAL5 | 1.434 | 20.00 | 19.971 | -0.1 | ±30 |
| CAL6 | 3.601 | 50.00 | 50.157 | 0.3 | ±30 |
| CAL7 | 7.188 | 100.00 | 100.107 | 0.1 | ±30 |

* Outside QC Limits

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

SDG No.: BSI18

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1=18NOV12DCAL-42.WIFF; CAL2=18NOV12DCAL-43.WIFF; CAL3=18NOV12DCAL-44.WIFF;
CAL4=18NOV12DCAL-45.WIFF; CAL5=18NOV12DCAL-46.WIFF; CAL6=18NOV12DCAL-47.WIFF;
CAL7=18NOV12DCAL-48.WIFF;

| Analyte | RF | | | | | | | RF %RSD |
|---|---|---|---|---|---|---|---|---|
| | CAL1 | CAL2 | CAL3 | CAL4 | CAL5 | CAL6 | CAL7 | |
| Perfluorobutanoic acid | 1.059 | 0.868 | 1.034 | 0.919 | 0.966 | 0.910 | 0.882 | 7 |
| Perfluoropentanoic acid | 1.058 | 0.952 | 1.052 | 0.939 | 0.906 | 0.876 | 0.839 | 8 |
| Perfluorobutanesulfonate | 1.061 | 0.938 | 1.061 | 0.954 | 1.001 | 0.997 | 0.964 | 5 |
| 4:2 fluorotelomersulfonate | 1.764 | 1.591 | 1.797 | 1.672 | 1.662 | 1.782 | 1.703 | 4 |
| Perfluorohexanoic acid | 1.470 | 1.241 | 1.361 | 1.233 | 1.255 | 1.160 | --- | 8 |
| Perfluoropentanesulfonate | 0.534 | 0.400 | 0.499 | 0.479 | 0.471 | 0.484 | 0.478 | 8 |
| Perfluoroheptanoic acid | 1.776 | 1.486 | 1.766 | 1.619 | 1.555 | 1.461 | --- | 8 |
| Perfluorohexanesulfonate | 1.019 | 0.838 | 1.029 | 0.984 | 0.957 | 0.972 | 0.980 | 6 |
| 6:2 fluorotelomersulfonate | 1.892 | 1.888 | 2.214 | 2.112 | 2.098 | 1.876 | --- | 7 |
| Perfluoroheptanesulfonate | 1.007 | 0.773 | 0.988 | 0.856 | 0.922 | 0.911 | 0.890 | 8 |
| Perfluorooctanoic acid | 1.136 | 0.940 | 1.059 | 0.960 | 1.022 | 0.956 | 0.904 | 7 |
| Perfluoro-octanesulfonate | 1.194 | 1.024 | 1.112 | 1.084 | 1.110 | 1.087 | 1.093 | 4 |
| Perfluorononanoic acid | 1.545 | 1.489 | 1.658 | 1.424 | 1.542 | 1.407 | 1.336 | 7 |
| Perfluorononanesulfonate | 0.602 | 0.621 | 0.674 | 0.628 | 0.676 | 0.673 | 0.695 | 5 |
| Perfluorodecanoic acid | 1.122 | 0.883 | 1.037 | 0.962 | 0.987 | 0.919 | --- | 8 |
| 8:2 fluorotelomersulfonate | 2.201 | 1.873 | 2.243 | 1.857 | 2.127 | 2.051 | --- | 7 |
| Perfluorooctanesulfonamide | 1.113 | 0.931 | 1.074 | 0.954 | 1.047 | 1.024 | --- | 6 |
| NMeFOSAA | 0.663 | 0.620 | 0.877 | 0.890 | 0.865 | 0.893 | 0.886 | 13 |
| Perfluorodecanesulfonate | 0.521 | 0.496 | 0.511 | 0.520 | 0.537 | 0.515 | 0.533 | 2 |
| Perfluoroundecanoic acid | 2.280 | 1.757 | 2.026 | 2.069 | 1.918 | 1.881 | --- | 8 |
| NEtFOSAA | 0.709 | 1.011 | 1.153 | 0.906 | 0.931 | 0.963 | --- | 14 |
| Perfluorododecanoic acid | 1.015 | 0.935 | 1.079 | 0.963 | 1.034 | 0.961 | --- | 5 |
| 10:2-fluorotelomersulfonate | 1.703 | 1.561 | 1.573 | 1.278 | 1.573 | 1.511 | 1.383 | 9 |
| NMePFOSAE | 1.287 | 1.110 | 1.331 | 1.179 | 1.255 | 1.278 | 1.152 | 6 |
| NMePFOSA | 0.758 | 0.950 | 0.975 | 1.020 | 1.096 | 0.983 | --- | 11 |
| Perfluorododecanesulfonate | 0.306 | 0.272 | 0.264 | 0.272 | 0.266 | 0.278 | 0.272 | 5 |
| NEtPFOSAE | 1.873 | 1.487 | 1.717 | 1.622 | 1.623 | 1.516 | --- | 8 |
| NEtPFOSA | 1.129 | 1.156 | 1.156 | 1.125 | 1.166 | 1.070 | 1.078 | 3 |
| Perfluorotridecanoic acid | 0.925 | 0.751 | 0.839 | 0.808 | 0.827 | 0.774 | --- | 7 |
| Perfluorotetradecanoic acid | 0.996 | 0.851 | 0.994 | 0.911 | 0.934 | 0.892 | 0.880 | 6 |
| Perfluorohexadecanoic acid | 0.486 | 0.402 | 0.442 | 0.409 | 0.413 | 0.435 | 0.414 | 6 |
| Perfluorooctadecanoic acid | 0.367 | 0.316 | 0.367 | 0.349 | 0.358 | 0.360 | 0.359 | 5 |

--- Calibration point does not apply

* = % RSD > 20

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI18

Instrument ID: 27631 Lab File ID: 18NOV12DCAL-52.WIFF

Date/Time Analyzed: 11/12/2018 16:36 Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|
| Perfluorobutanoic acid | 2.00 | 2.29 | 14.39 | ±30 |
| Perfluoropentanoic acid | 2.00 | 2.35 | 17.52 | ±30 |
| Perfluorobutanesulfonate | 1.77 | 1.85 | 4.70 | ±30 |
| 4:2 fluorotelomersulfonate | 1.87 | 1.97 | 5.23 | ±30 |
| Perfluorohexanoic acid | 2.00 | 2.37 | 18.39 | ±30 |
| Perfluoropentanesulfonate | 1.88 | 1.99 | 5.89 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.33 | 16.60 | ±30 |
| Perfluorohexanesulfonate | 1.82 | 1.97 | 8.45 | ±30 |
| 6:2 fluorotelomersulfonate | 1.90 | 2.38 | 25.21 | ±30 |
| Perfluoroheptanesulfonate | 1.90 | 2.05 | 7.87 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.34 | 17.00 | ±30 |
| Perfluoro-octanesulfonate | 1.85 | 2.05 | 10.87 | ±30 |
| Perfluorononanoic acid | 2.00 | 2.25 | 12.52 | ±30 |
| Perfluorononanesulfonate | 1.92 | 2.04 | 6.21 | ±30 |
| Perfluorodecanoic acid | 2.00 | 2.21 | 10.29 | ±30 |
| 8:2 fluorotelomersulfonate | 1.92 | 1.86 | -3.14 | ±30 |
| Perfluorooctanesulfonamide | 2.00 | 1.66 | -17.08 | ±30 |
| NMeFOSAA | 2.00 | 2.20 | 10.04 | ±30 |
| Perfluorodecanesulfonate | 1.93 | 2.17 | 12.52 | ±30 |
| Perfluoroundecanoic acid | 2.00 | 2.13 | 6.44 | ±30 |
| NEtFOSAA | 2.00 | 1.83 | -8.35 | ±30 |
| Perfluorododecanoic acid | 2.00 | 2.34 | 17.18 | ±30 |
| 10:2-fluorotelomersulfonate | 1.93 | 1.71 | -11.18 | ±30 |
| NMePFOSAE | 2.00 | 2.39 | 19.28 | ±30 |
| NMePFOSA | 2.00 | 2.07 | 3.39 | ±30 |
| Perfluorododecanesulfonate | 1.94 | 2.27 | 16.87 | ±30 |
| NEtPFOSAE | 2.00 | 2.32 | 15.96 | ±30 |
| NEtPFOSA | 2.00 | 2.04 | 2.16 | ±30 |
| Perfluorotridecanoic acid | 2.00 | 2.35 | 17.54 | ±30 |
| Perfluorotetradecanoic acid | 2.00 | 2.36 | 18.05 | ±30 |
| Perfluorohexadecanoic acid | 2.00 | 2.15 | 7.32 | ±30 |
| Perfluorooctadecanoic acid | 2.00 | 2.13 | 6.56 | ±30 |

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI18

Instrument ID: 27631 Lab File ID: 18NOV13D-05.WIFF

Date/Time Analyzed: 11/13/2018 09:44 Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|
| Perfluorobutanoic acid | 0.60 | 0.58 | -3.65 | ±30 |
| Perfluoropentanoic acid | 0.60 | 0.59 | -1.76 | ±30 |
| Perfluorobutanesulfonate | 0.53 | 0.47 | -11.94 | ±30 |
| 4:2 fluorotelomersulfonate | 0.56 | 0.48 | -14.95 | ±30 |
| Perfluorohexanoic acid | 0.60 | 0.57 | -4.93 | ±30 |
| Perfluoropentanesulfonate | 0.56 | 0.51 | -9.98 | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.57 | -5.10 | ±30 |
| Perfluorohexanesulfonate | 0.55 | 0.52 | -4.07 | ±30 |
| 6:2 fluorotelomersulfonate | 0.57 | 0.61 | 7.89 | ±30 |
| Perfluoroheptanesulfonate | 0.57 | 0.51 | -9.92 | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.59 | -1.97 | ±30 |
| Perfluoro-octanesulfonate | 0.56 | 0.53 | -3.87 | ±30 |
| Perfluorononanoic acid | 0.60 | 0.55 | -8.00 | ±30 |
| Perfluorononanesulfonate | 0.58 | 0.43 | -24.60 | ±30 |
| Perfluorodecanoic acid | 0.60 | 0.57 | -4.55 | ±30 |
| 8:2 fluorotelomersulfonate | 0.58 | 0.46 | -20.29 | ±30 |
| Perfluorooctanesulfonamide | 0.60 | 0.59 | -1.95 | ±30 |
| NMeFOSAA | 0.60 | 0.54 | -9.90 | ±30 |
| Perfluorodecanesulfonate | 0.58 | 0.47 | -18.38 | ±30 |
| Perfluoroundecanoic acid | 0.60 | 0.55 | -8.64 | ±30 |
| NEtFOSAA | 0.60 | 0.65 | 8.80 | ±30 |
| Perfluorododecanoic acid | 0.60 | 0.57 | -4.64 | ±30 |
| 10:2-fluorotelomersulfonate | 0.58 | 0.51 | -11.94 | ±30 |
| NMePFOSAE | 0.60 | 0.61 | 1.33 | ±30 |
| NMePFOSA | 0.60 | 0.46 | -23.31 | ±30 |
| Perfluorododecanesulfonate | 0.58 | 0.49 | -15.84 | ±30 |
| NEtPFOSAE | 0.60 | 0.57 | -5.79 | ±30 |
| NEtPFOSA | 0.60 | 0.60 | -0.38 | ±30 |
| Perfluorotridecanoic acid | 0.60 | 0.59 | -1.21 | ±30 |
| Perfluorotetradecanoic acid | 0.60 | 0.53 | -12.31 | ±30 |
| Perfluorohexadecanoic acid | 0.60 | 0.54 | -10.36 | ±30 |
| Perfluorooctadecanoic acid | 0.60 | 0.54 | -10.25 | ±30 |

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI18

Instrument ID: 27631 Lab File ID: 18NOV13D-87.WIFF

Date/Time Analyzed: 11/13/2018 22:38 Lab Sample ID: CCV9_CAL4

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|
| Perfluorobutanoic acid | 8.00 | 8.14 | 1.80 | ±30 |
| Perfluoropentanoic acid | 8.00 | 8.46 | 5.75 | ±30 |
| Perfluorobutanesulfonate | 7.08 | 6.97 | -1.61 | ±30 |
| 4:2 fluorotelomersulfonate | 7.47 | 7.10 | -4.93 | ±30 |
| Perfluorohexanoic acid | 8.00 | 8.39 | 4.90 | ±30 |
| Perfluoropentanesulfonate | 7.50 | 7.29 | -2.84 | ±30 |
| Perfluoroheptanoic acid | 8.00 | 8.55 | 6.82 | ±30 |
| Perfluorohexanesulfonate | 7.30 | 7.38 | 1.08 | ±30 |
| 6:2 fluorotelomersulfonate | 7.58 | 7.83 | 3.33 | ±30 |
| Perfluoroheptanesulfonate | 7.61 | 7.92 | 4.05 | ±30 |
| Perfluorooctanoic acid | 8.00 | 8.05 | 0.64 | ±30 |
| Perfluoro-octanesulfonate | 7.40 | 6.99 | -5.59 | ±30 |
| Perfluorononanoic acid | 8.00 | 8.82 | 10.19 | ±30 |
| Perfluorononanesulfonate | 7.68 | 7.21 | -6.13 | ±30 |
| Perfluorodecanoic acid | 8.00 | 8.21 | 2.67 | ±30 |
| 8:2 fluorotelomersulfonate | 7.66 | 8.56 | 11.81 | ±30 |
| Perfluorooctanesulfonamide | 8.00 | 7.66 | -4.20 | ±30 |
| NMeFOSAA | 8.00 | 8.23 | 2.85 | ±30 |
| Perfluorodecanesulfonate | 7.70 | 7.87 | 2.27 | ±30 |
| Perfluoroundecanoic acid | 8.00 | 8.08 | 1.04 | ±30 |
| NEtFOSAA | 8.00 | 7.71 | -3.59 | ±30 |
| Perfluorododecanoic acid | 8.00 | 8.04 | 0.48 | ±30 |
| 10:2-fluorotelomersulfonate | 7.71 | 8.47 | 9.88 | ±30 |
| NMePFOSAE | 8.00 | 8.32 | 3.98 | ±30 |
| NMePFOSA | 8.00 | 7.64 | -4.53 | ±30 |
| Perfluorododecanesulfonate | 7.74 | 6.96 | -10.06 | ±30 |
| NEtPFOSAE | 8.00 | 7.87 | -1.67 | ±30 |
| NEtPFOSA | 8.00 | 7.55 | -5.63 | ±30 |
| Perfluorotridecanoic acid | 8.00 | 8.44 | 5.55 | ±30 |
| Perfluorotetradecanoic acid | 8.00 | 7.89 | -1.35 | ±30 |
| Perfluorohexadecanoic acid | 8.00 | 8.45 | 5.60 | ±30 |
| Perfluorooctadecanoic acid | 8.00 | 8.74 | 9.19 | ±30 |

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI18

Instrument ID: 27631 Lab File ID: 18NOV13D-99.WIFF

Date/Time Analyzed: 11/14/2018 00:27 Lab Sample ID: CCV10_ISC_CAL2

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|---|---|---|---|---|
| Perfluorobutanoic acid | 0.60 | 0.60 | -0.34 | ±30 |
| Perfluoropentanoic acid | 0.60 | 0.61 | 2.07 | ±30 |
| Perfluorobutanesulfonate | 0.53 | 0.44 | -16.29 | ±30 |
| 4:2 fluorotelomersulfonate | 0.56 | 0.57 | 1.93 | ±30 |
| Perfluorohexanoic acid | 0.60 | 0.58 | -3.41 | ±30 |
| Perfluoropentanesulfonate | 0.56 | 0.50 | -10.42 | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.62 | 2.72 | ±30 |
| Perfluorohexanesulfonate | 0.55 | 0.45 | -18.17 | ±30 |
| 6:2 fluorotelomersulfonate | 0.57 | 0.55 | -3.00 | ±30 |
| Perfluoroheptanesulfonate | 0.57 | 0.50 | -12.69 | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.56 | -7.38 | ±30 |
| Perfluoro-octanesulfonate | 0.56 | 0.49 | -11.61 | ±30 |
| Perfluorononanoic acid | 0.60 | 0.60 | -0.17 | ±30 |
| Perfluorononanesulfonate | 0.58 | 0.47 | -18.36 | ±30 |
| Perfluorodecanoic acid | 0.60 | 0.57 | -5.44 | ±30 |
| 8:2 fluorotelomersulfonate | 0.58 | 0.65 | 13.45 | ±30 |
| Perfluorooctanesulfonamide | 0.60 | 0.54 | -10.25 | ±30 |
| NMeFOSAA | 0.60 | 0.49 | -18.09 | ±30 |
| Perfluorodecanesulfonate | 0.58 | 0.53 | -7.97 | ±30 |
| Perfluoroundecanoic acid | 0.60 | 0.58 | -3.71 | ±30 |
| NEtFOSAA | 0.60 | 0.51 | -15.69 | ±30 |
| Perfluorododecanoic acid | 0.60 | 0.59 | -1.69 | ±30 |
| 10:2-fluorotelomersulfonate | 0.58 | 0.44 | -24.23 | ±30 |
| NMePFOSAE | 0.60 | 0.57 | -5.46 | ±30 |
| NMePFOSA | 0.60 | 0.45 | -25.37 | ±30 |
| Perfluorododecanesulfonate | 0.58 | 0.42 | -28.05 | ±30 |
| NEtPFOSAE | 0.60 | 0.57 | -5.24 | ±30 |
| NEtPFOSA | 0.60 | 0.57 | -5.50 | ±30 |
| Perfluorotridecanoic acid | 0.60 | 0.60 | 0.67 | ±30 |
| Perfluorotetradecanoic acid | 0.60 | 0.59 | -1.40 | ±30 |
| Perfluorohexadecanoic acid | 0.60 | 0.55 | -8.72 | ±30 |
| Perfluorooctadecanoic acid | 0.60 | 0.54 | -10.35 | ±30 |

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI18
Matrix: SOIL

| Batch: 18316029<br>File Name:18NOV13D-05.WIFF | | 13C2-PFDA<br>Area | 13C2-PFOA<br>Area | 13C3-PFBA<br>Area | 13C4-PFOS<br>Area |
|---|---|---|---|---|---|
| **CAL3 Area/ CCV Area** | | 295382 | 466903 | 661127 | 247447 |
| **LOWER LIMIT** | | 147691 | 233452 | 330564 | 123724 |
| **UPPER LIMIT** | | 443073 | 700355 | 991691 | 371171 |
| **LAB SAMPLE ID** | **DATE ANALYZED** | | | | |
| BLK316029 | 11/13/18 23:06 | 335561 | 517903 | 737180 | 276059 |
| LCS316029 | 11/13/18 23:15 | 317119 | 535274 | 741385 | 279158 |
| 9885160 | 11/13/18 23:33 | 316316 | 522151 | 746437 | 275055 |
| 9885161 | 11/13/18 23:42 | 332001 | 527398 | 748661 | 281714 |
| 9885162MS | 11/13/18 23:51 | 326196 | 529988 | 756882 | 275268 |
| 9885163MSD | 11/14/18 00:00 | 332808 | 513910 | 759549 | 289689 |
| 9885164 | 11/14/18 00:09 | 320811 | 528643 | 746319 | 285623 |
| 9885165 | 11/14/18 00:18 | 340489 | 538590 | 769874 | 295947 |

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:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | 9885160 | | | **Data File:** | | 18NOV13D-93.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-01 Grab Soil | | | **Acquis Date:** | | 2018-11-13T23:33:01 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 87 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **Operator:** | | MCD7824 |
| **Sample Wt.:** | 1.10000 | | | **Dilution Factor:** | | 1.00 |
| **Sample Vol.:** | 1.000 | | | **Prep Factor:** | | 2.000 |

## Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 746437.4 | 661126.9 | 13 | 50 | |
| 13C2-PFOA | 5.0 | 522151.4 | 466902.6 | 12 | 50 | |
| 13C4-PFOS | 4.8 | 275054.6 | 247446.9 | 11 | 50 | |
| 13C2-PFDA | 5.0 | 316316.0 | 295381.6 | 7 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C3-PFBS | 437669.3 | 13C3-PFBA | 746437.4 | 0.586 | 8.455 | 7.526 | 89 | 50-150 | |
| E13C5-PFHxA | 684079.6 | 13C2-PFOA | 522151.4 | 1.310 | 9.091 | 8.605 | 95 | 50-150 | |
| E13C3-PFHxS | 333361.8 | 13C2-PFOA | 522151.4 | 0.638 | 8.600 | 7.965 | 93 | 50-150 | |
| E13C4-PFHpA | 555093.6 | 13C2-PFOA | 522151.4 | 1.063 | 9.091 | 8.708 | 96 | 50-150 | |
| E13C8-PFOA | 912969.8 | 13C2-PFOA | 522151.4 | 1.748 | 9.091 | 8.759 | 96 | 50-150 | |
| E13C8-PFOS | 277391.4 | 13C4-PFOS | 275054.6 | 1.008 | 8.691 | 8.125 | 93 | 50-150 | |
| E13C9-PFNA | 500615.4 | 13C4-PFOS | 275054.6 | 1.820 | 9.091 | 9.227 | 101 | 50-150 | |
| E13C6-PFDA | 661052.0 | 13C2-PFDA | 316316.0 | 2.090 | 9.091 | 8.867 | 98 | 50-150 | |
| Ed3-NMeFOSAA | 90858.6 | 13C2-PFDA | 316316.0 | 0.287 | 9.091 | 9.427 | 104 | 50-150 | |
| E13C7-PFUnDA | 283744.2 | 13C2-PFDA | 316316.0 | 0.897 | 9.091 | 9.469 | 104 | 50-150 | |
| Ed5-NEtFOSAA | 64055.7 | 13C2-PFDA | 316316.0 | 0.203 | 9.091 | 7.790 | 86 | 50-150 | |
| E13C2-PFDoDA | 565777.5 | 13C2-PFDA | 316316.0 | 1.789 | 9.091 | 8.444 | 93 | 50-150 | |
| E13C2-PFTeDA | 397440.5 | 13C2-PFDA | 316316.0 | 1.256 | 9.091 | 8.020 | 88 | 50-150 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

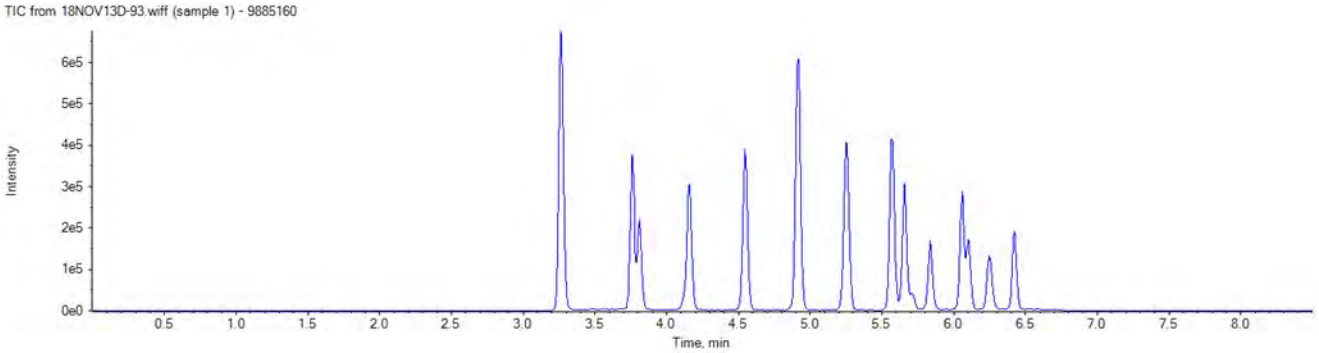
## Analyte Quantitation Peak Table

**Sample Name:** 9885160 **Instrument Name:** LM27631 **File Name:** 18NOV13D-93.wiff

| Sample Wt | Sample Vol | Dilution Factor | PrepFactor |
|---|---|---|---|
| 1.10000 | 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 | 3.81 | 437669.3 | N/A | |
| PFHxA | 4.16 | 1.000 | 8052.4 | | M | 13C5-PFHxA | 4.16 | 684079.6 | 0.012 | 0.089 |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.55 | 555093.6 | N/A | |
| PFHxS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 333361.8 | N/A | |
| PFOA | N/A | N/A | N/A | | A | 13C8-PFOA | 4.92 | 912969.8 | N/A | |
| PFOS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.25 | 277391.4 | N/A | |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.26 | 500615.4 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.57 | 661052.0 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.71 | 90858.6 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.84 | 283744.2 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.84 | 64055.7 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.06 | 565777.5 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.06 | 565777.5 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 397440.5 | N/A | |

## Total Ion Chromatogram



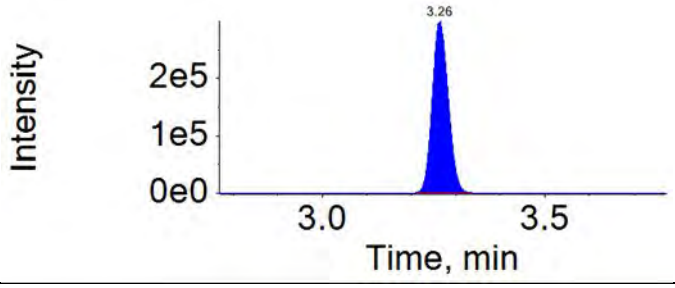

APPROVED
*By MCD at 6:55 pm, 11/14/18*



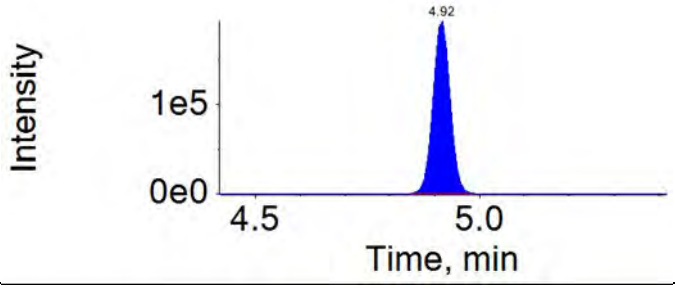
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

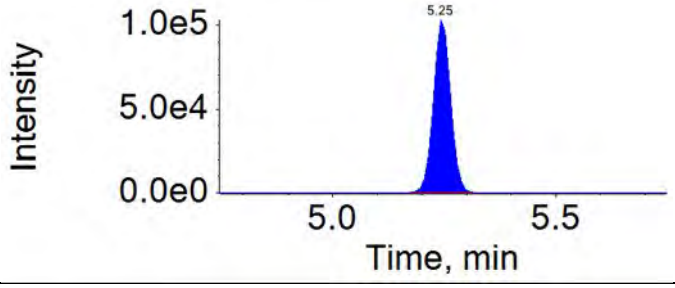
Injection Standard: 13C3-PFBA
216.0 / 172.0



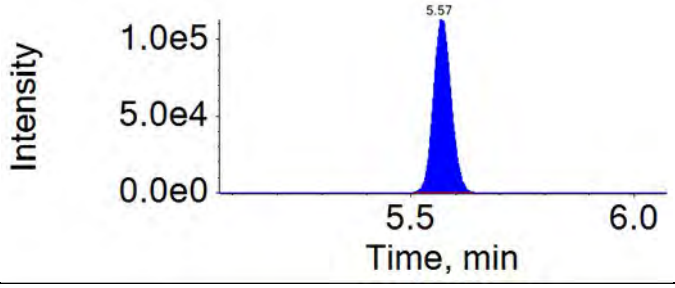

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

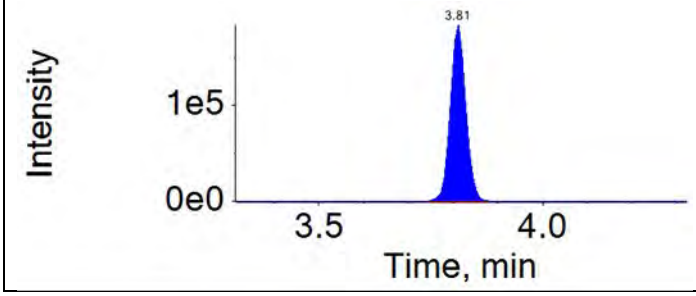
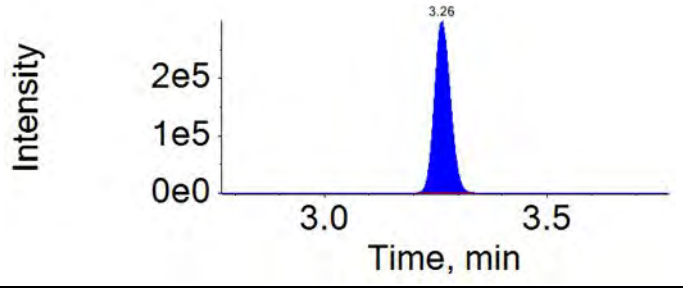



APPROVED
*By MCD at 6:55 pm, 11/14/18*



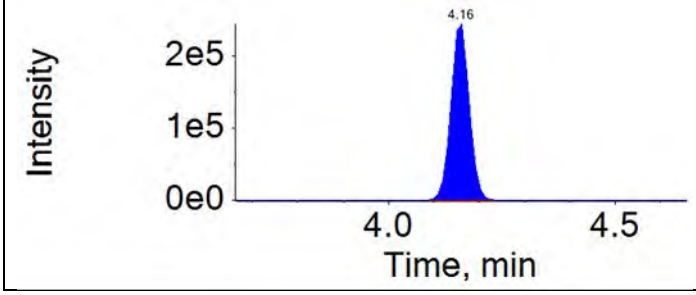
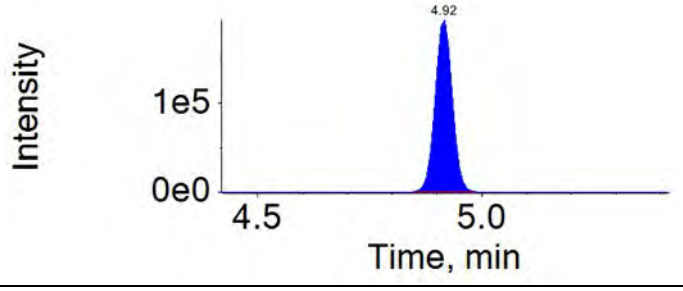
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

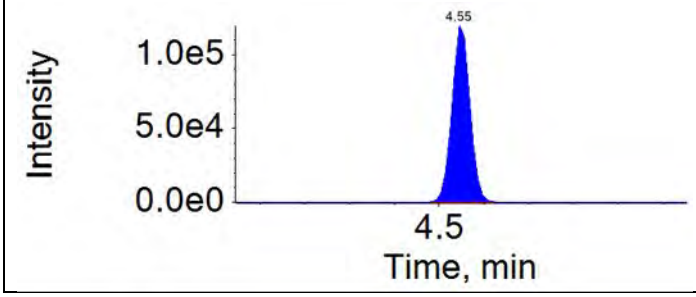
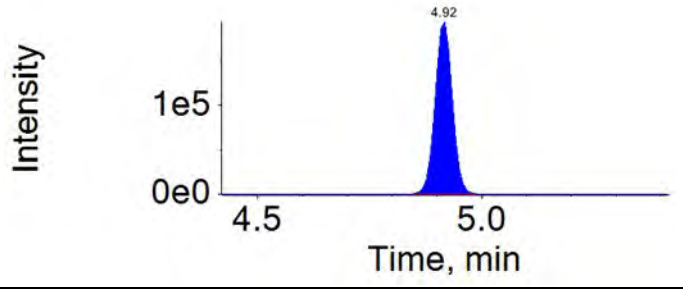




| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |
|  |  |

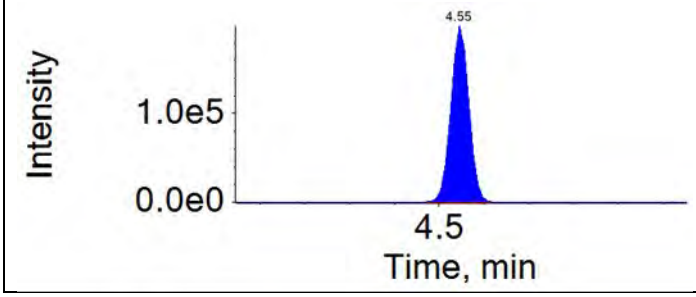
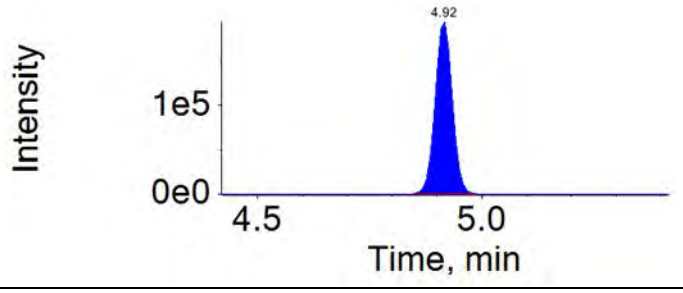




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |





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



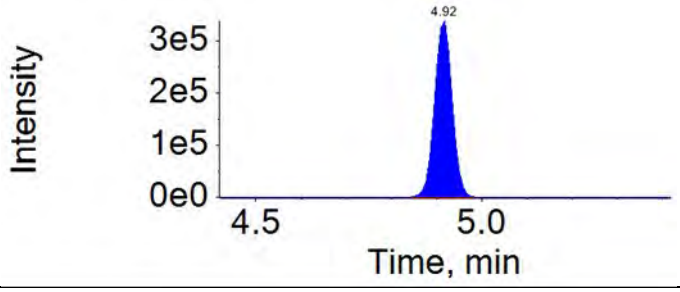
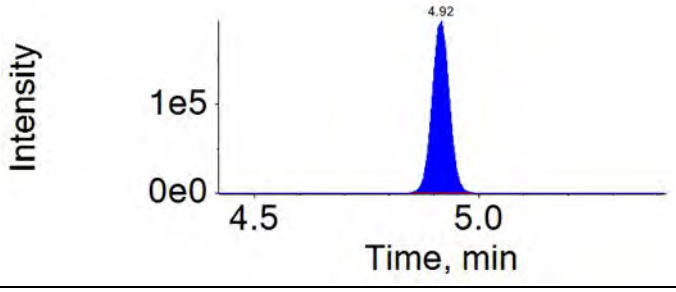


APPROVED
*By MCD at 6:55 pm, 11/14/18*



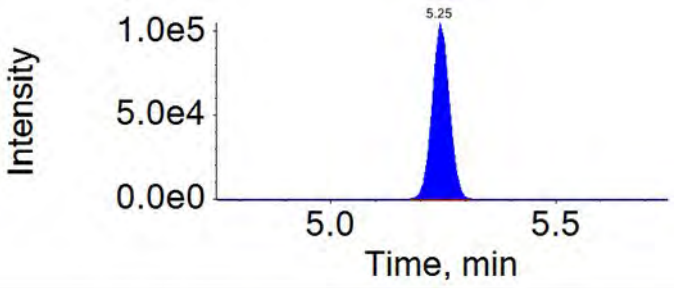
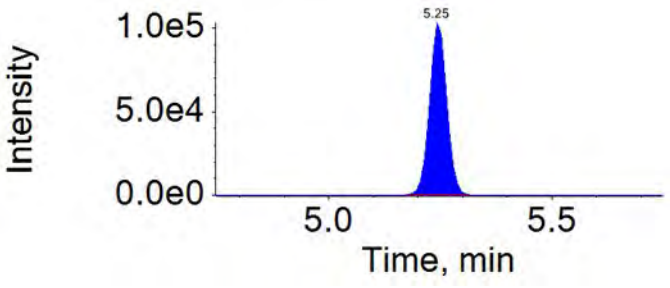
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

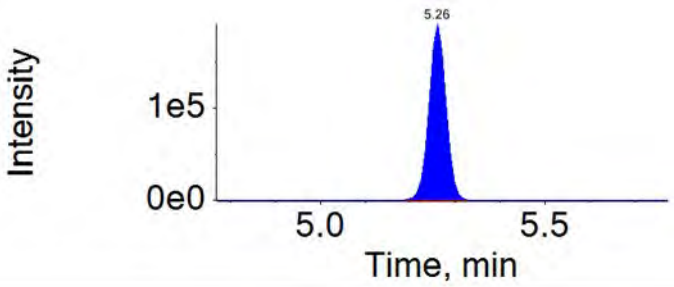
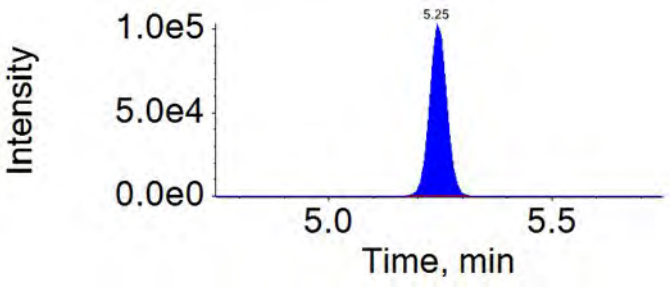




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

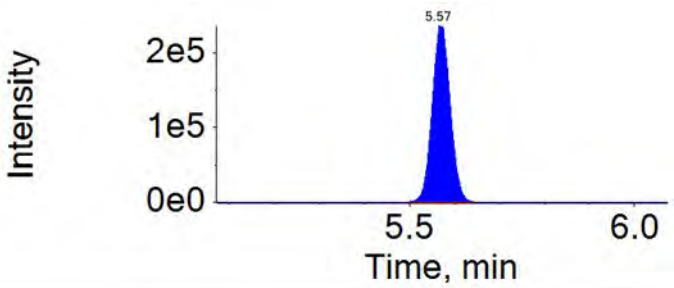
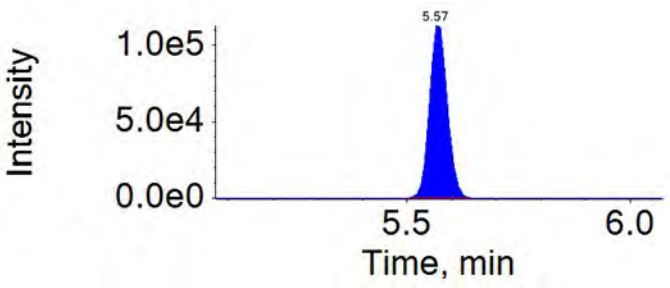




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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



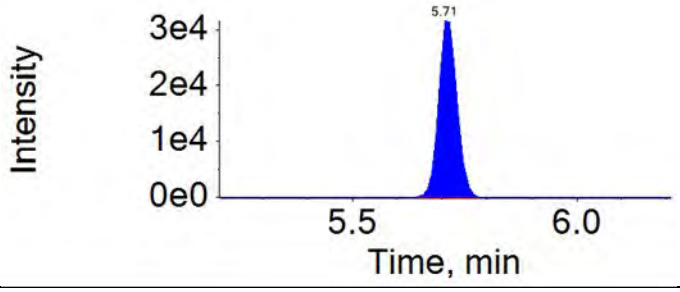
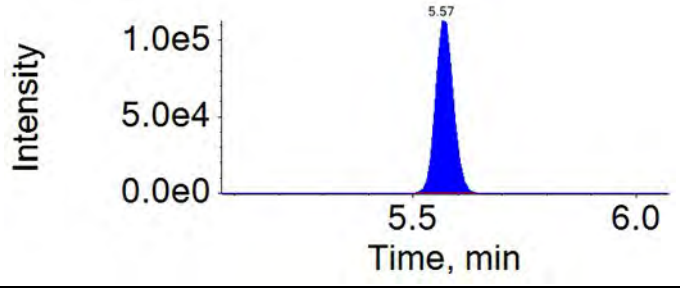


APPROVED
*By MCD at 6:55 pm, 11/14/18*



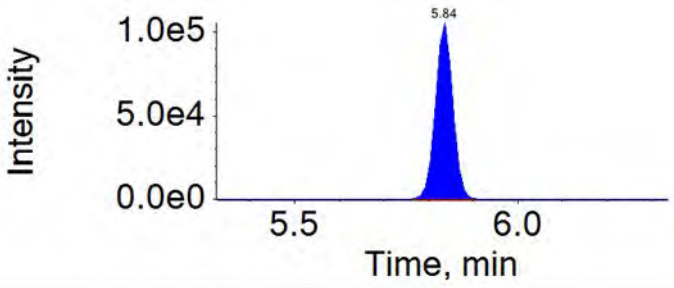
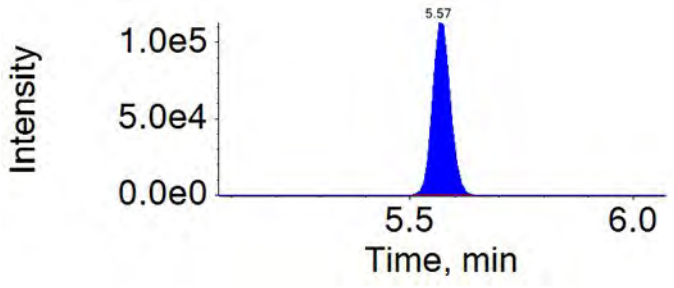
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

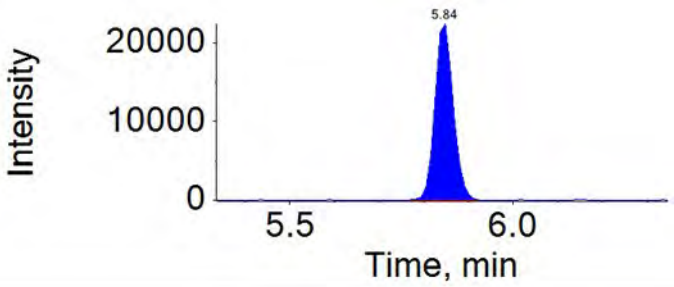
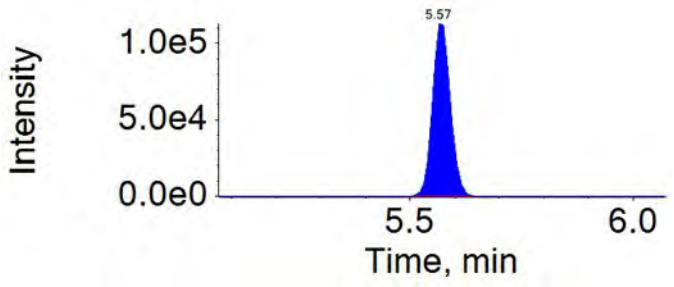




| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

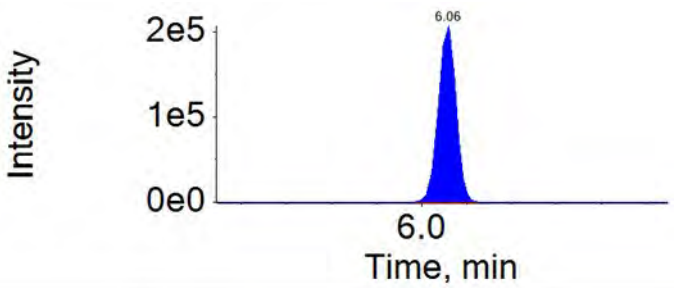
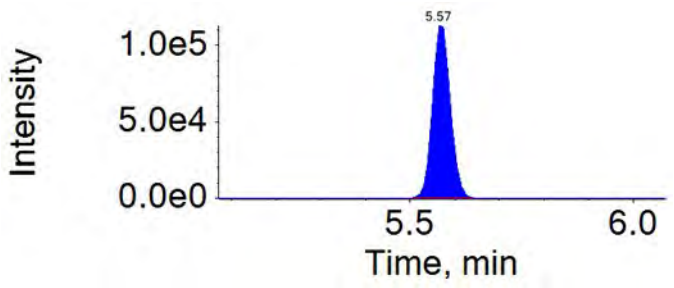




| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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



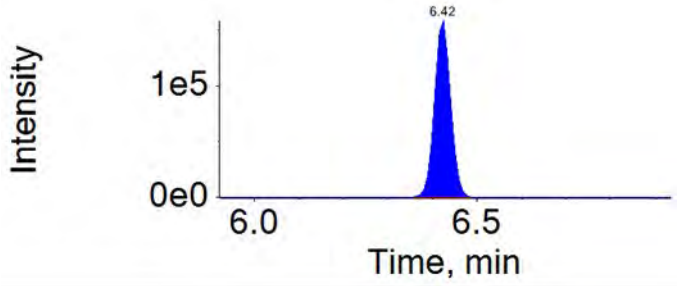
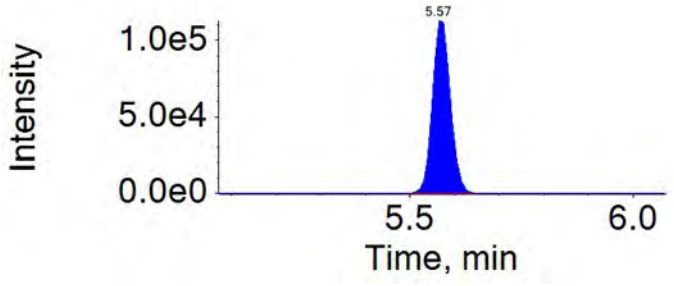


APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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





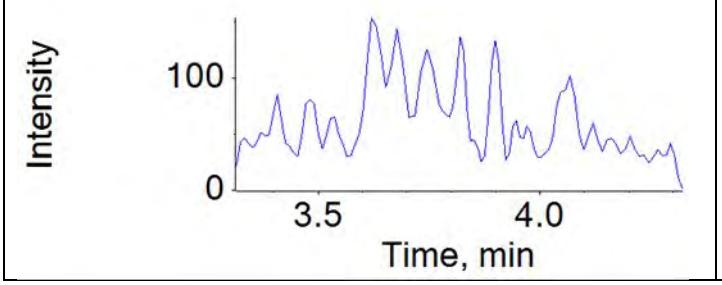
APPROVED
*By MCD at 6:55 pm, 11/14/18*

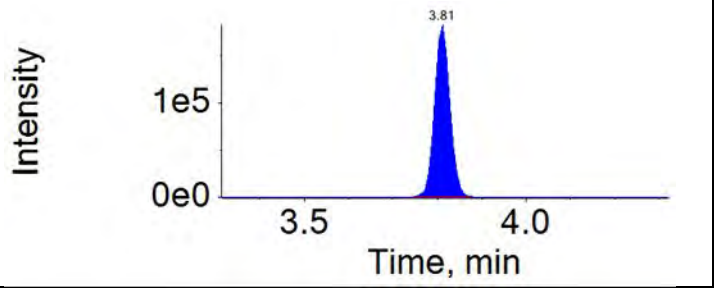


REVIEWED
*By HMK at 11:03 am, 11/15/18*

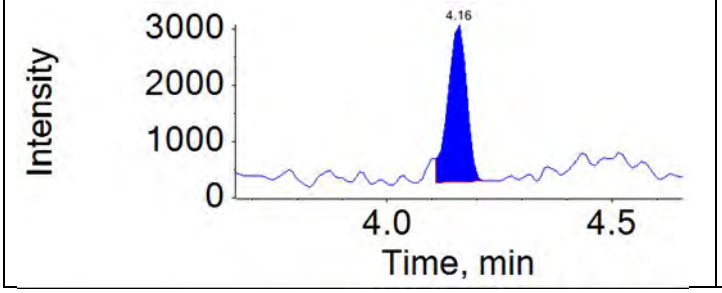
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

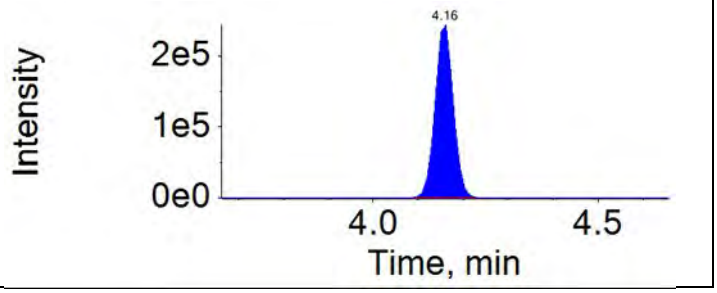
| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |



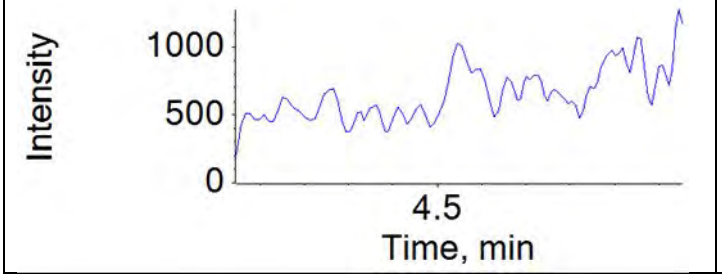



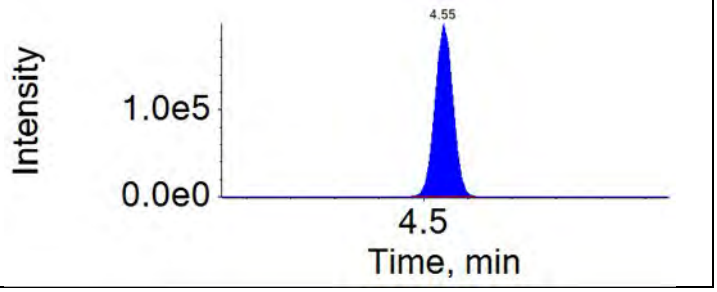

| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



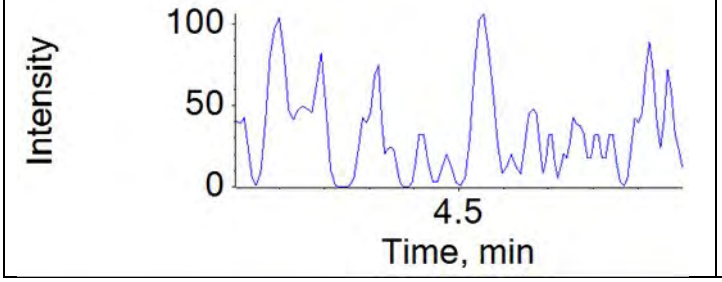



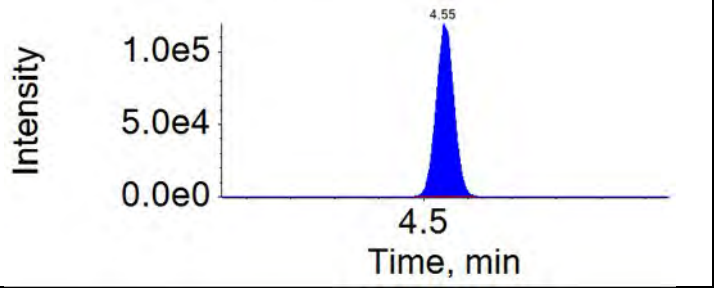

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



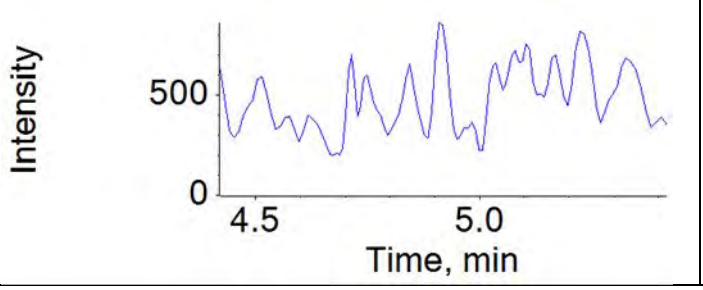

APPROVED
*By MCD at 6:55 pm, 11/14/18*

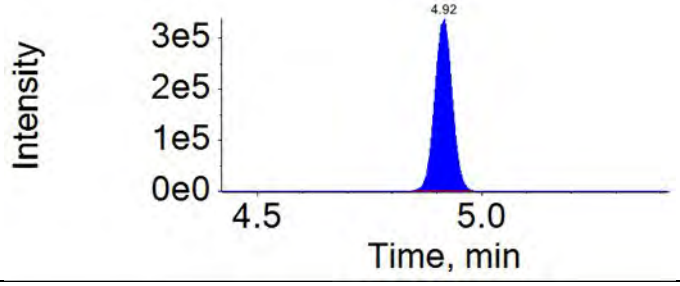


REVIEWED
*By HMK at 11:03 am, 11/15/18*

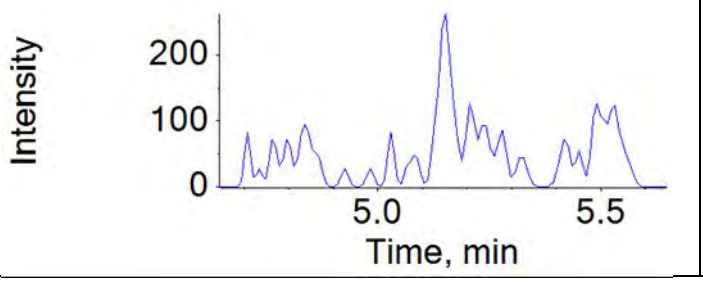
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

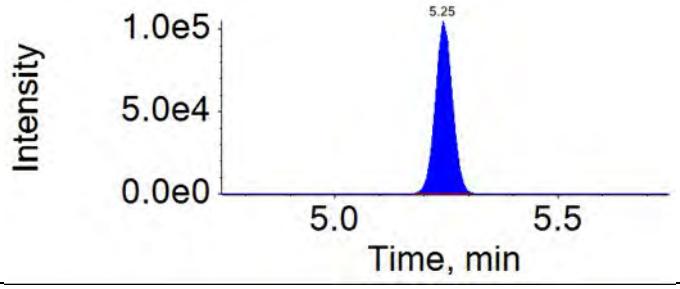
| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |



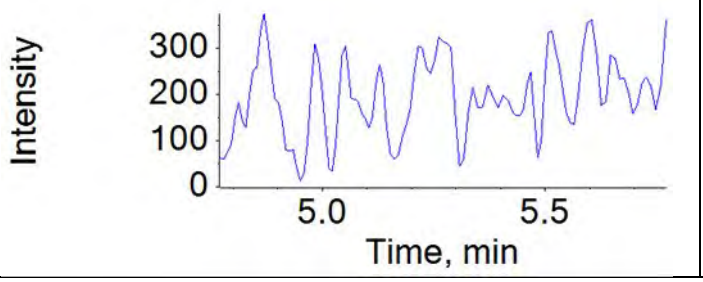



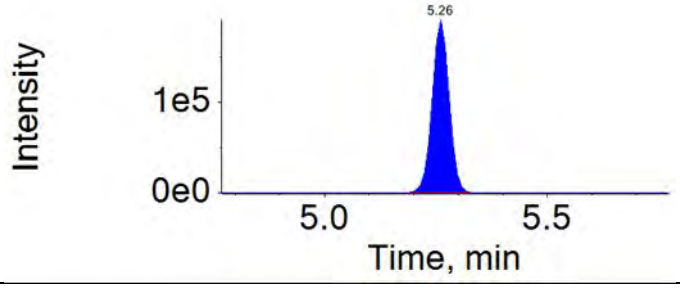

| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



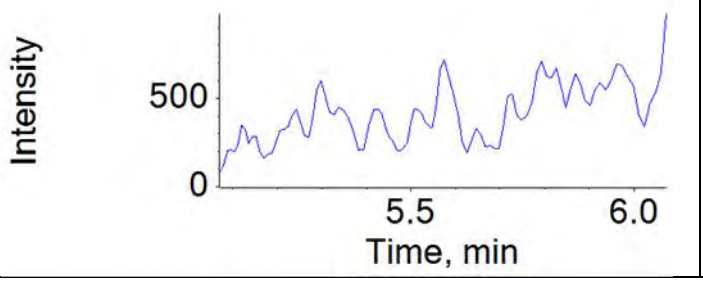



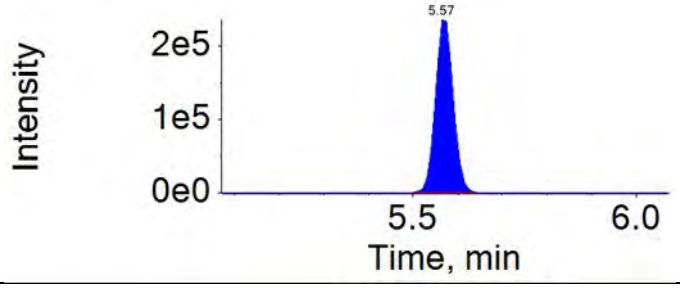

| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |




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



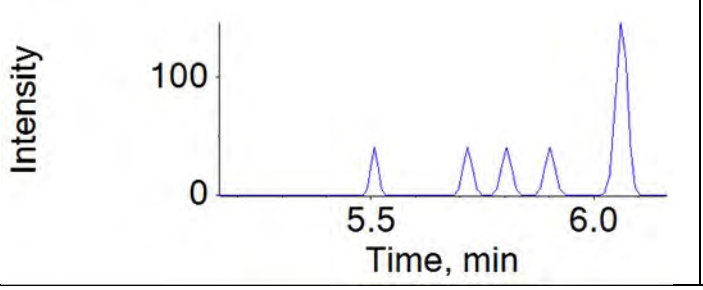

APPROVED
*By MCD at 6:55 pm, 11/14/18*

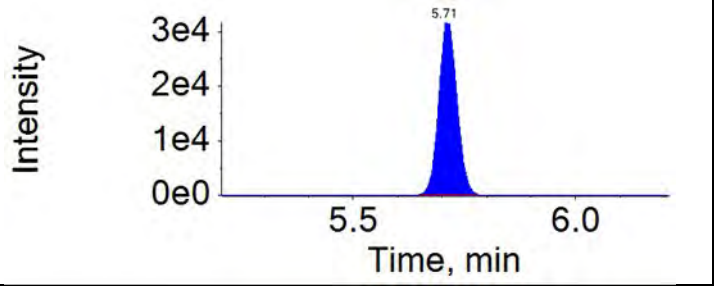


REVIEWED
*By HMK at 11:03 am, 11/15/18*

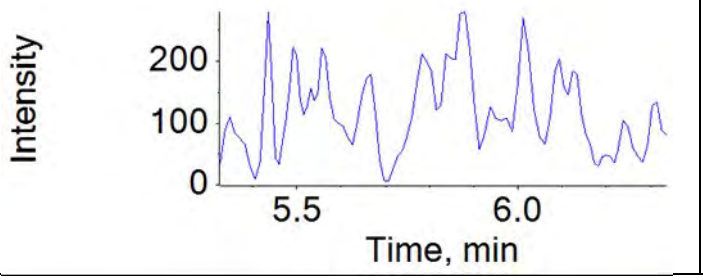
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

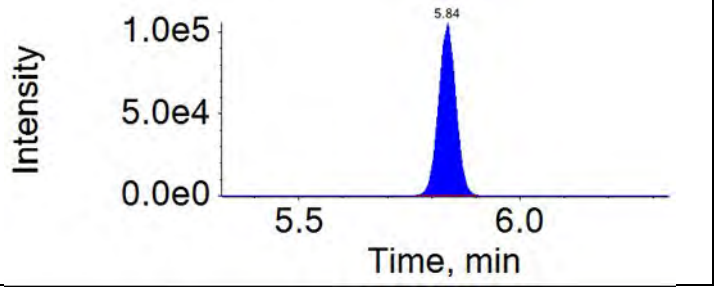
| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



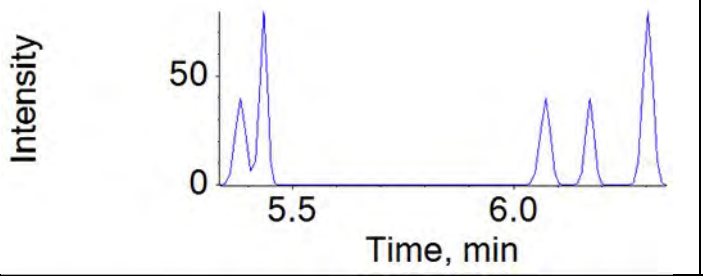



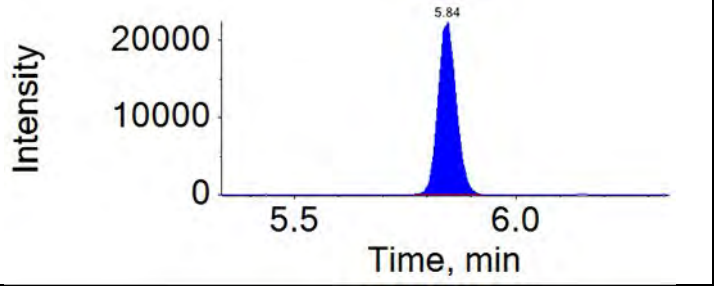

| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



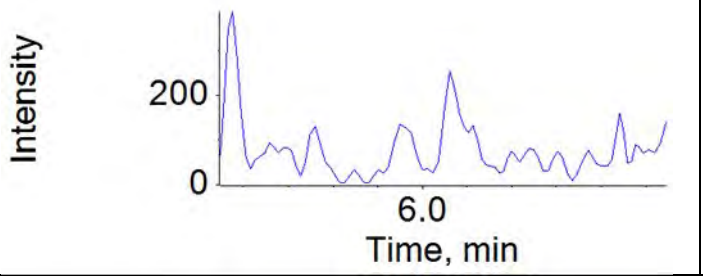



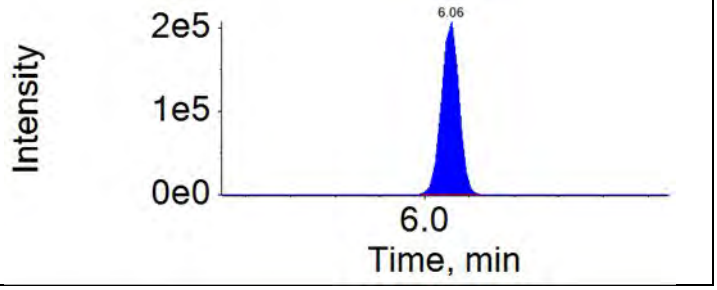

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |




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



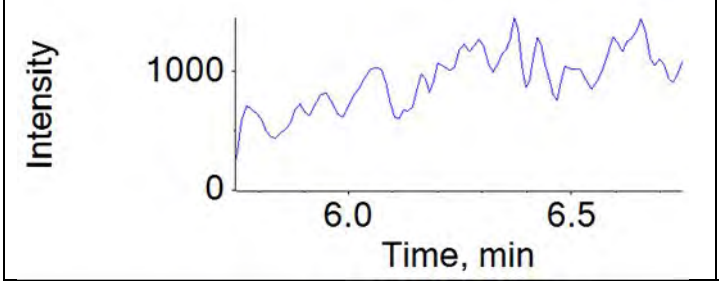

APPROVED
*By MCD at 6:55 pm, 11/14/18*

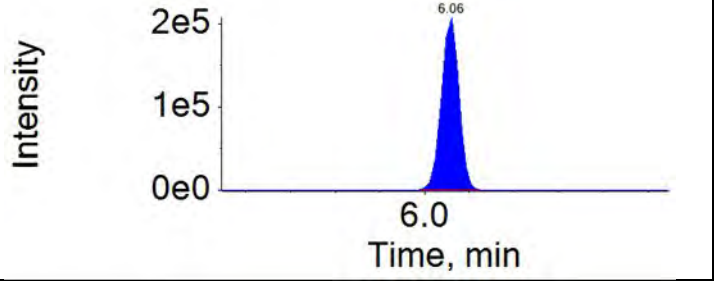


REVIEWED
*By HMK at 11:03 am, 11/15/18*

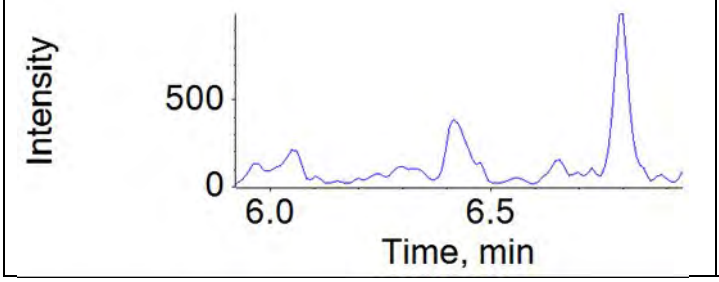
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

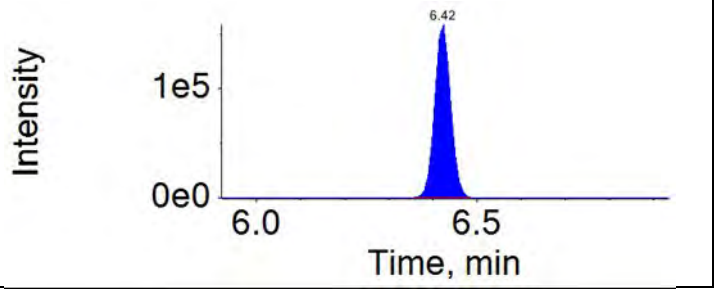
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |




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



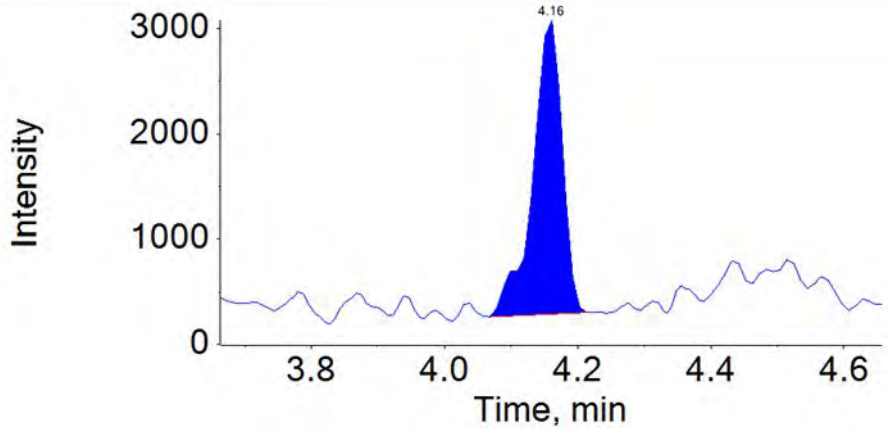

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

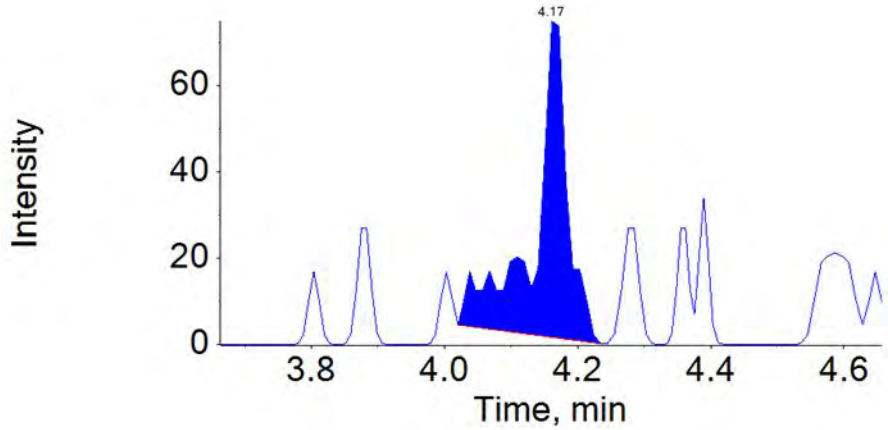
**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxA
**RT (min.):**
4.16
**Peak Area:**
8637.3
**Mass Range:**
313.0 / 269.0
**File Name:**
18NOV13D-93.wiff
**Sample Name:**
9885160




**Integration Comment:** incorrect integration

**Component Name:**
PFHxA_2
**RT (min.):**
4.17
**Peak Area:**
256.1
**Mass Range:**
313.0 / 119.0
**File Name:**
18NOV13D-93.wiff
**Sample Name:**
9885160




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM

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

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Ion Ratio Report

**Sample Name:** 9885160 **Instrument Name:** LM27631 **File Name:** 18NOV13D-93.wiff

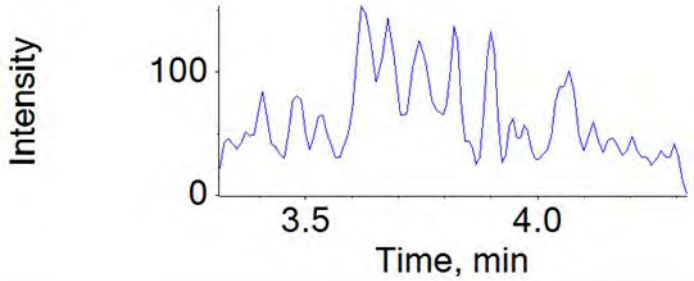
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxA | 4.16 | 1.00 | 8052.4 | M | N/A | 0.0236 | | | |
| PFHxA_2 | 4.17 | 1.00 | 190.2 | M | N/A | 0.0236 | 103 | 50 | OOS |
| PFHpA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHpA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHxS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFOA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFOA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFOS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFOS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFNA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFNA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFDA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFDA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| NMeFOSAA | N/A | N/A | N/A | A | N/A | N/A | | | |
| NMeFOSAA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFUnDA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFUnDA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| NEtFOSAA | N/A | N/A | N/A | A | N/A | N/A | | | |
| NEtFOSAA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFDoDA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFDoDA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFTrDA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFTrDA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFTeDA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFTeDA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |

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*By MCD at 6:55 pm, 11/14/18*

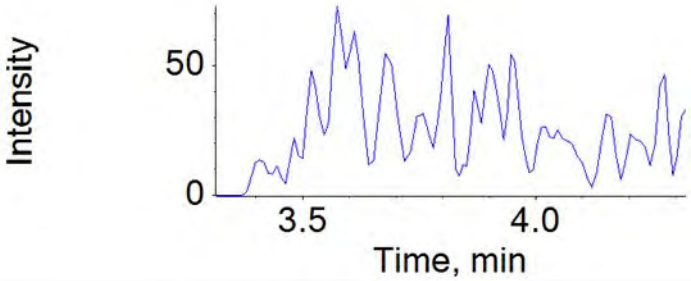


REVIEWED
*By HMK at 11:03 am, 11/15/18*

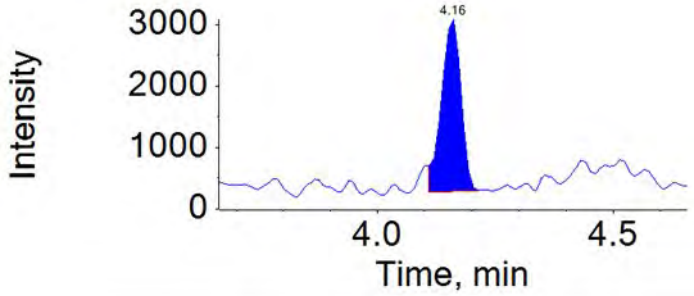
Component: PFBS
Primary Mass: 299.0 / 80.0



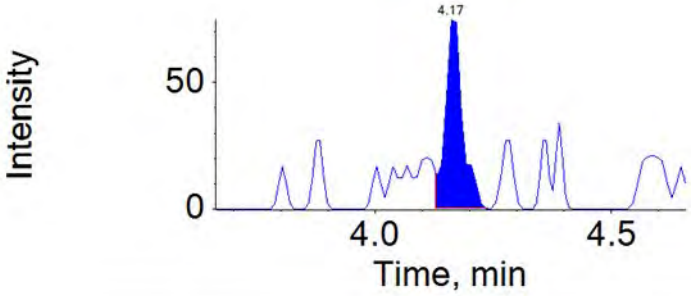

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



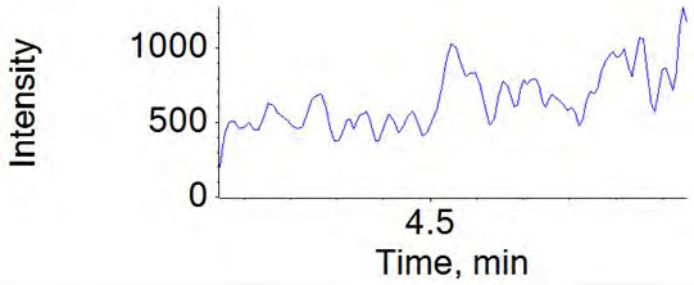

Component: PFHxA
Primary Mass: 313.0 / 269.0



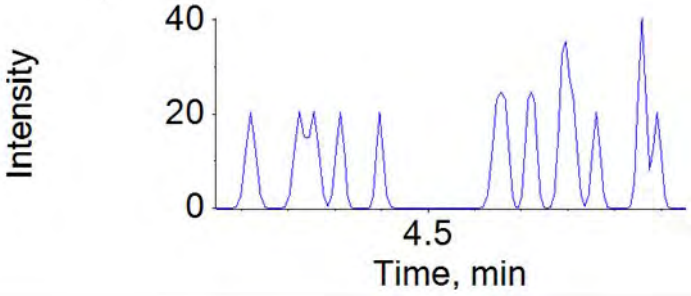

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



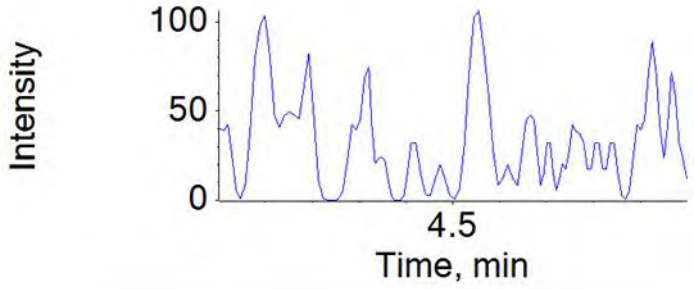

Component: PFHpA
Primary Mass: 363.0 / 319.0



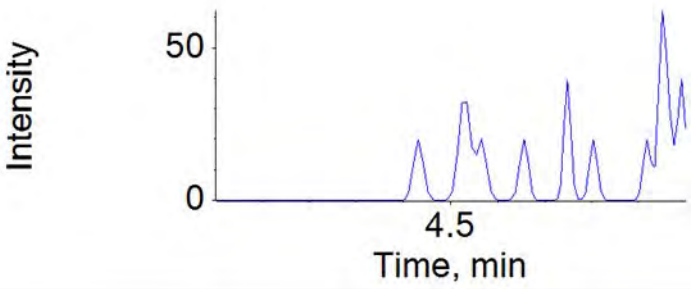

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0




Component: PFHxS
Primary Mass: 399.0 / 80.0




Component: PFHxS_2
Secondary Mass: 399.0 / 99.0

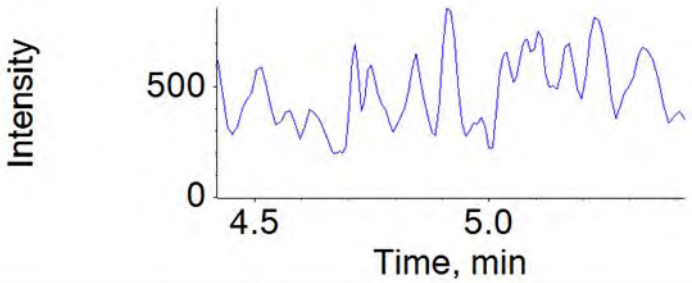



APPROVED
*By MCD at 6:55 pm, 11/14/18*

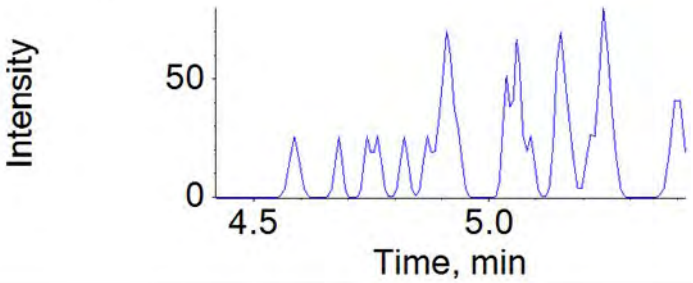


REVIEWED
*By HMK at 11:03 am, 11/15/18*

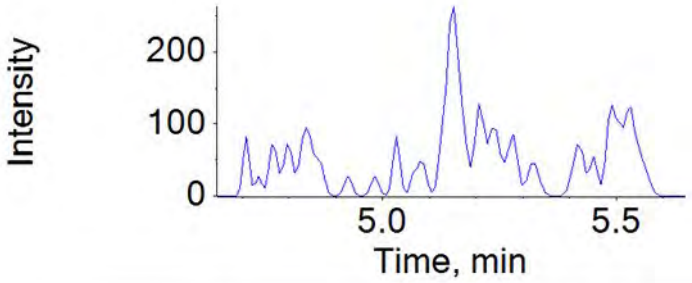
Component: PFOA
Primary Mass: 413.0 / 369.0



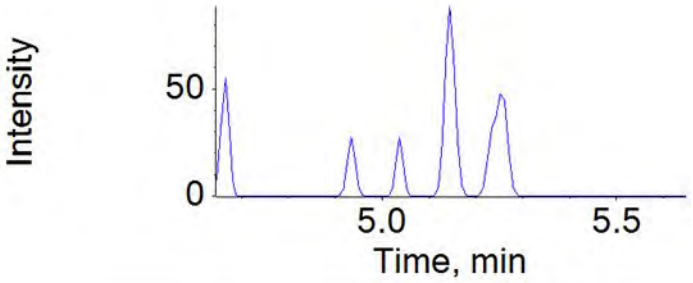

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



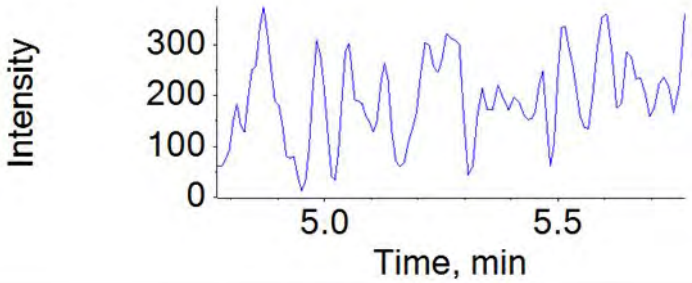

Component: PFOS
Primary Mass: 499.0 / 80.0



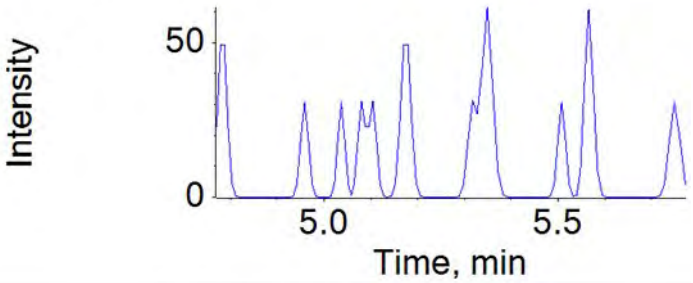

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



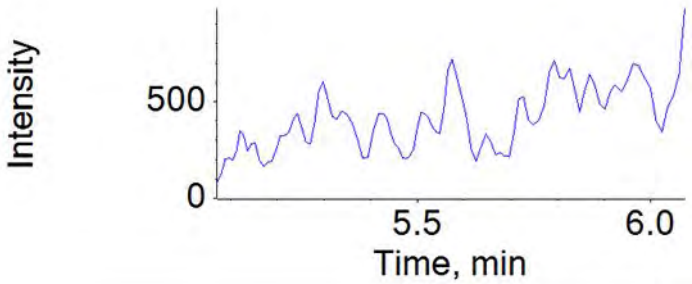

Component: PFNA
Primary Mass: 463.0 / 419.0



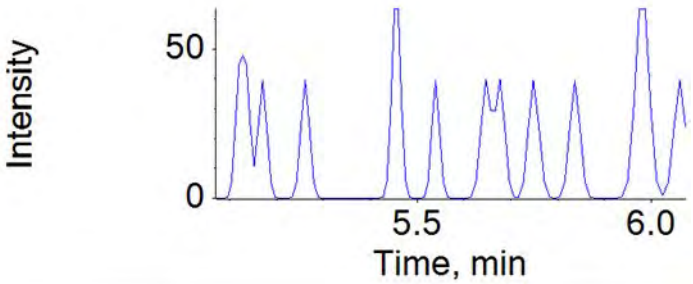

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFDA
Primary Mass: 513.0 / 469.0




Component: PFDA_2
Secondary Mass: 513.0 / 169.0

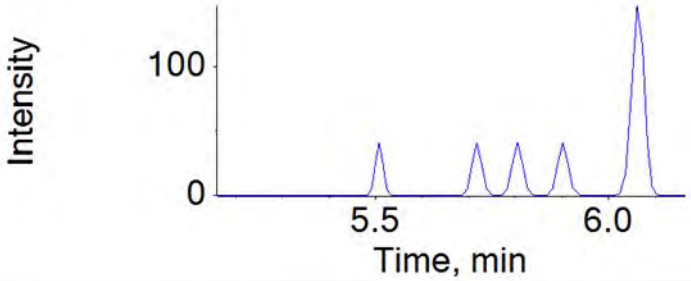



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*By MCD at 6:55 pm, 11/14/18*

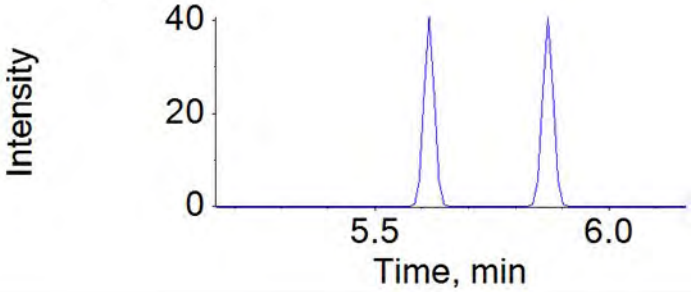


REVIEWED
*By HMK at 11:03 am, 11/15/18*

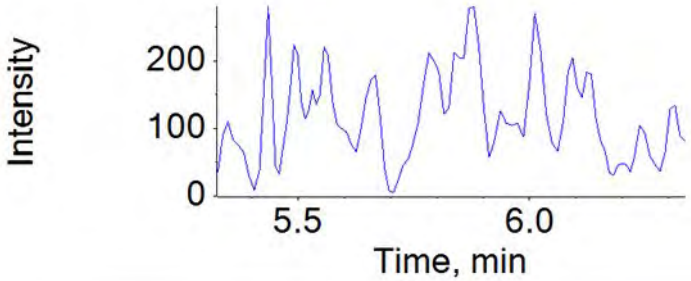
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



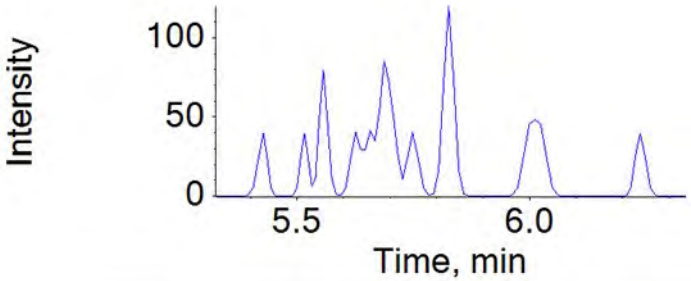

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



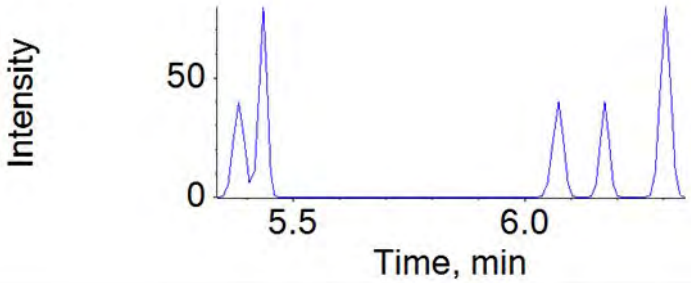

Component: PFUnDA
Primary Mass: 563.0 / 519.0



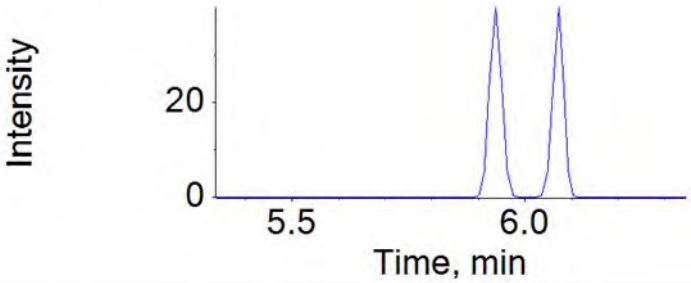

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



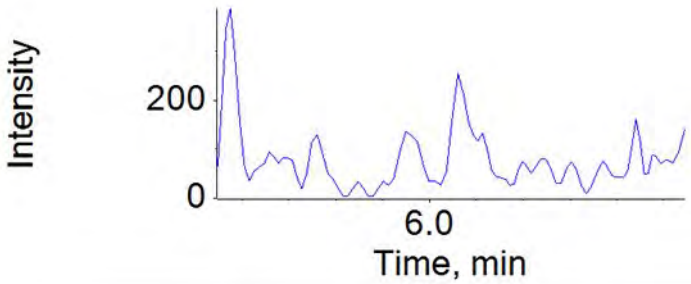

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



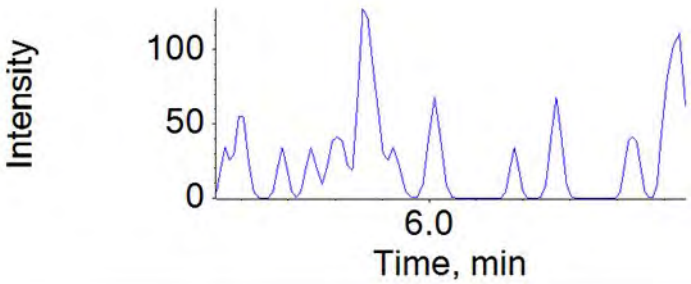

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0




Component: PFDoDA
Primary Mass: 613.0 / 569.0




Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0

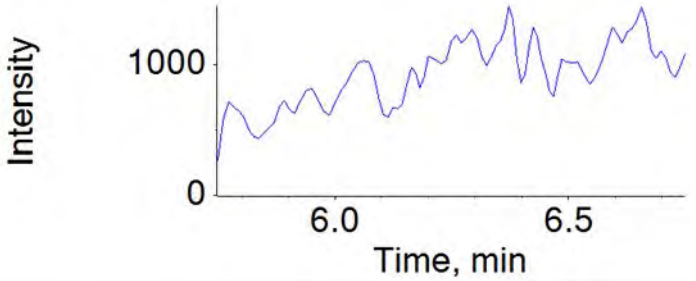



APPROVED
*By MCD at 6:55 pm, 11/14/18*

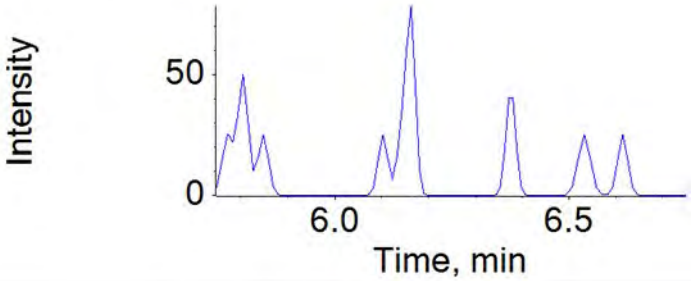


REVIEWED
*By HMK at 11:03 am, 11/15/18*

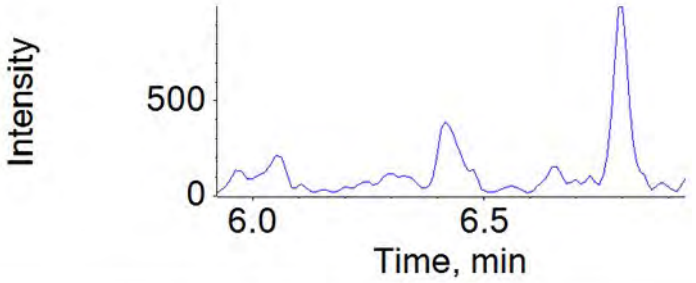
Component: PFTrDA
Primary Mass: 663.0 / 619.0



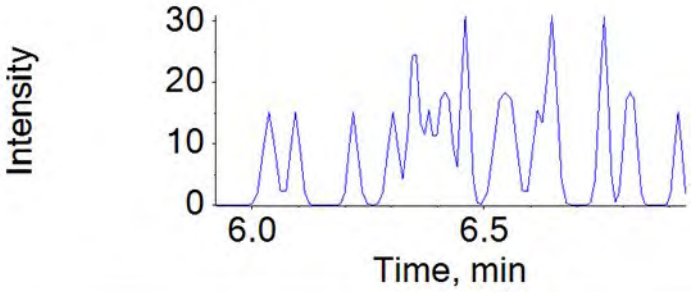

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0




Component: PFTeDA
Primary Mass: 713.0 / 669.0




Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0




APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | 9885161BKG | | | **Data File:** | | 18NOV13D-94.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-03 Grab Soil | | | **Acquis Date:** | | 2018-11-13T23:42:03 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 88 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **Operator:** | | MCD7824 |
| **Sample Wt.:** | 1.09000 | | | **Dilution Factor:** | | 1.00 |
| **Sample Vol.:** | 1.000 | | | **Prep Factor:** | | 2.000 |

## Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 748660.8 | 661126.9 | 13 | 50 | |
| 13C2-PFOA | 5.0 | 527397.7 | 466902.6 | 13 | 50 | |
| 13C4-PFOS | 4.8 | 281714.3 | 247446.9 | 14 | 50 | |
| 13C2-PFDA | 5.0 | 332001.3 | 295381.6 | 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 | 431398.9 | 13C3-PFBA | 748660.8 | 0.576 | 8.532 | 7.464 | 87 | 50-150 | |
| E13C5-PFHxA | 685423.1 | 13C2-PFOA | 527397.7 | 1.300 | 9.174 | 8.614 | 94 | 50-150 | |
| E13C3-PFHxS | 331033.5 | 13C2-PFOA | 527397.7 | 0.628 | 8.679 | 7.903 | 91 | 50-150 | |
| E13C4-PFHpA | 519080.1 | 13C2-PFOA | 527397.7 | 0.984 | 9.174 | 8.136 | 89 | 50-150 | |
| E13C8-PFOA | 917986.6 | 13C2-PFOA | 527397.7 | 1.741 | 9.174 | 8.799 | 96 | 50-150 | |
| E13C8-PFOS | 296871.1 | 13C4-PFOS | 281714.3 | 1.054 | 8.771 | 8.567 | 98 | 50-150 | |
| E13C9-PFNA | 477601.4 | 13C4-PFOS | 281714.3 | 1.695 | 9.174 | 8.673 | 95 | 50-150 | |
| E13C6-PFDA | 648445.5 | 13C2-PFDA | 332001.3 | 1.953 | 9.174 | 8.363 | 91 | 50-150 | |
| Ed3-NMeFOSAA | 76143.7 | 13C2-PFDA | 332001.3 | 0.229 | 9.174 | 7.596 | 83 | 50-150 | |
| E13C7-PFUnDA | 256139.0 | 13C2-PFDA | 332001.3 | 0.772 | 9.174 | 8.219 | 90 | 50-150 | |
| Ed5-NEtFOSAA | 53417.9 | 13C2-PFDA | 332001.3 | 0.161 | 9.174 | 6.246 | 68 | 50-150 | |
| E13C2-PFDoDA | 534272.6 | 13C2-PFDA | 332001.3 | 1.609 | 9.174 | 7.666 | 84 | 50-150 | |
| E13C2-PFTeDA | 400028.8 | 13C2-PFDA | 332001.3 | 1.205 | 9.174 | 7.762 | 85 | 50-150 | |

APPROVED
By MCD at 6:55 pm, 11/14/18



REVIEWED
By HMK at 11:03 am, 11/15/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

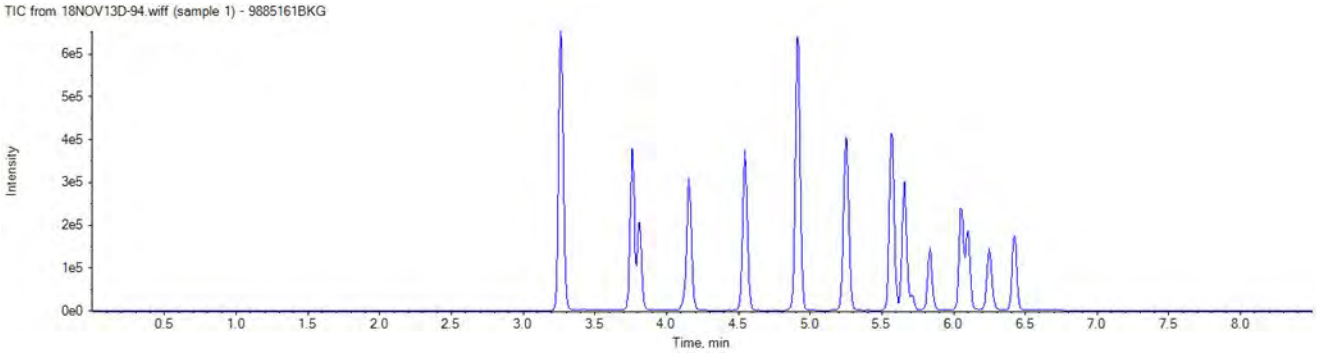
## Analyte Quantitation Peak Table

**Sample Name:** 9885161BKG **Instrument Name:** LM27631 **File Name:** 18NOV13D-94.wiff

| Sample Wt | Sample Vol | Dilution Factor | PrepFactor |
|---|---|---|---|
| 1.09000 | 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 | 3.81 | 431398.9 | N/A | |
| PFHxA | N/A | N/A | N/A | | A | 13C5-PFHxA | 4.16 | 685423.1 | N/A | |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.55 | 519080.1 | N/A | |
| PFHxS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 331033.5 | N/A | |
| PFOA | N/A | N/A | N/A | | A | 13C8-PFOA | 4.91 | 917986.6 | N/A | |
| PFOS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 296871.1 | N/A | |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.26 | 477601.4 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.57 | 648445.5 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.71 | 76143.7 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.83 | 256139.0 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.84 | 53417.9 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 534272.6 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 534272.6 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 400028.8 | N/A | |

## Total Ion Chromatogram



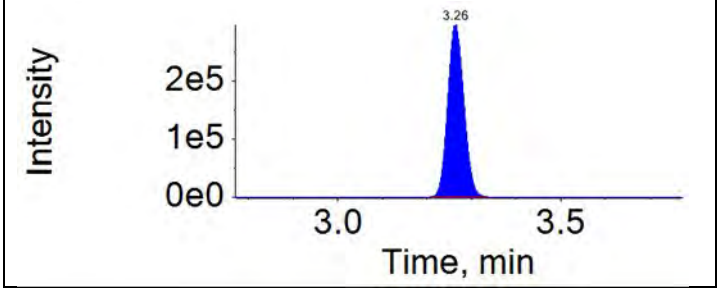

APPROVED
*By MCD at 6:55 pm, 11/14/18*



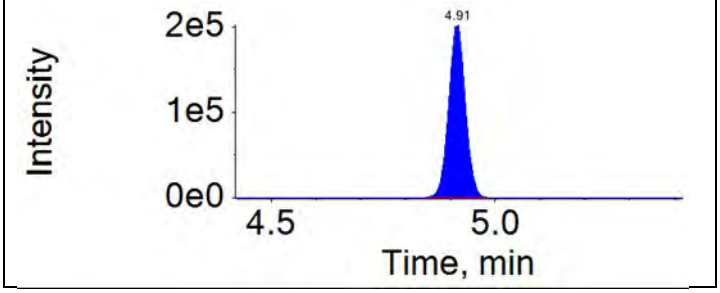
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

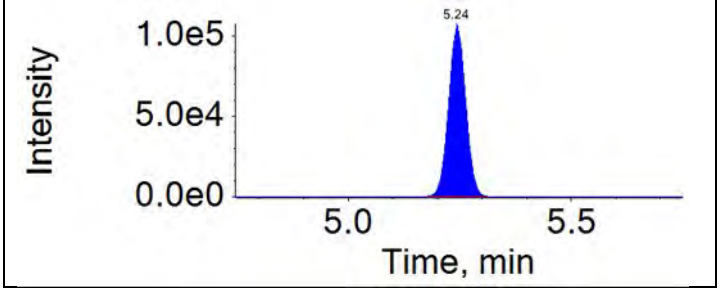
Injection Standard: 13C3-PFBA
216.0 / 172.0



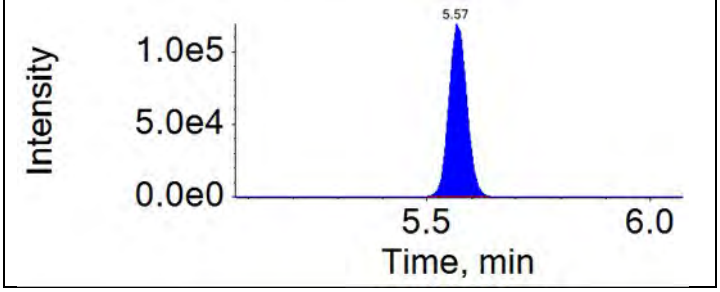

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



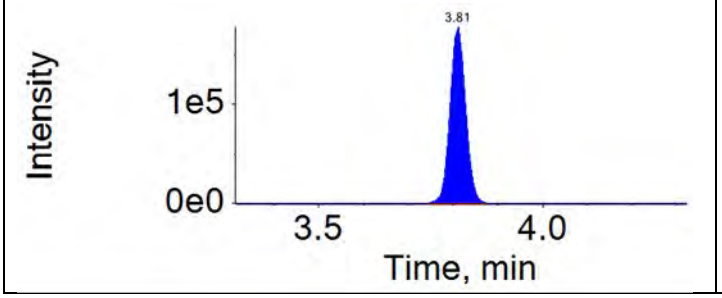

APPROVED
*By MCD at 6:55 pm, 11/14/18*

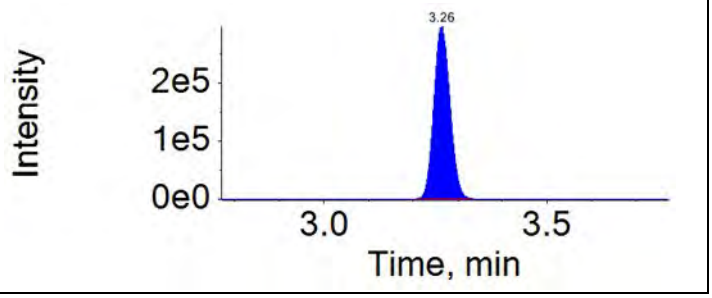


REVIEWED
*By HMK at 11:03 am, 11/15/18*

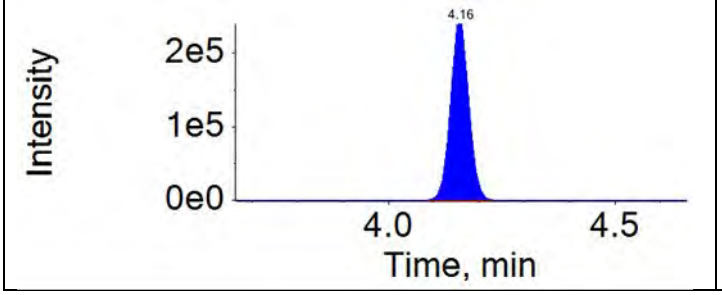
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

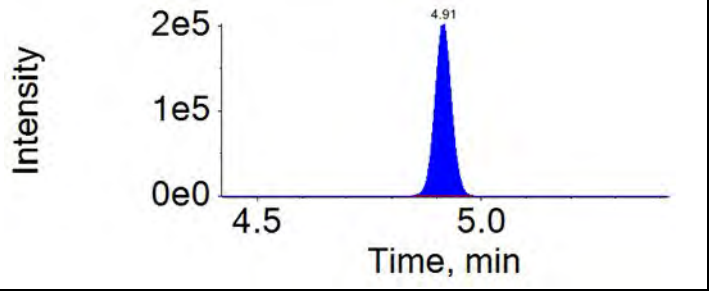
| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |



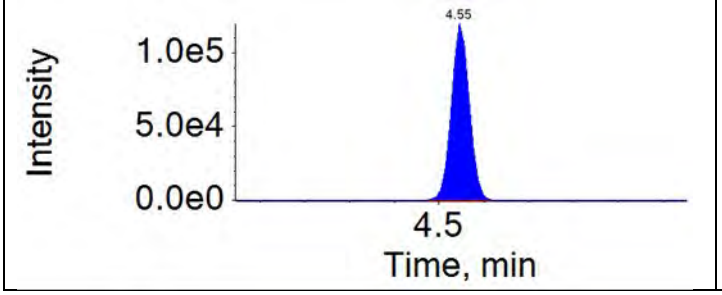



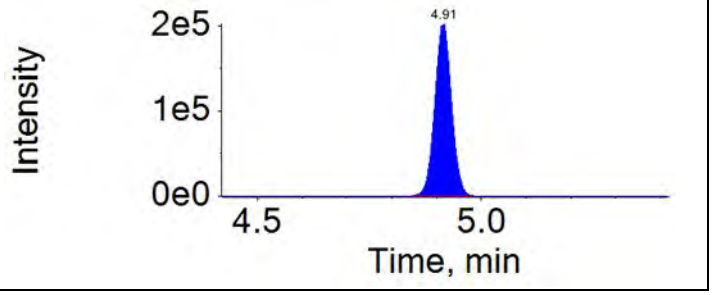

| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



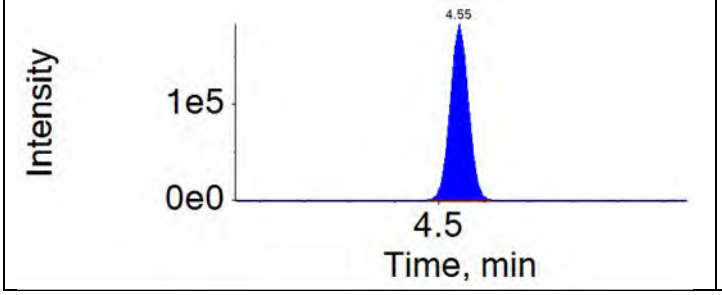



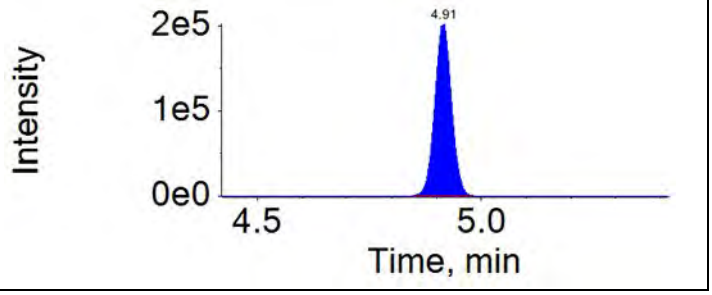

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |




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



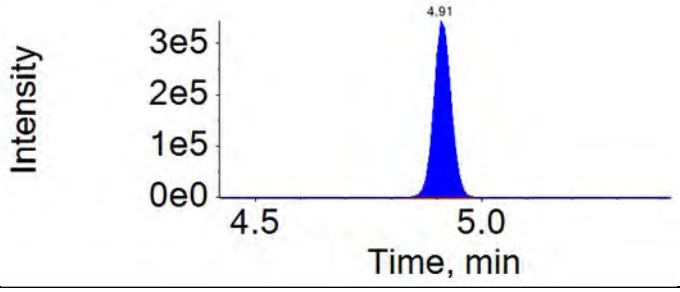
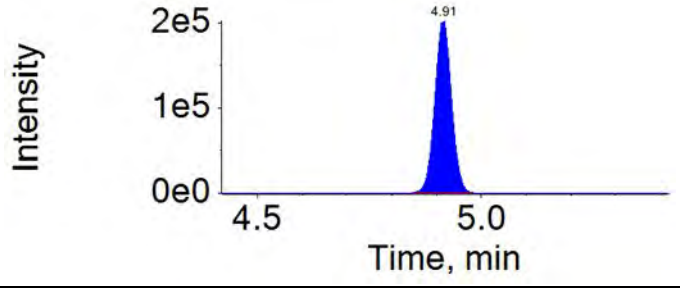




APPROVED
*By MCD at 6:55 pm, 11/14/18*



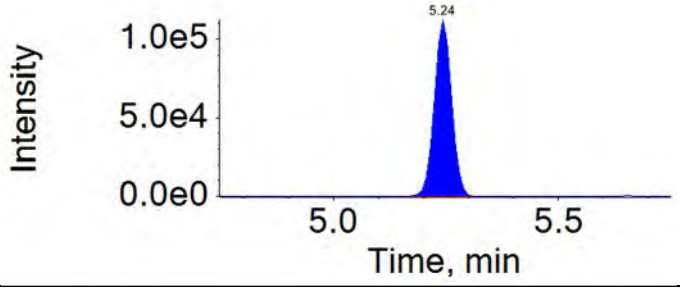
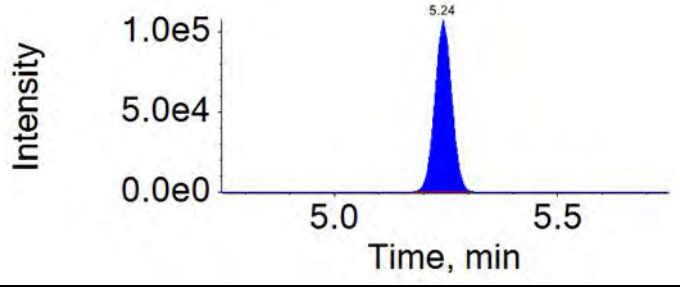
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

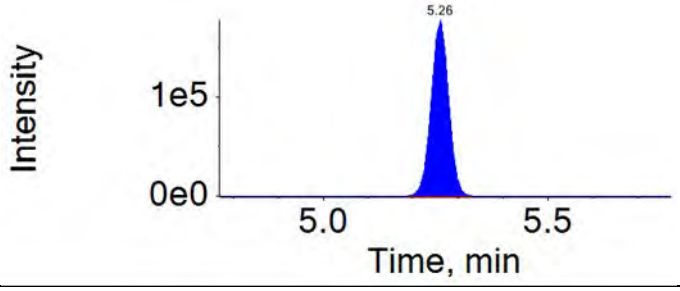
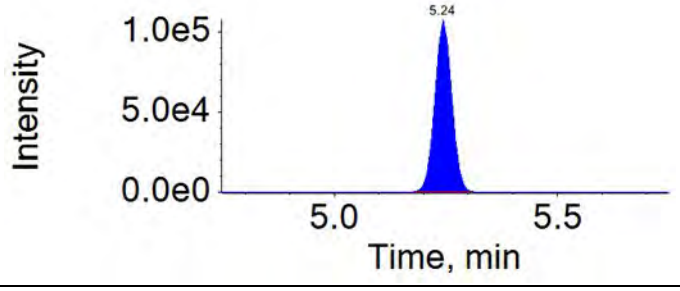




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

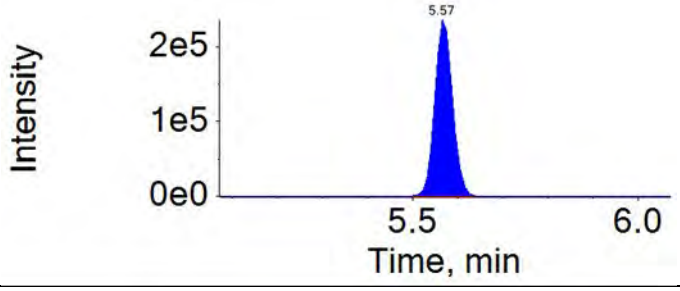
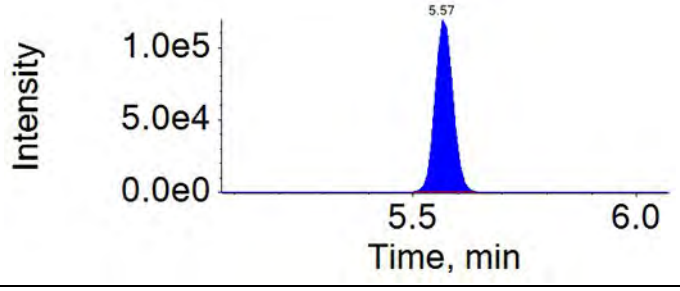




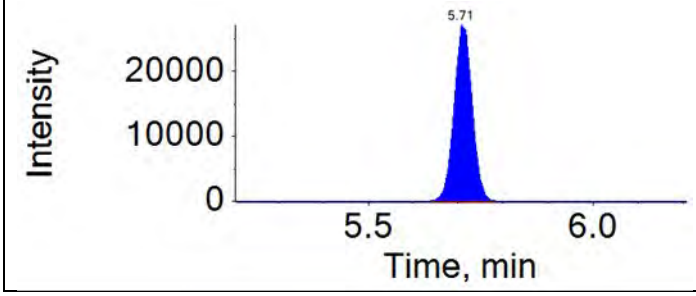
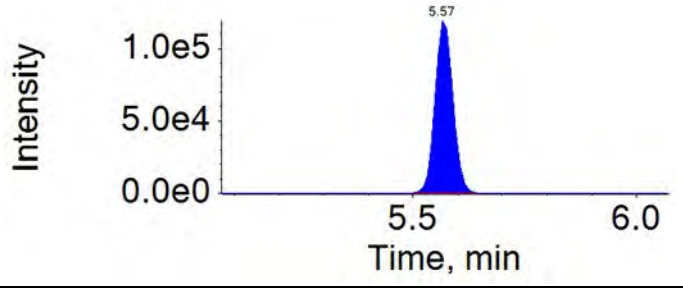
| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





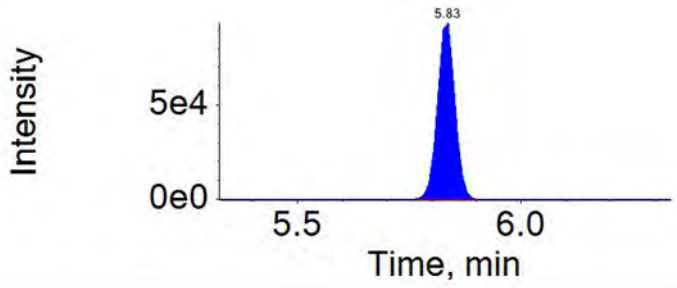
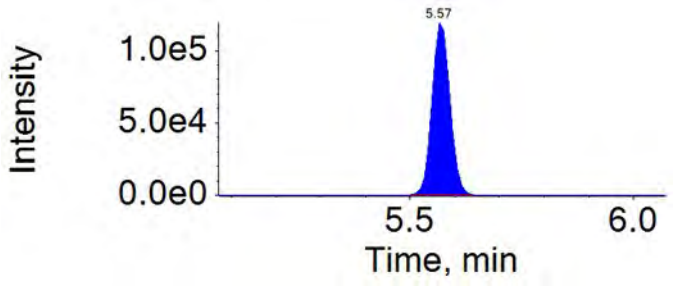
| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

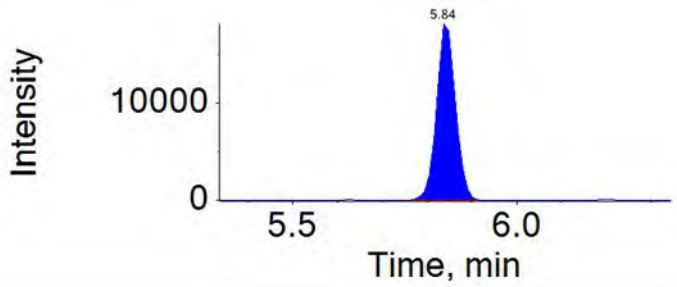
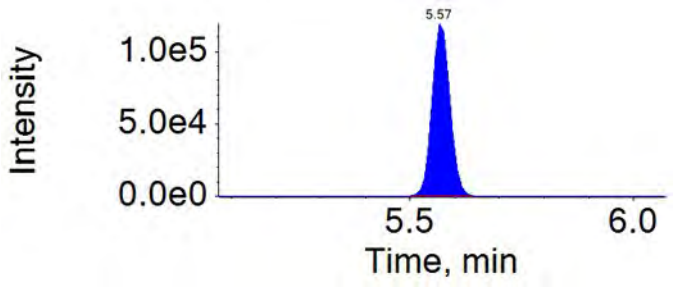




| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

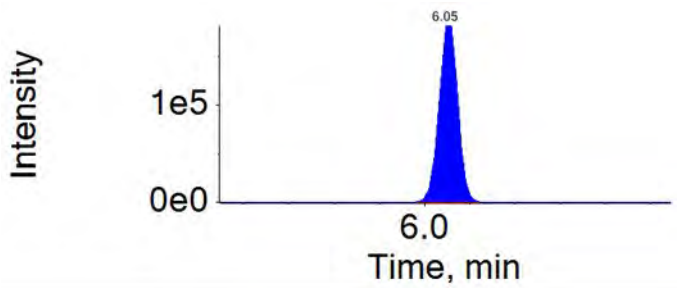
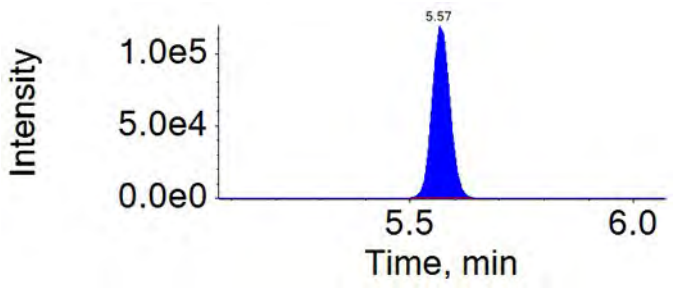




| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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





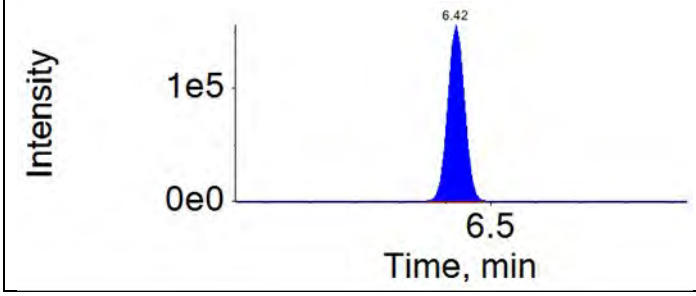
APPROVED
*By MCD at 6:55 pm, 11/14/18*

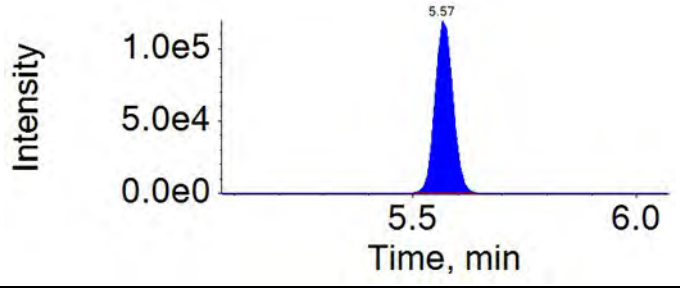


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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



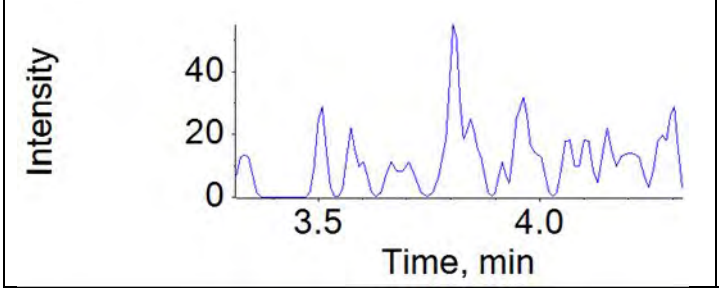

APPROVED
*By MCD at 6:55 pm, 11/14/18*

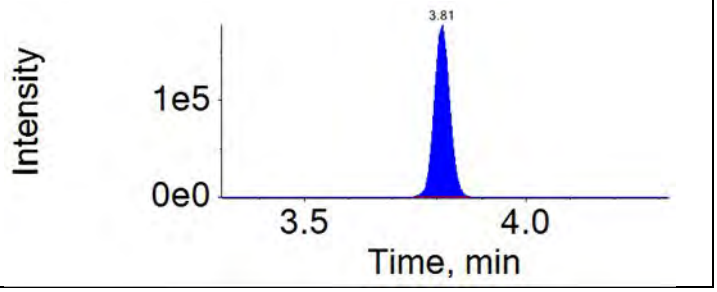


REVIEWED
*By HMK at 11:03 am, 11/15/18*

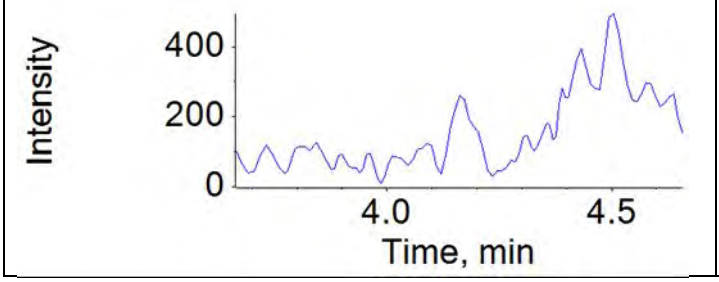
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

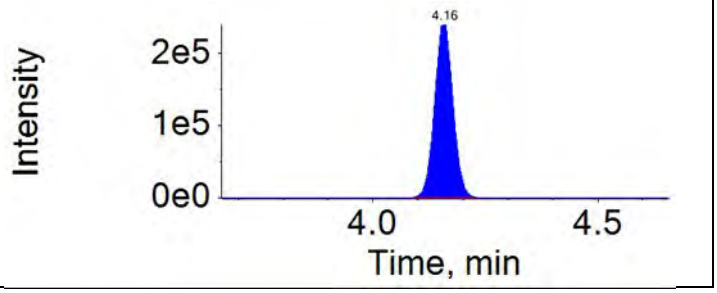
| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |



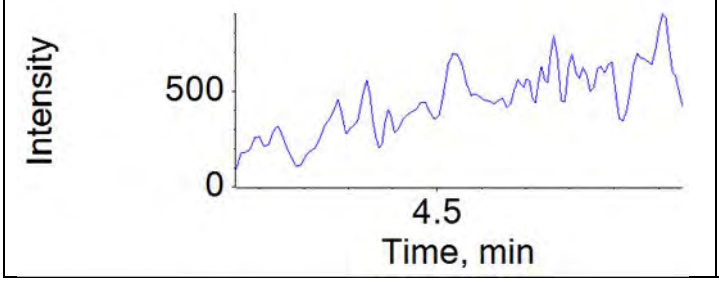



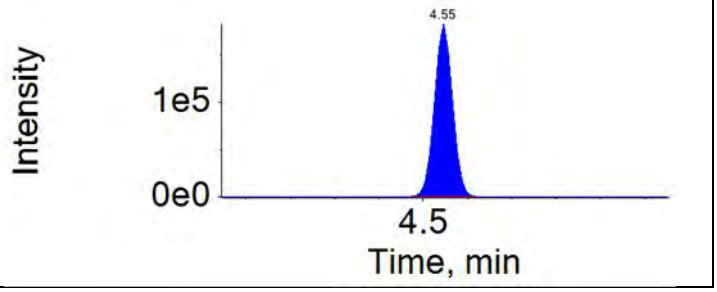

| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



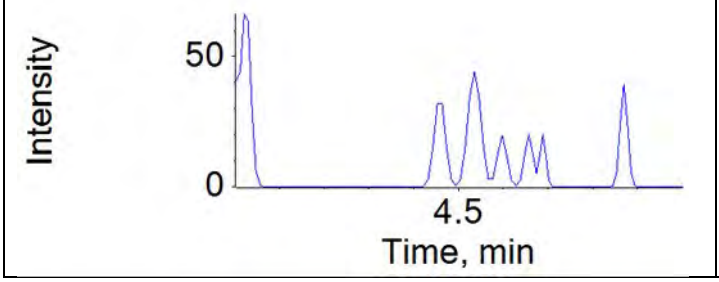



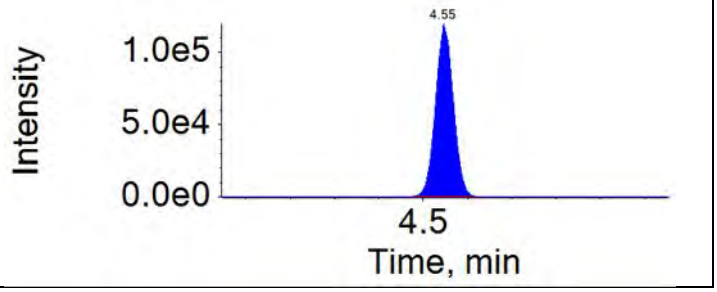

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



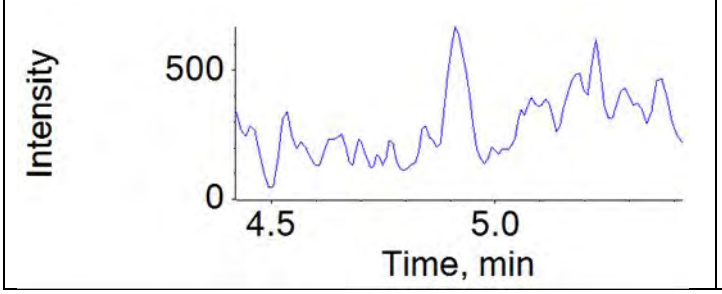

APPROVED
*By MCD at 6:55 pm, 11/14/18*

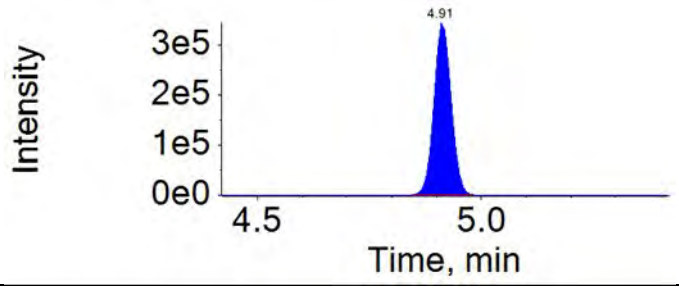


REVIEWED
*By HMK at 11:03 am, 11/15/18*

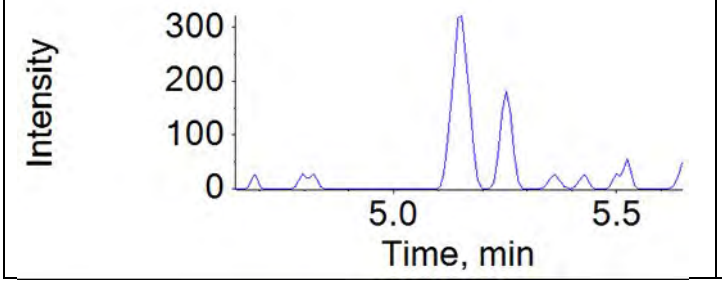
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

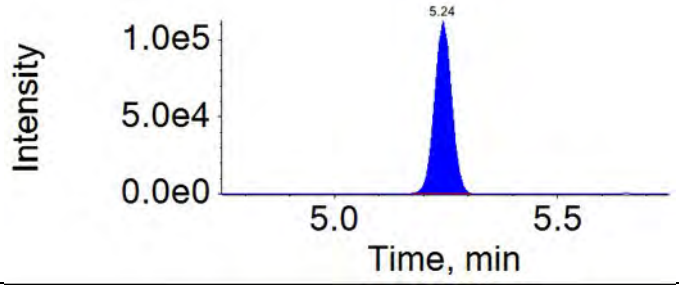
| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |



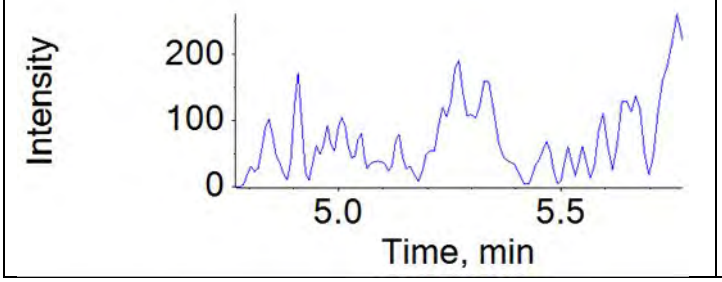



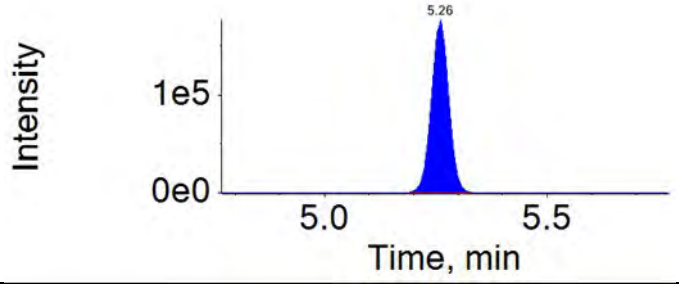

| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



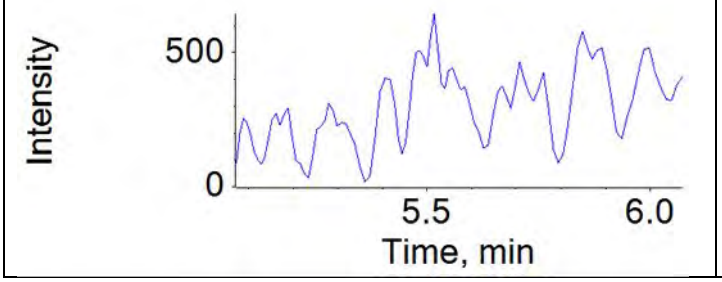



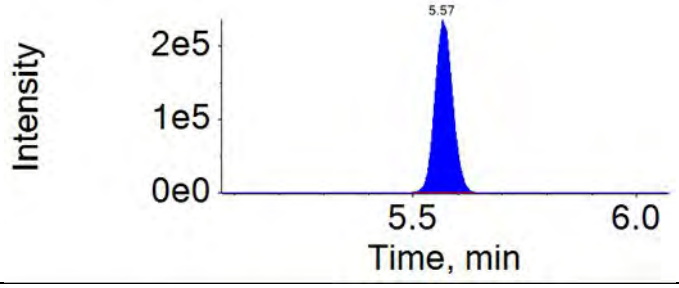

| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



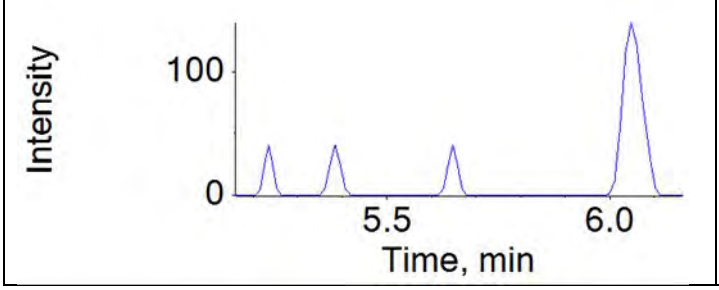

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |

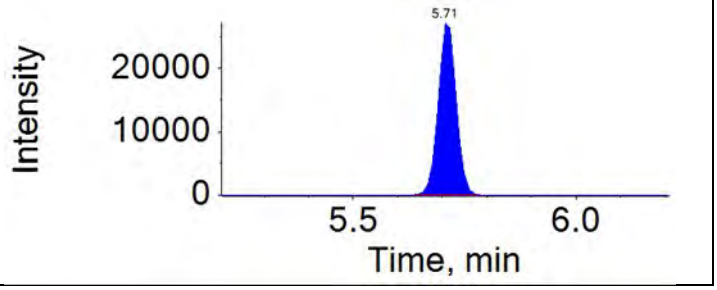


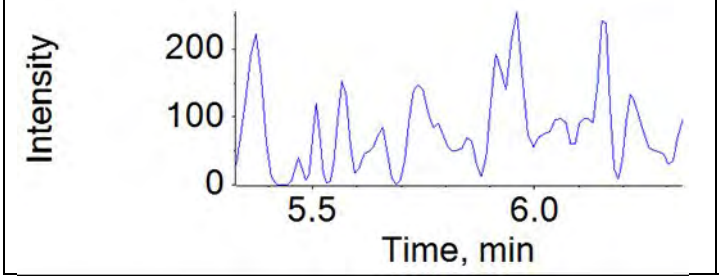
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

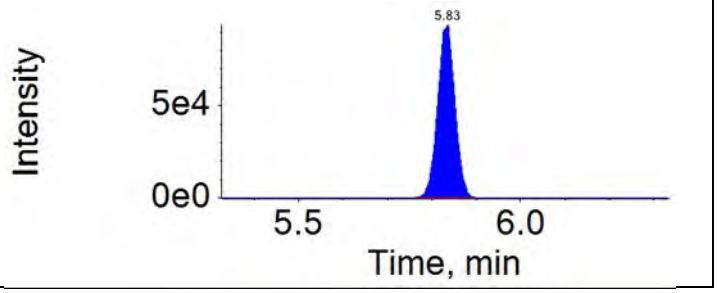
| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



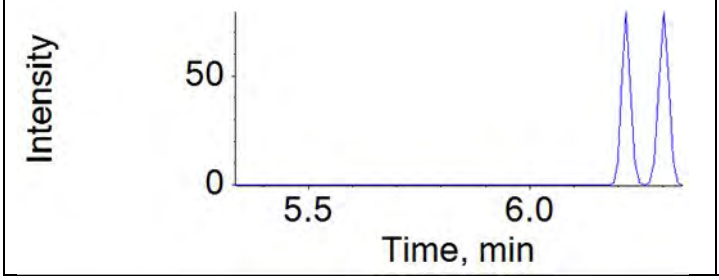



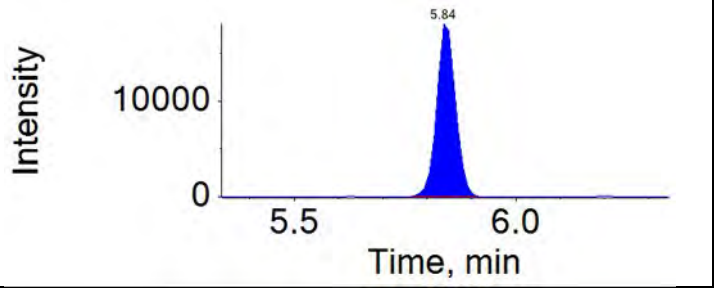

| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



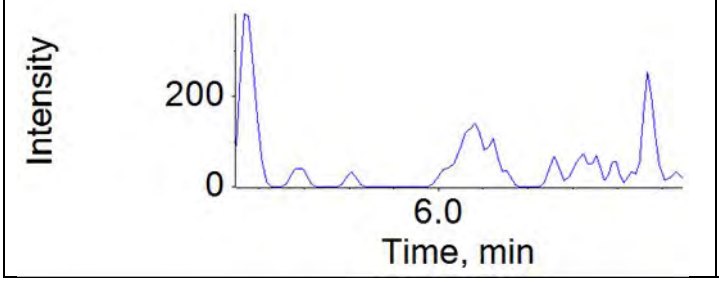



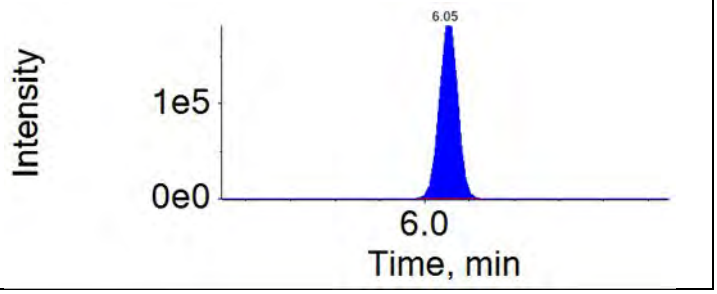

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |




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



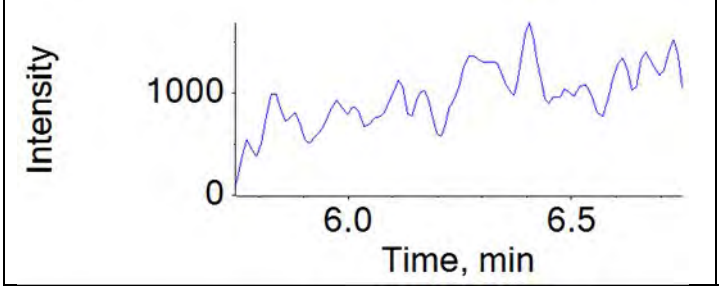

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*By MCD at 6:55 pm, 11/14/18*

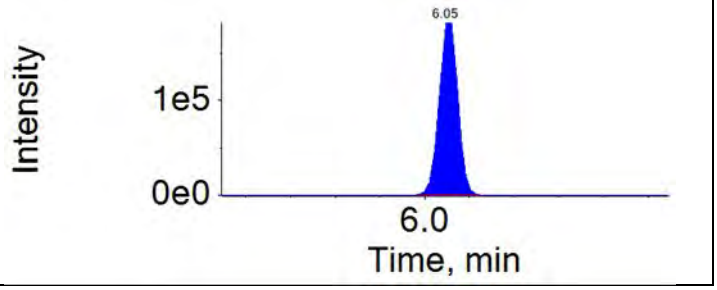


REVIEWED
*By HMK at 11:03 am, 11/15/18*

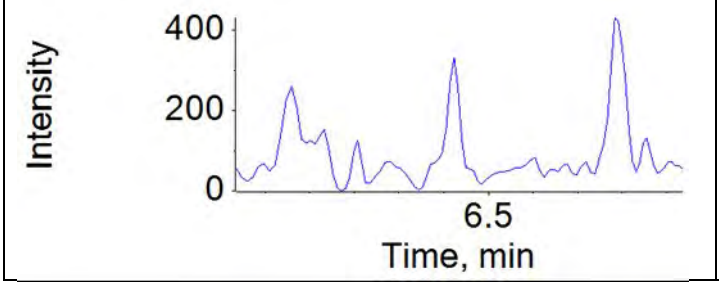
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

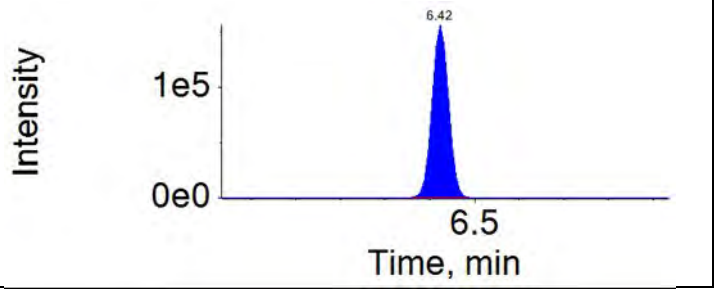
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |




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




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*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Ion Ratio Report

**Sample Name:** 9885161BKG **Instrument Name:** LM27631 **File Name:** 18NOV13D-94.wiff

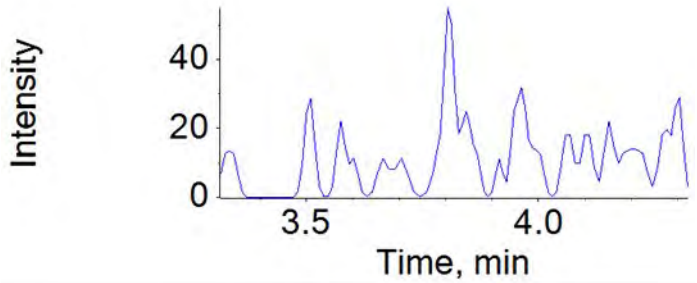
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxA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

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*By MCD at 6:55 pm, 11/14/18*

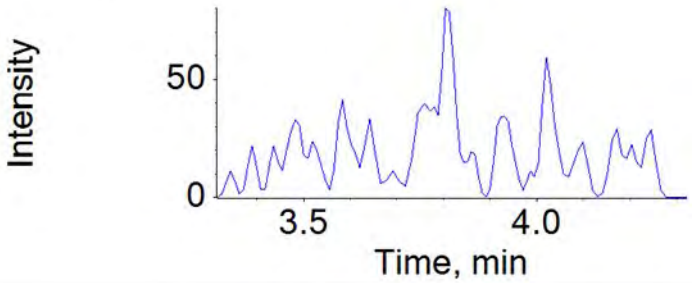


REVIEWED
*By HMK at 11:03 am, 11/15/18*

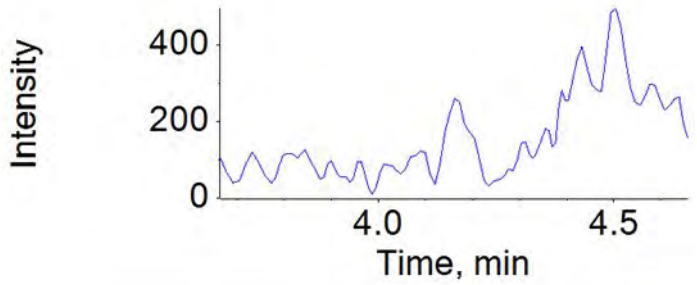
Component: PFBS
Primary Mass: 299.0 / 80.0



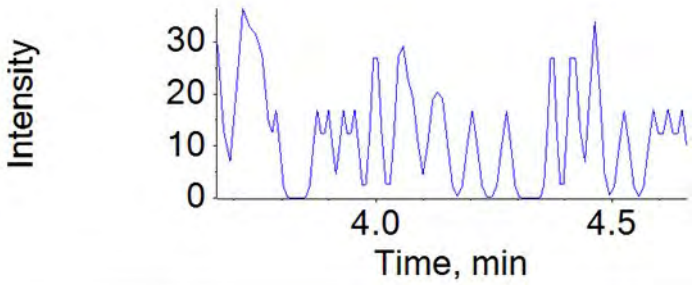

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



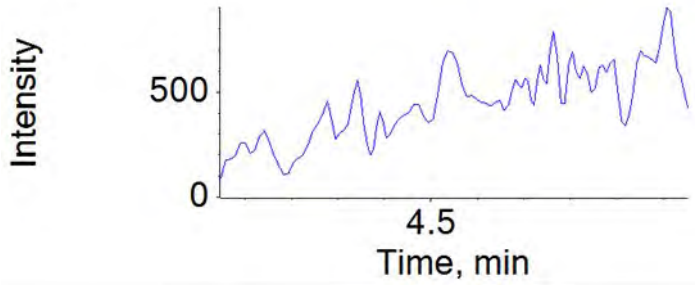

Component: PFHxA
Primary Mass: 313.0 / 269.0



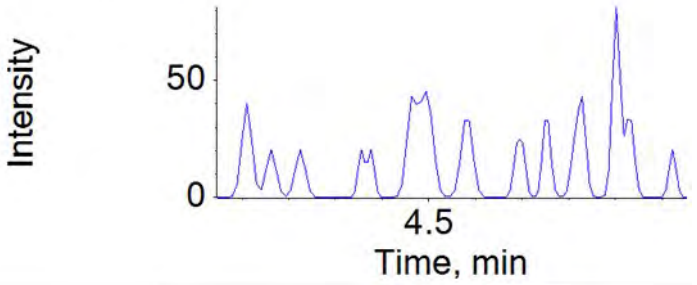

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



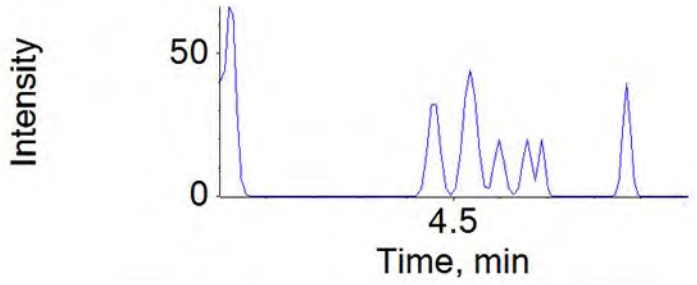

Component: PFHpA
Primary Mass: 363.0 / 319.0



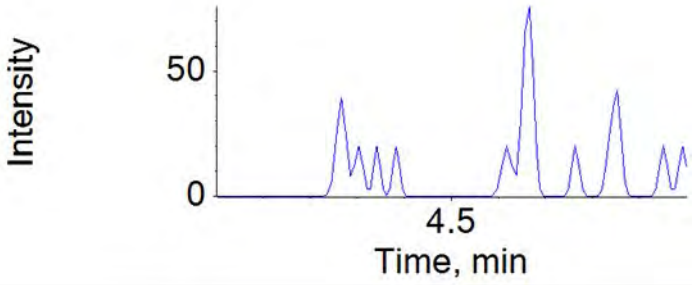

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0




Component: PFHxS
Primary Mass: 399.0 / 80.0




Component: PFHxS_2
Secondary Mass: 399.0 / 99.0

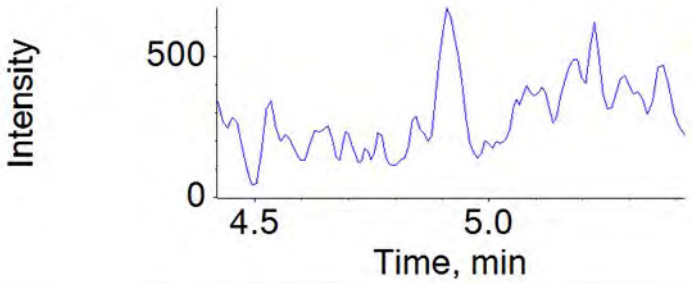



APPROVED
*By MCD at 6:55 pm, 11/14/18*

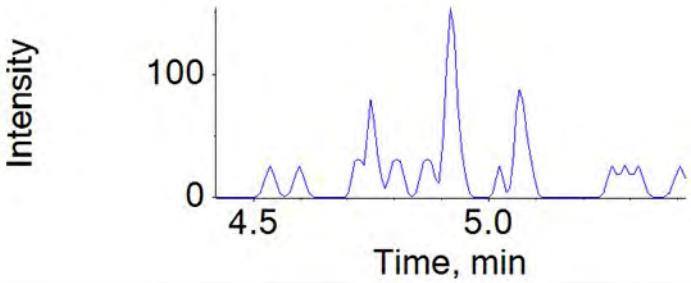


REVIEWED
*By HMK at 11:03 am, 11/15/18*

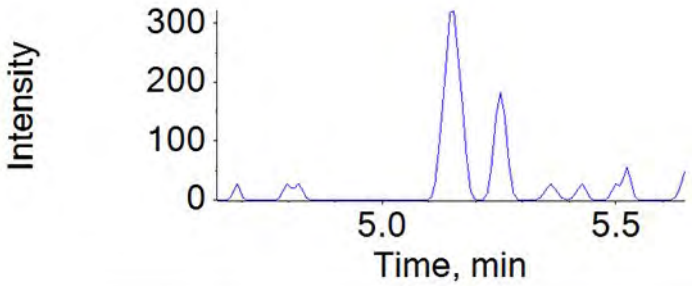
Component: PFOA
Primary Mass: 413.0 / 369.0



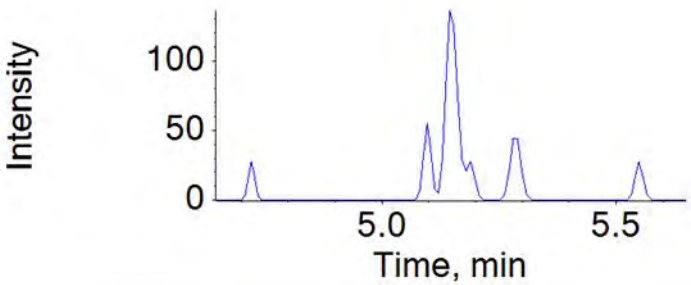

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



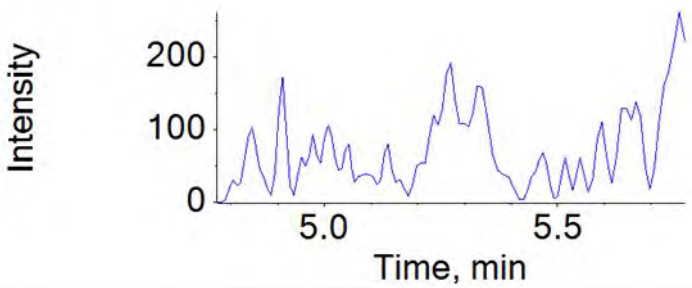

Component: PFOS
Primary Mass: 499.0 / 80.0



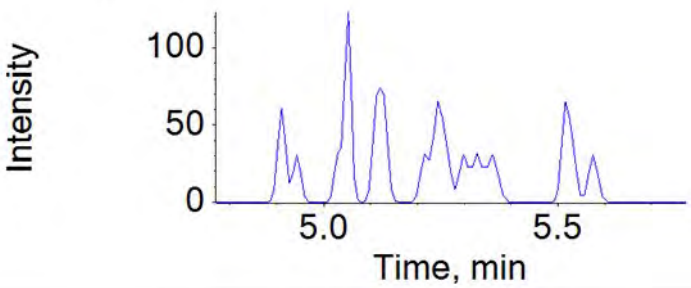

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



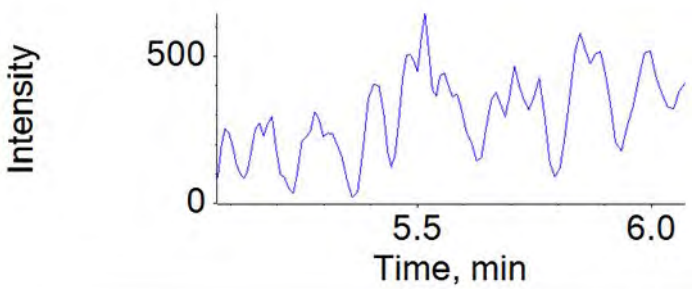

Component: PFNA
Primary Mass: 463.0 / 419.0



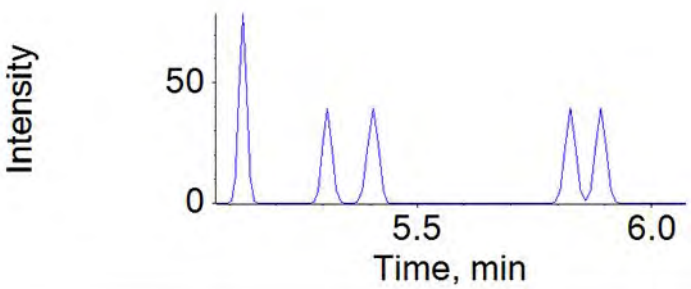

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFDA
Primary Mass: 513.0 / 469.0




Component: PFDA_2
Secondary Mass: 513.0 / 169.0

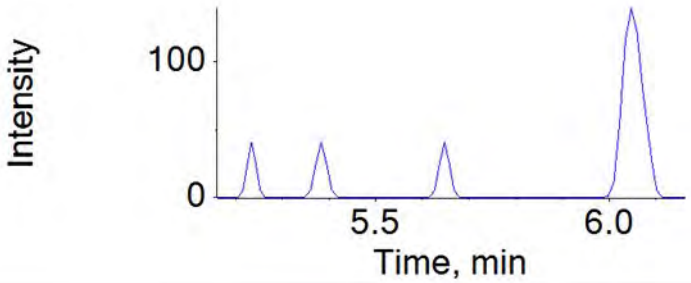



APPROVED
*By MCD at 6:55 pm, 11/14/18*

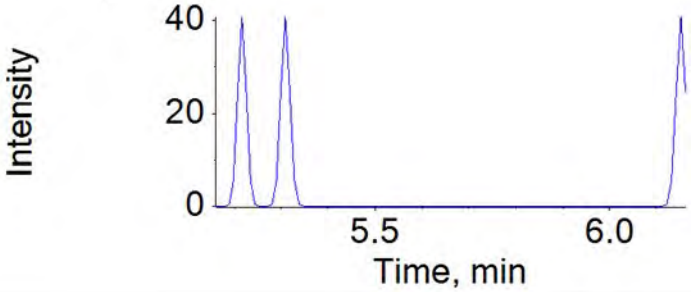


REVIEWED
*By HMK at 11:03 am, 11/15/18*

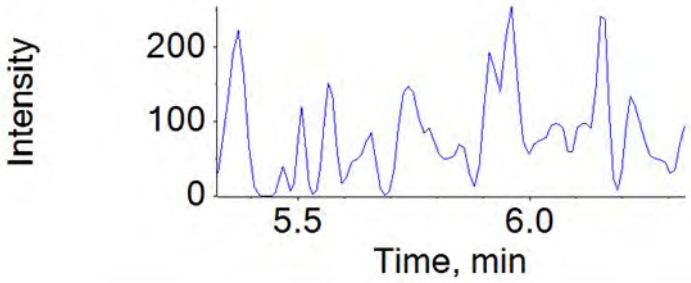
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



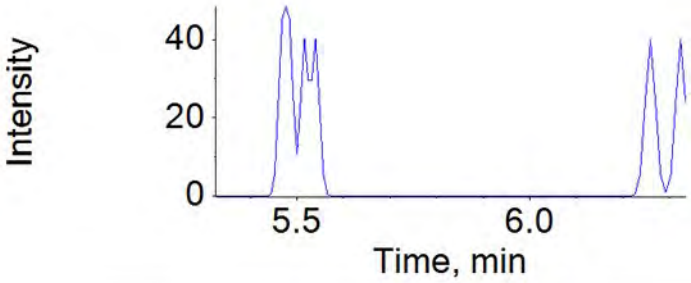

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



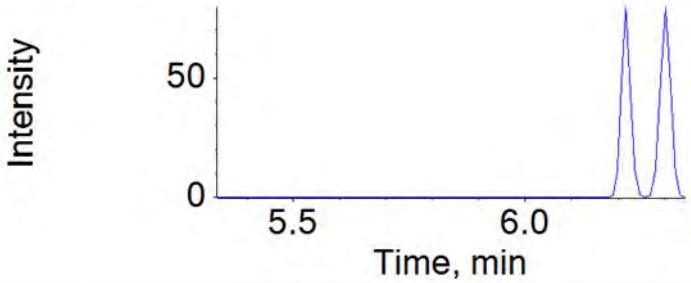

Component: PFUnDA
Primary Mass: 563.0 / 519.0



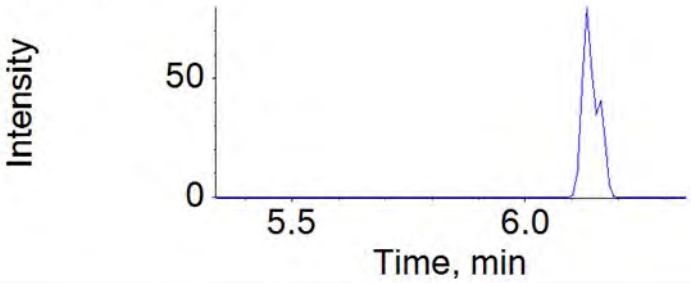

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



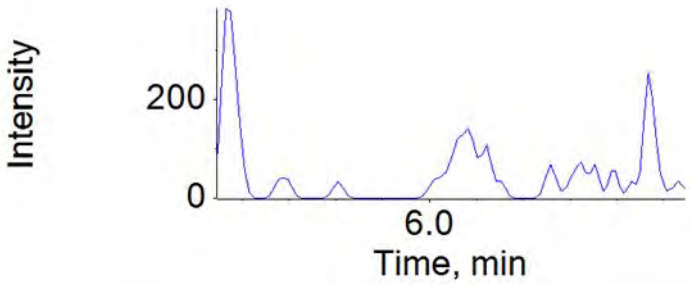

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



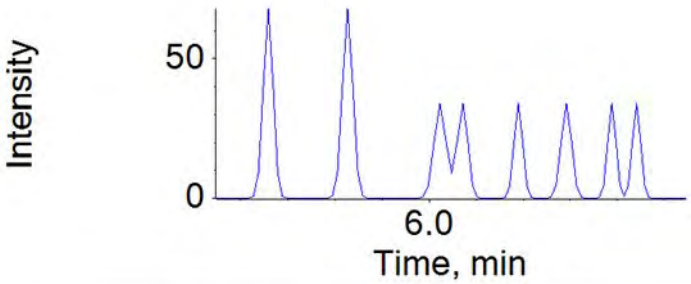

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0




Component: PFDoDA
Primary Mass: 613.0 / 569.0




Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0

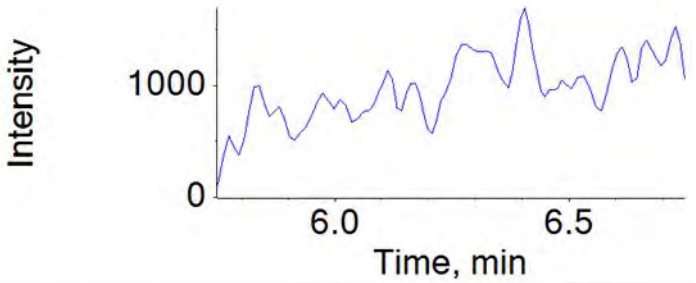



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*By MCD at 6:55 pm, 11/14/18*

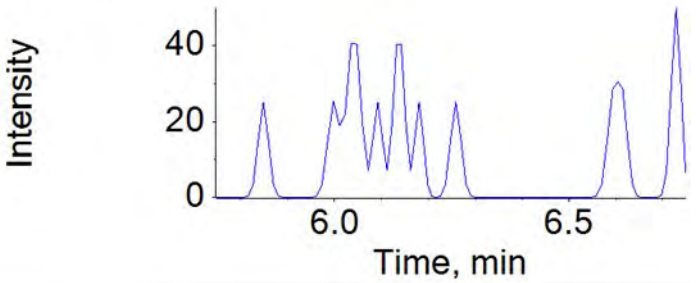


REVIEWED
*By HMK at 11:03 am, 11/15/18*

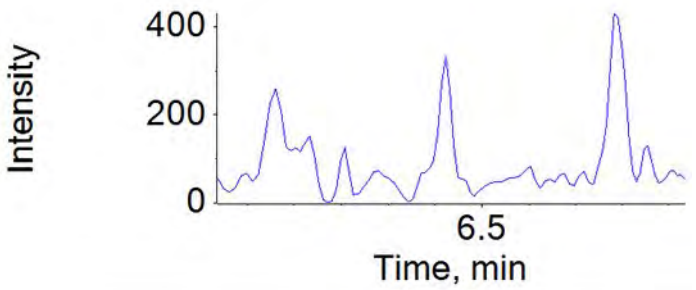
Component: PFTrDA
Primary Mass: 663.0 / 619.0



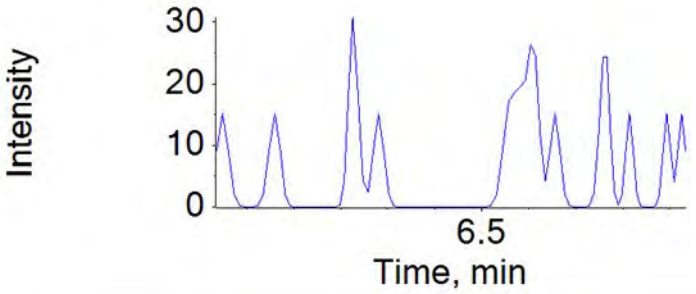

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0




Component: PFTeDA
Primary Mass: 713.0 / 669.0




Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0




APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | 9885164 | | | **Data File:** | | 18NOV13D-97.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-05 Grab Soil | | | **Acquis Date:** | | 2018-11-14T00:09:10 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 91 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 746319.4 | 661126.9 | 13 | 50 | |
| 13C2-PFOA | 5.0 | 528643.2 | 466902.6 | 13 | 50 | |
| 13C4-PFOS | 4.8 | 285622.9 | 247446.9 | 15 | 50 | |
| 13C2-PFDA | 5.0 | 320811.2 | 295381.6 | 9 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C3-PFBS | 361502.0 | 13C3-PFBA | 746319.4 | 0.484 | 9.118 | 6.705 | 74 | 50-150 | |
| E13C5-PFHxA | 582359.8 | 13C2-PFOA | 528643.2 | 1.102 | 9.804 | 7.803 | 80 | 50-150 | |
| E13C3-PFHxS | 273116.2 | 13C2-PFOA | 528643.2 | 0.517 | 9.275 | 6.951 | 75 | 50-150 | |
| E13C4-PFHpA | 450210.1 | 13C2-PFOA | 528643.2 | 0.852 | 9.804 | 7.523 | 77 | 50-150 | |
| E13C8-PFOA | 790369.3 | 13C2-PFOA | 528643.2 | 1.495 | 9.804 | 8.077 | 82 | 50-150 | |
| E13C8-PFOS | 248529.2 | 13C4-PFOS | 285622.9 | 0.870 | 9.373 | 7.560 | 81 | 50-150 | |
| E13C9-PFNA | 419584.2 | 13C4-PFOS | 285622.9 | 1.469 | 9.804 | 8.031 | 82 | 50-150 | |
| E13C6-PFDA | 543022.1 | 13C2-PFDA | 320811.2 | 1.693 | 9.804 | 7.745 | 79 | 50-150 | |
| Ed3-NMeFOSAA | 54655.4 | 13C2-PFDA | 320811.2 | 0.170 | 9.804 | 6.030 | 62 | 50-150 | |
| E13C7-PFUnDA | 229356.6 | 13C2-PFDA | 320811.2 | 0.715 | 9.804 | 8.139 | 83 | 50-150 | |
| Ed5-NEtFOSAA | 42662.3 | 13C2-PFDA | 320811.2 | 0.133 | 9.804 | 5.517 | 56 | 50-150 | |
| E13C2-PFDoDA | 485165.0 | 13C2-PFDA | 320811.2 | 1.512 | 9.804 | 7.699 | 79 | 50-150 | |
| E13C2-PFTeDA | 347541.8 | 13C2-PFDA | 320811.2 | 1.083 | 9.804 | 7.457 | 76 | 50-150 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

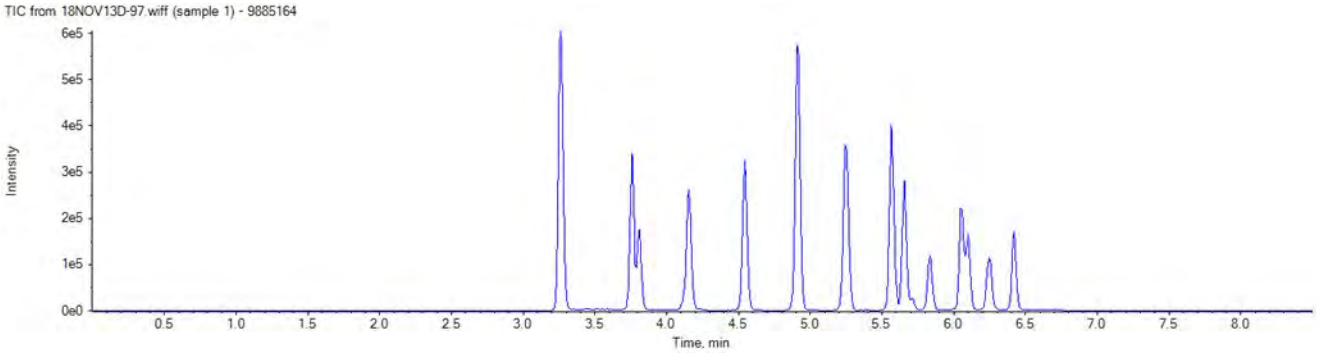
## Analyte Quantitation Peak Table

**Sample Name:** 9885164 **Instrument Name:** LM27631 **File Name:** 18NOV13D-97.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 | 3.81 | 361502.0 | N/A | |
| PFHxA | N/A | N/A | N/A | | A | 13C5-PFHxA | 4.15 | 582359.8 | N/A | |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.54 | 450210.1 | N/A | |
| PFHxS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 273116.2 | N/A | |
| PFOA | N/A | N/A | N/A | | A | 13C8-PFOA | 4.91 | 790369.3 | N/A | |
| PFOS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 248529.2 | N/A | |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.26 | 419584.2 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.57 | 543022.1 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.71 | 54655.4 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.83 | 229356.6 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.84 | 42662.3 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 485165.0 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 485165.0 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 347541.8 | N/A | |

## Total Ion Chromatogram



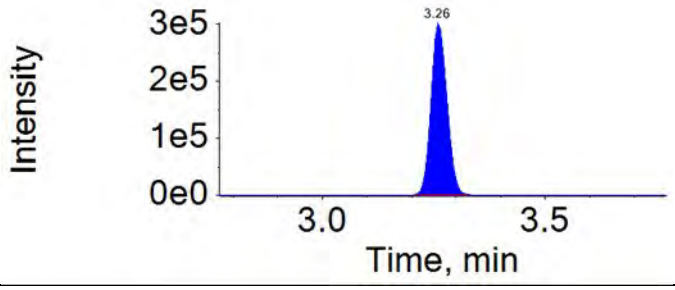

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*By MCD at 6:55 pm, 11/14/18*



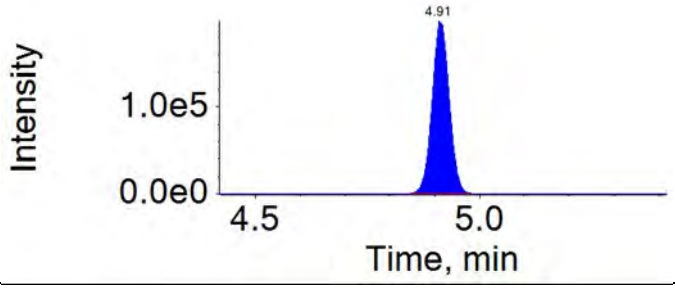
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

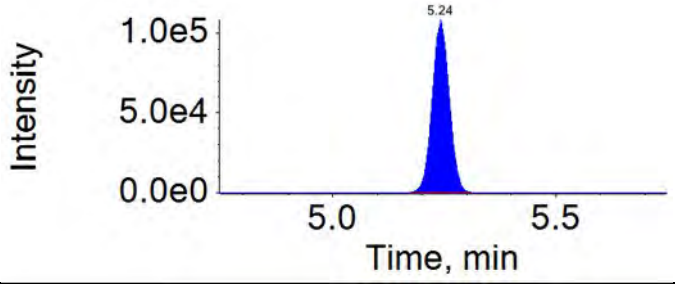
Injection Standard: 13C3-PFBA
216.0 / 172.0



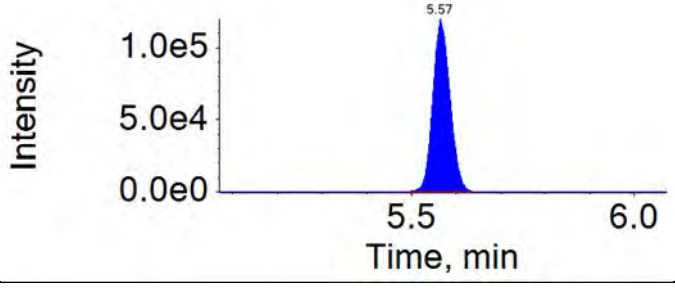

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

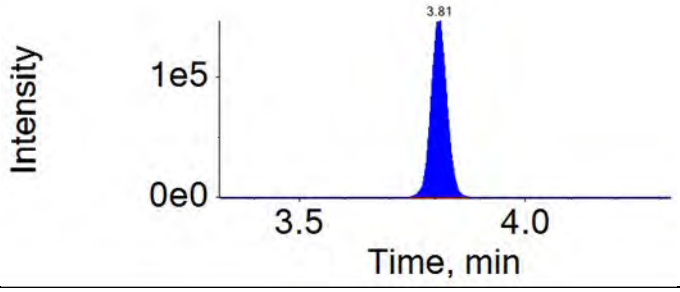
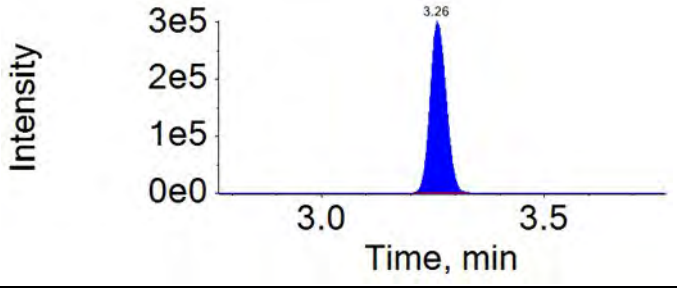



APPROVED
*By MCD at 6:55 pm, 11/14/18*



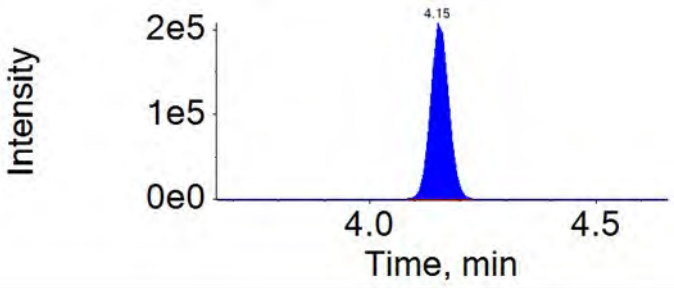
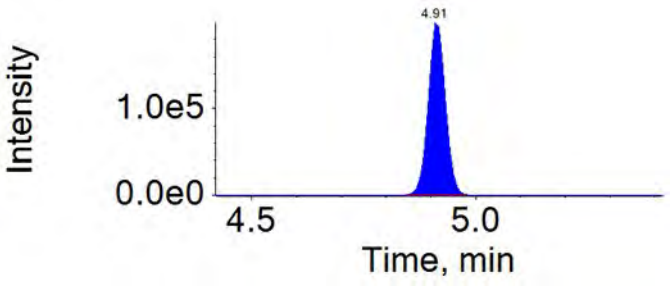
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

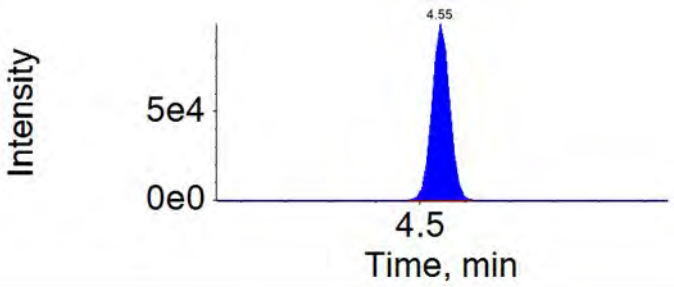
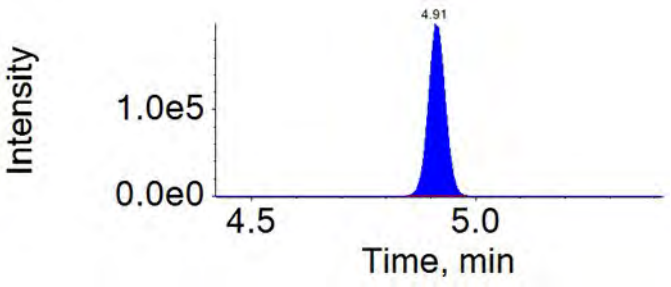




| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |
|  |  |

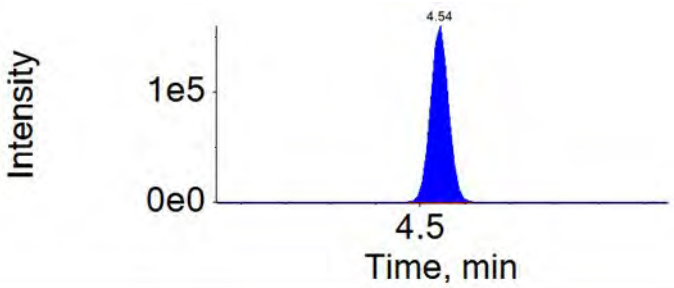
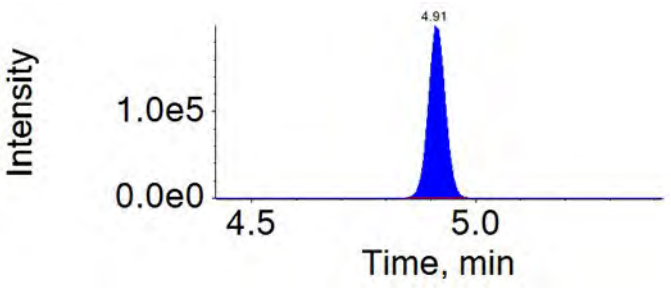




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |





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



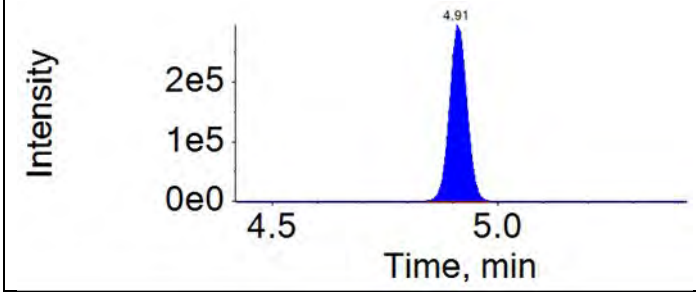
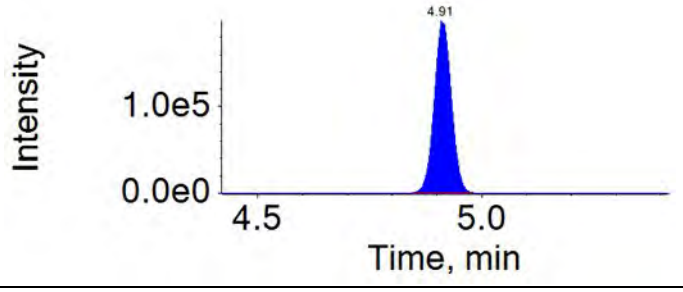


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*By MCD at 6:55 pm, 11/14/18*



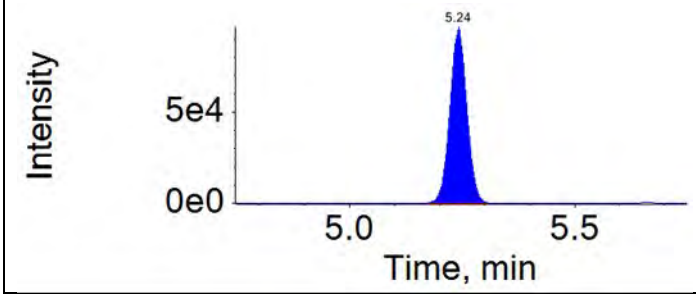
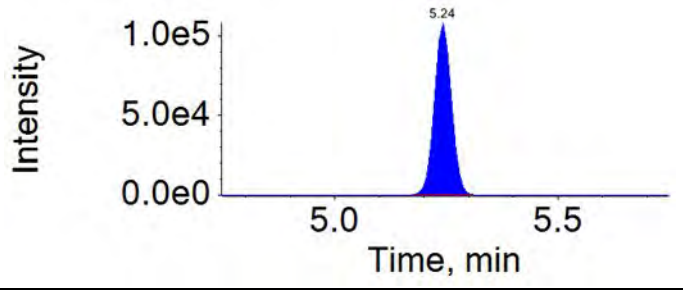
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*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

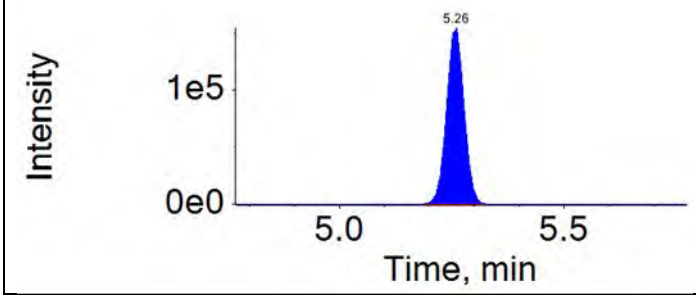
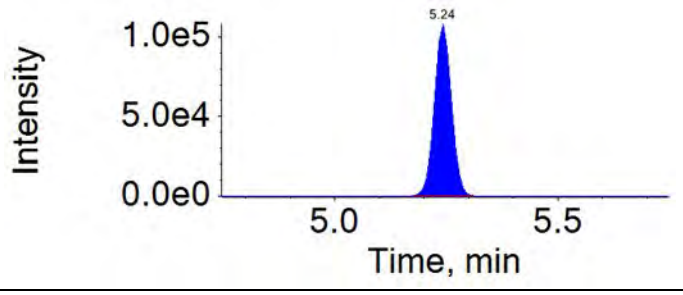




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

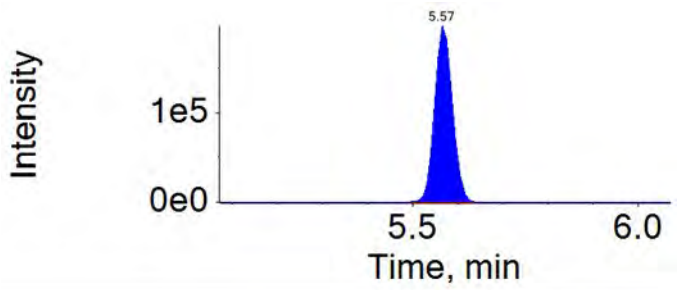
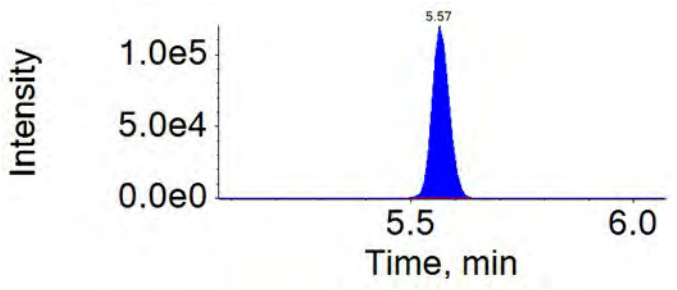




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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





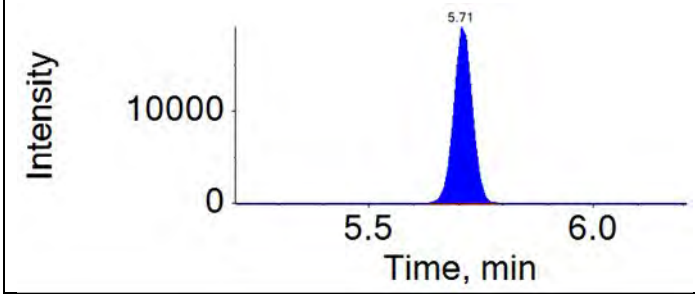
APPROVED
*By MCD at 6:55 pm, 11/14/18*

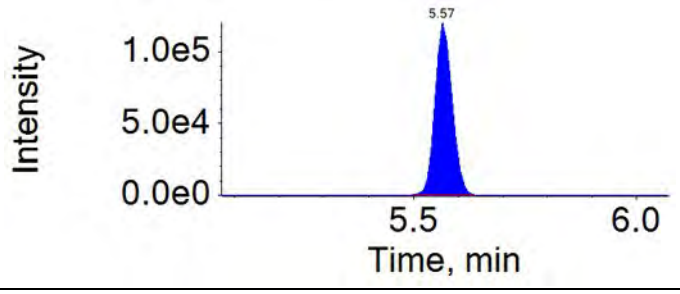


REVIEWED
*By HMK at 11:03 am, 11/15/18*

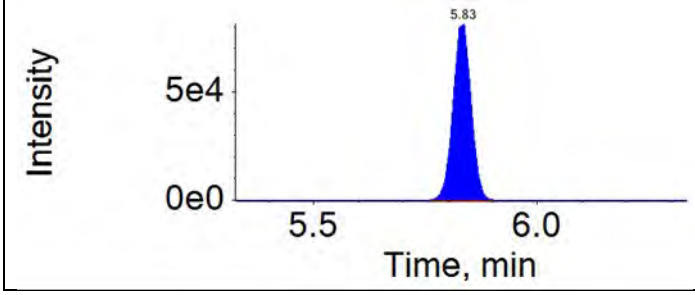
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

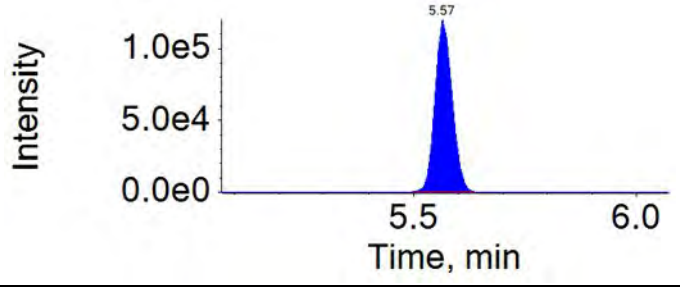
| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |



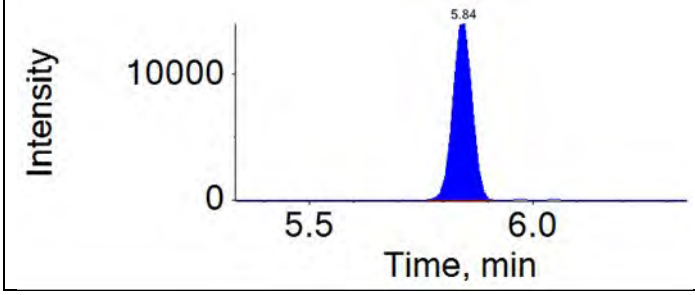



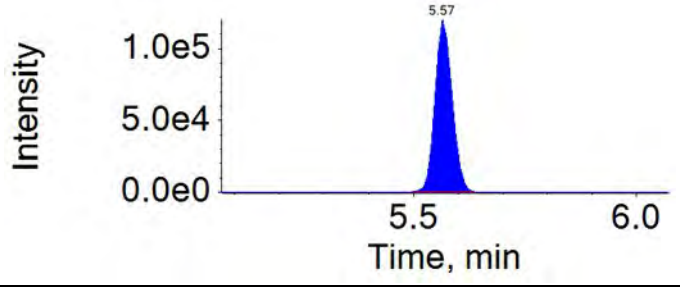

| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |



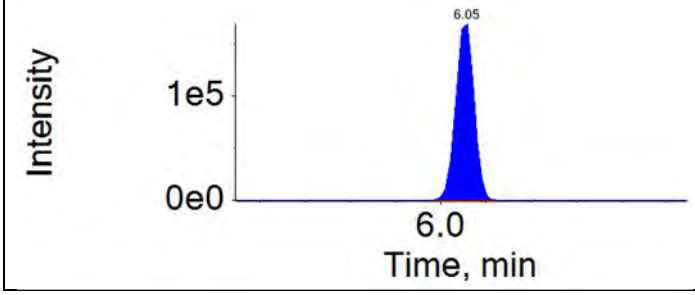



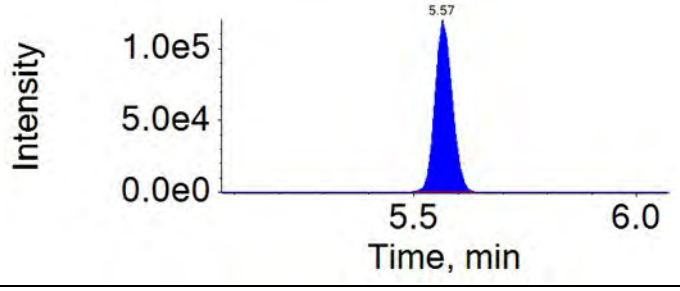

| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |




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



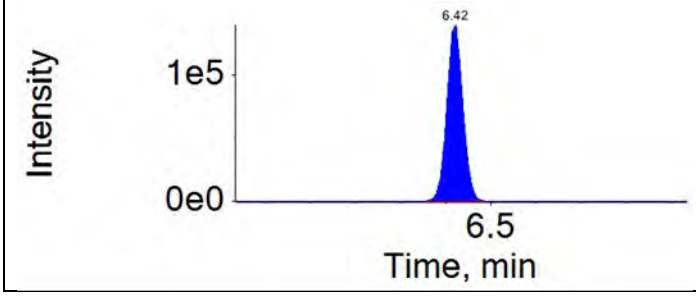

APPROVED
*By MCD at 6:55 pm, 11/14/18*

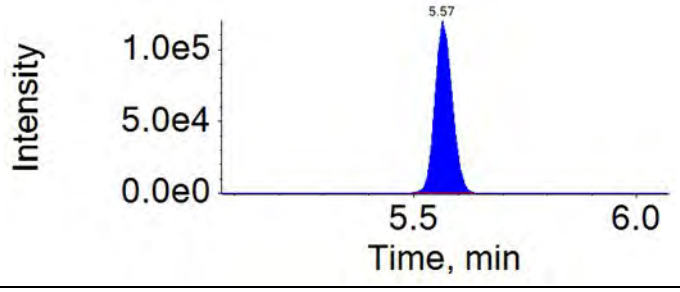


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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



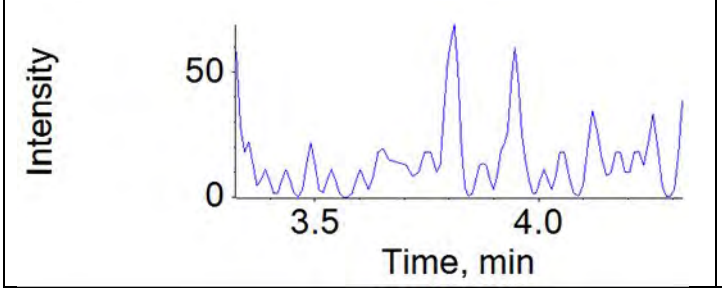

APPROVED
*By MCD at 6:55 pm, 11/14/18*

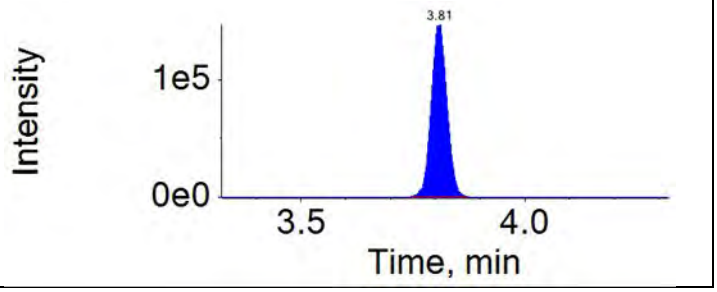


REVIEWED
*By HMK at 11:03 am, 11/15/18*

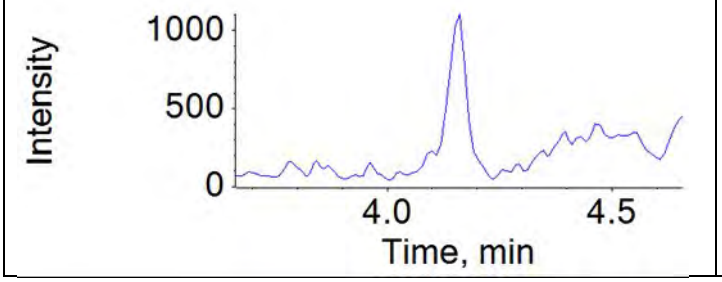
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

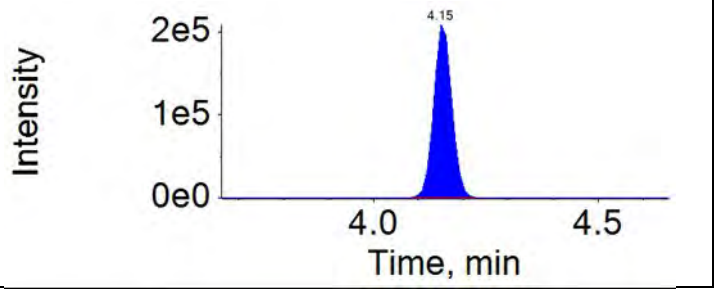
| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |



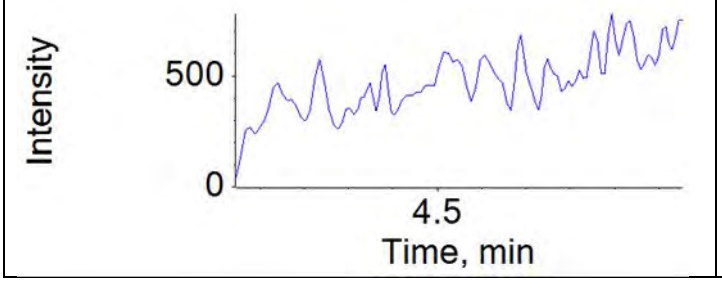



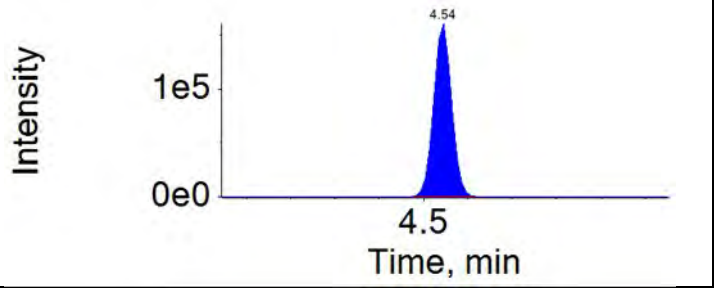

| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



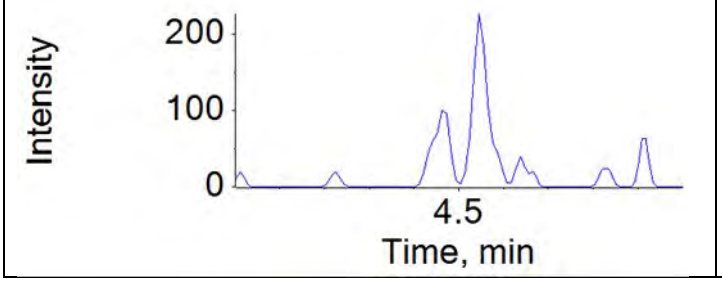



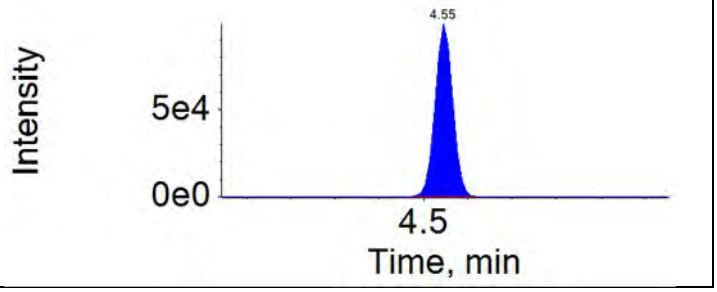

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |



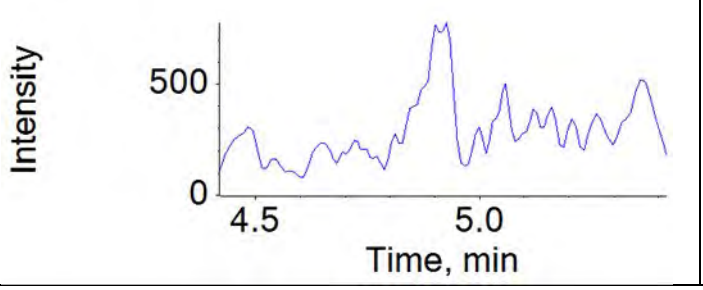

| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |

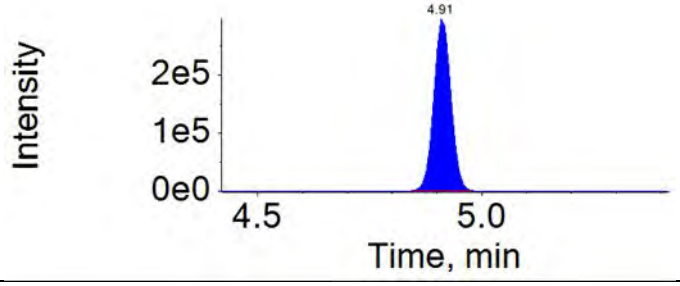


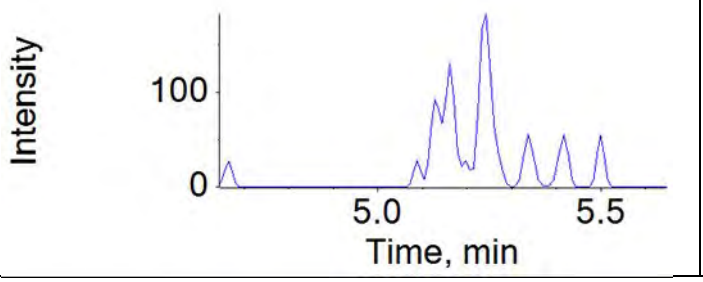
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

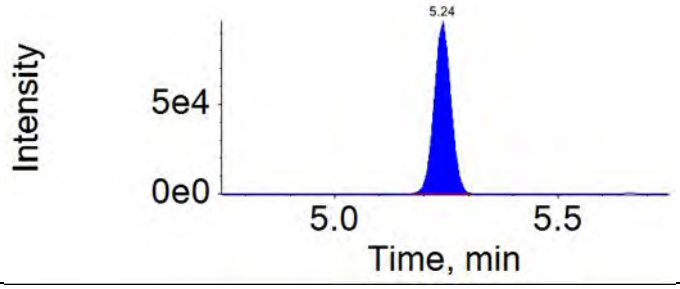
| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |



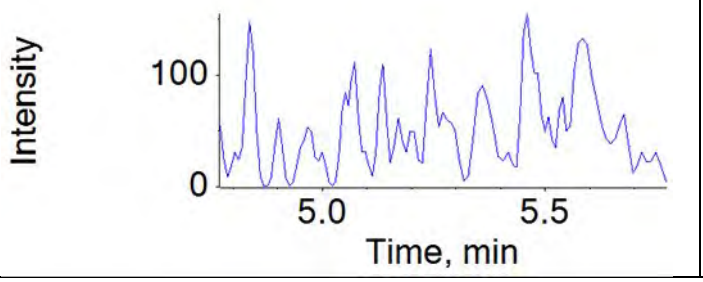



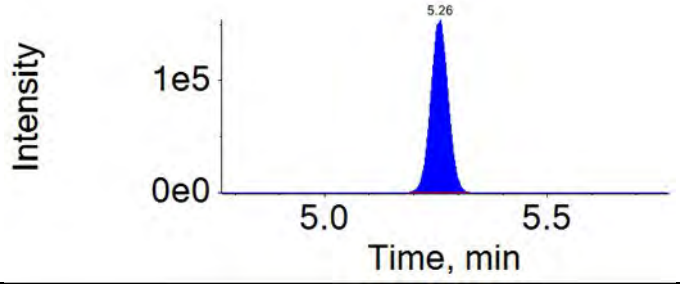

| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



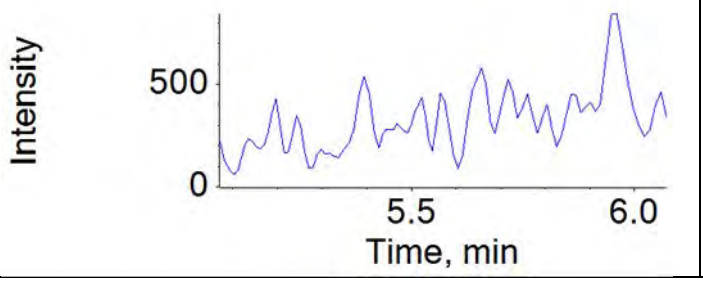



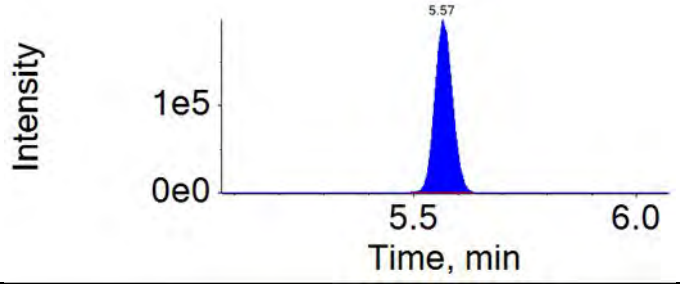

| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |




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



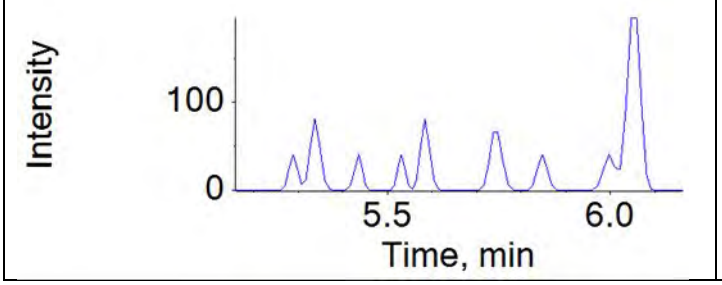

APPROVED
*By MCD at 6:55 pm, 11/14/18*

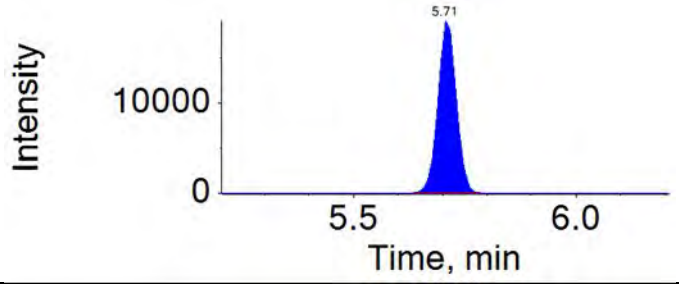


REVIEWED
*By HMK at 11:03 am, 11/15/18*

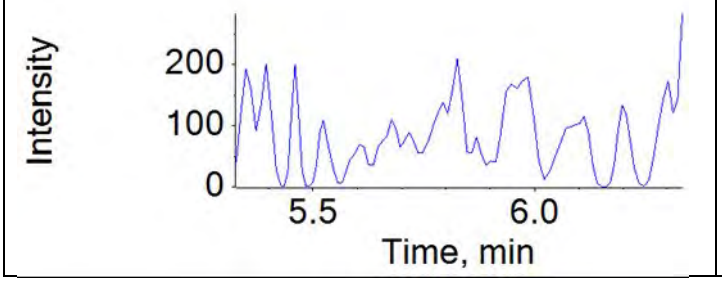
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

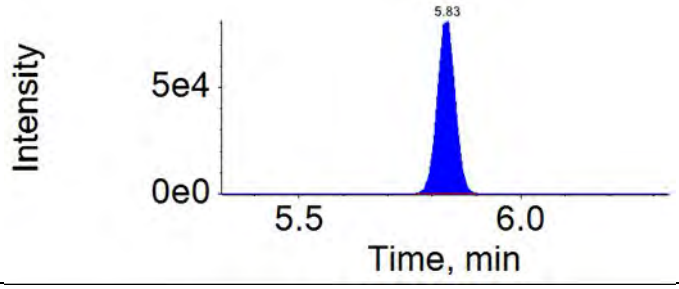
| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



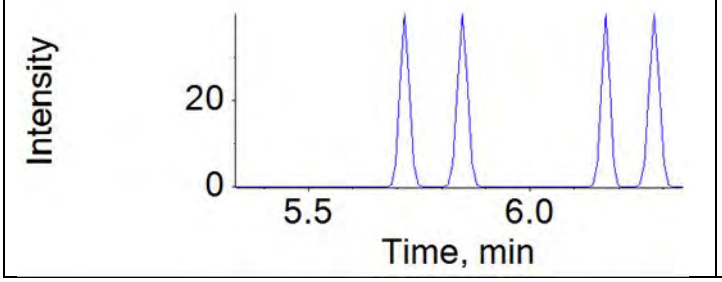



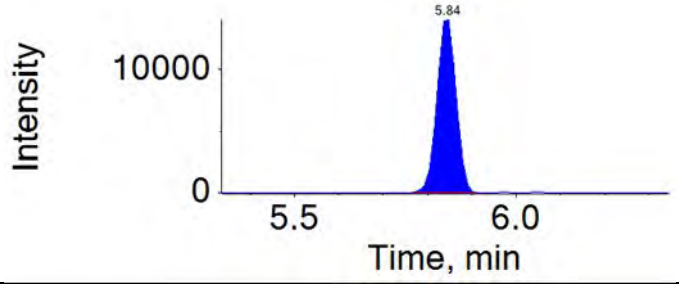

| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



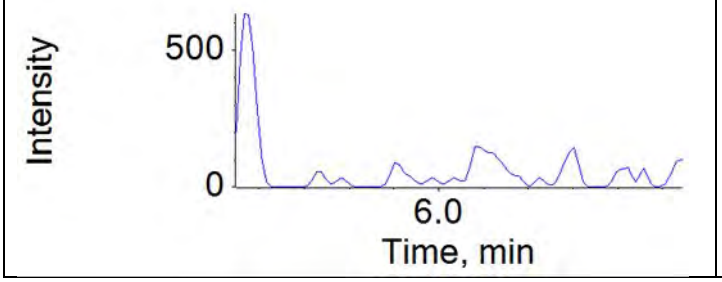



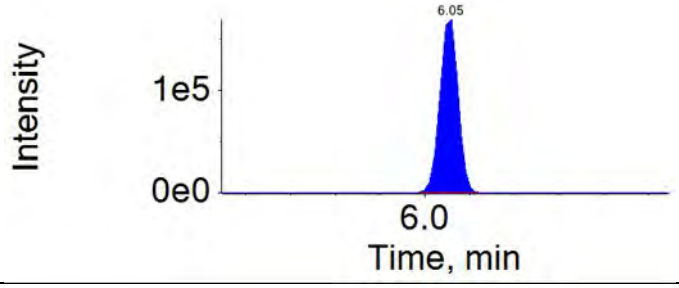

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |




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



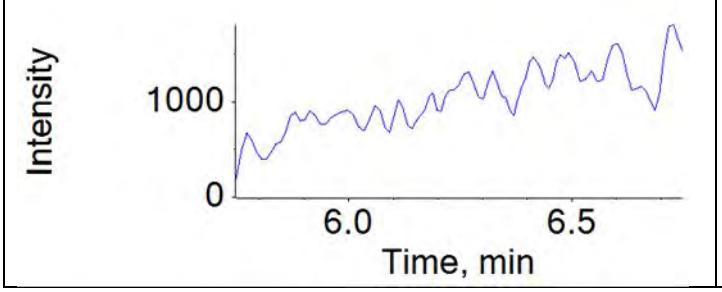

APPROVED
*By MCD at 6:55 pm, 11/14/18*

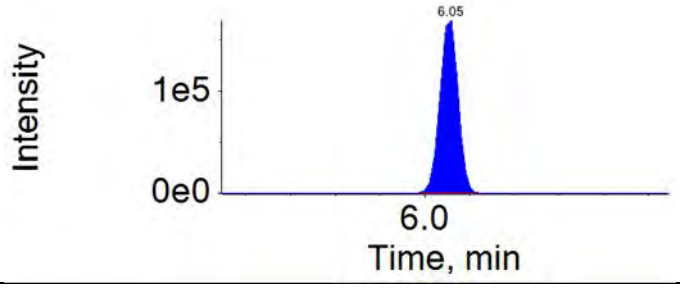


REVIEWED
*By HMK at 11:03 am, 11/15/18*

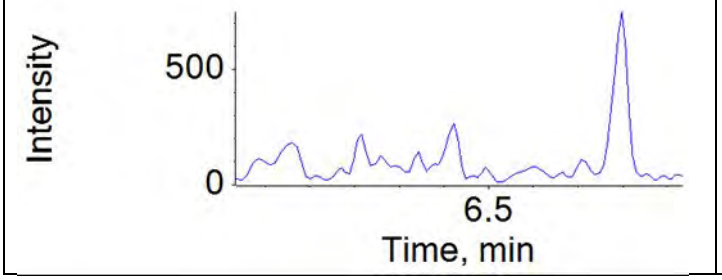
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

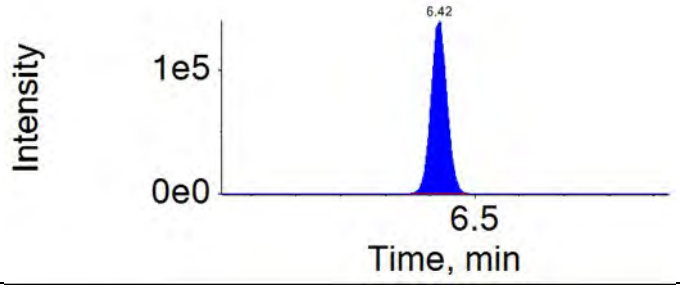
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |




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




APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Ion Ratio Report

**Sample Name:** 9885164 **Instrument Name:** LM27631 **File Name:** 18NOV13D-97.wiff

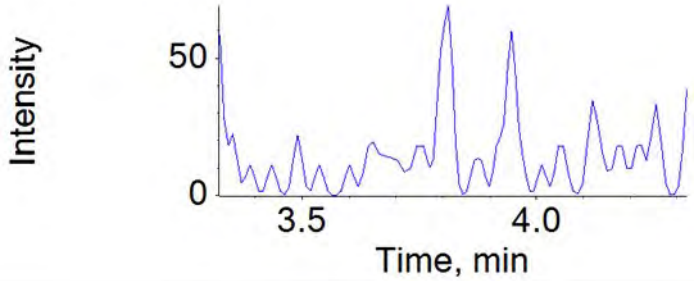
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxA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

APPROVED
*By MCD at 6:55 pm, 11/14/18*

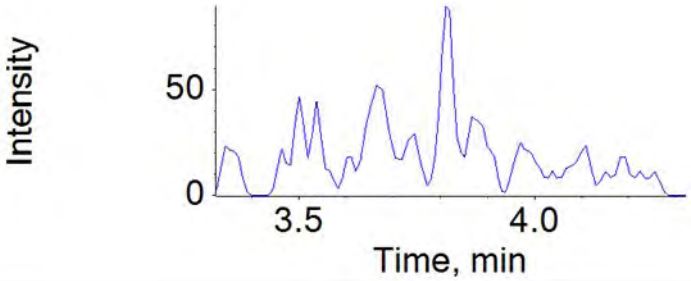


REVIEWED
*By HMK at 11:03 am, 11/15/18*

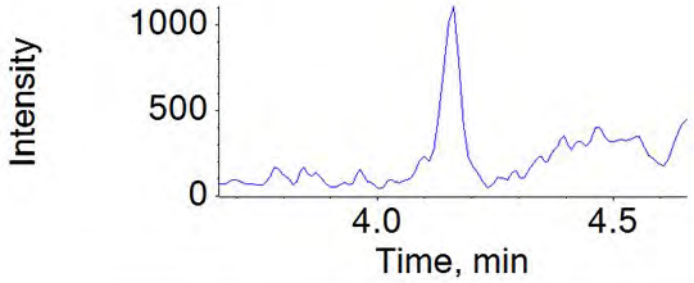
Component: PFBS
Primary Mass: 299.0 / 80.0



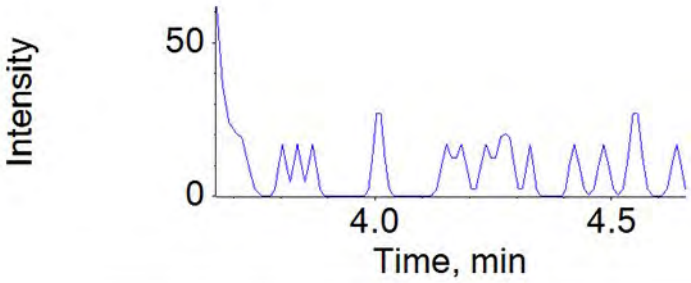

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



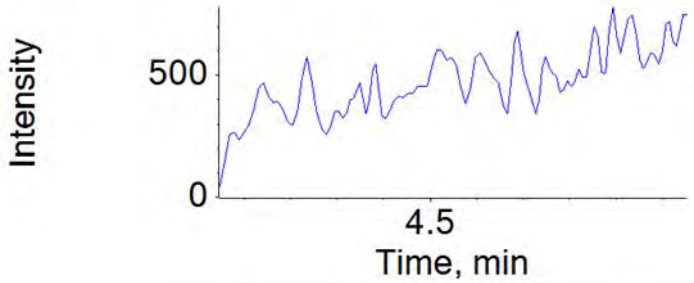

Component: PFHxA
Primary Mass: 313.0 / 269.0



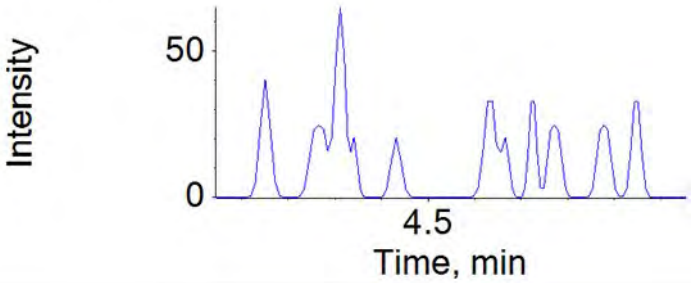

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



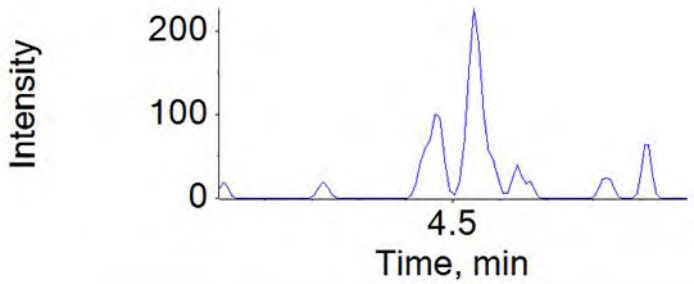

Component: PFHpA
Primary Mass: 363.0 / 319.0



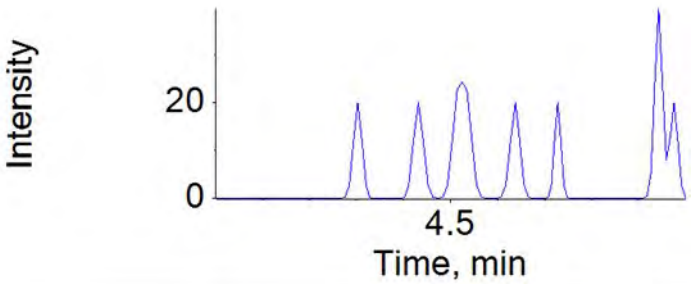

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0




Component: PFHxS
Primary Mass: 399.0 / 80.0




Component: PFHxS_2
Secondary Mass: 399.0 / 99.0

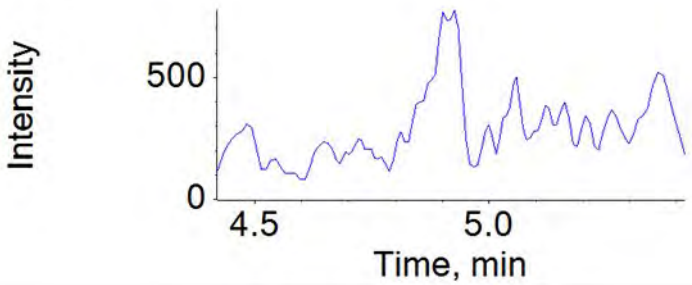



APPROVED
*By MCD at 6:55 pm, 11/14/18*

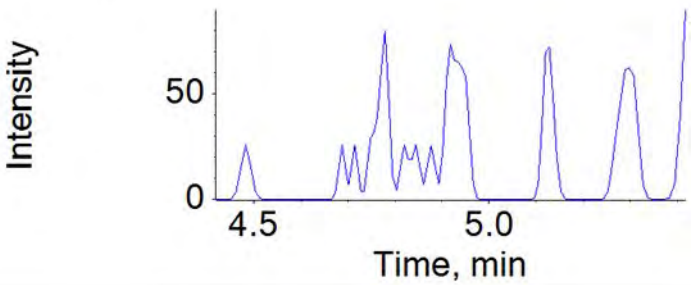


REVIEWED
*By HMK at 11:03 am, 11/15/18*

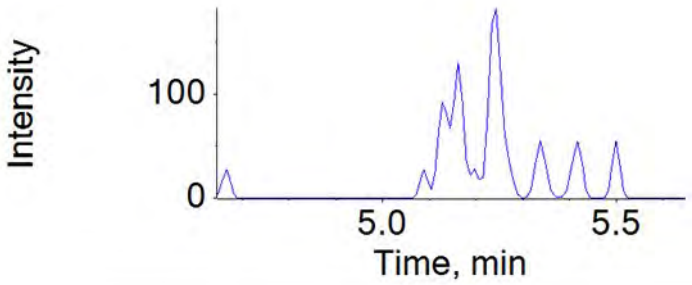
Component: PFOA
Primary Mass: 413.0 / 369.0



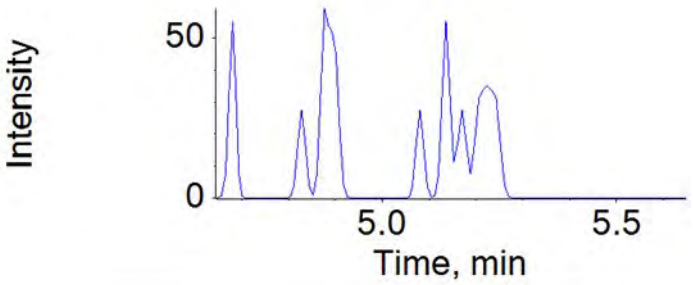

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



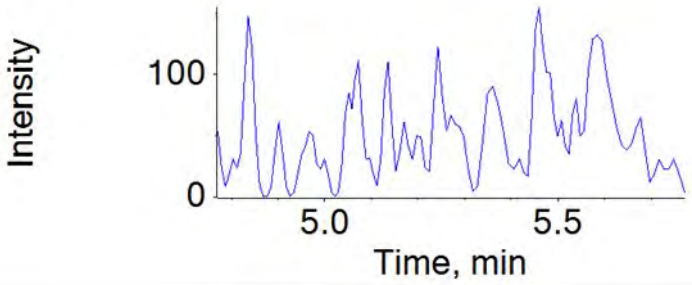

Component: PFOS
Primary Mass: 499.0 / 80.0



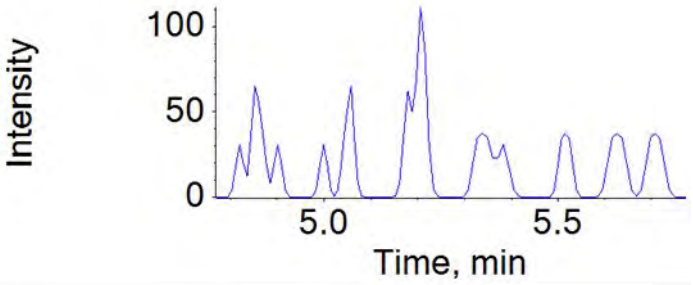

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



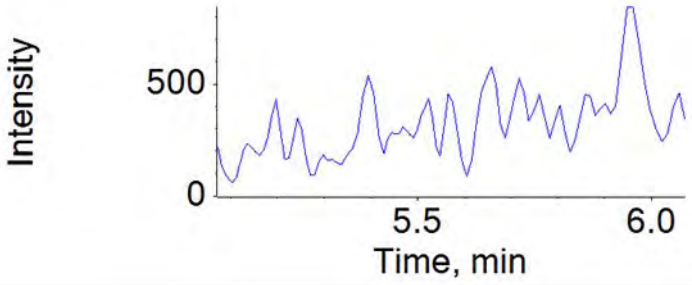

Component: PFNA
Primary Mass: 463.0 / 419.0



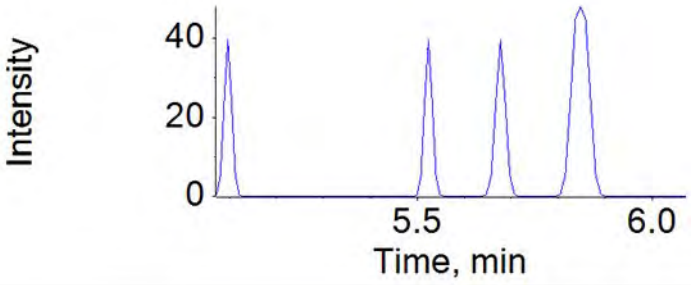

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFDA
Primary Mass: 513.0 / 469.0




Component: PFDA_2
Secondary Mass: 513.0 / 169.0

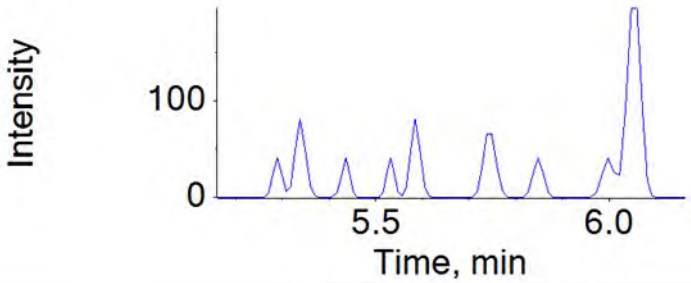



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*By MCD at 6:55 pm, 11/14/18*

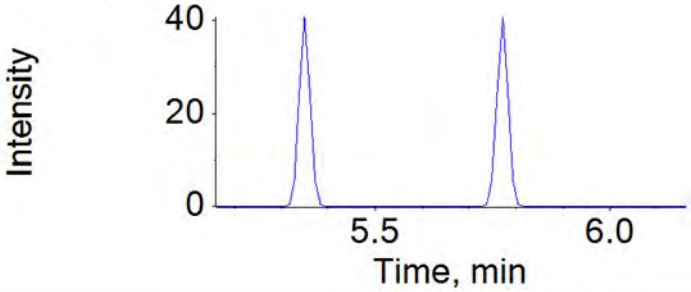


REVIEWED
*By HMK at 11:03 am, 11/15/18*

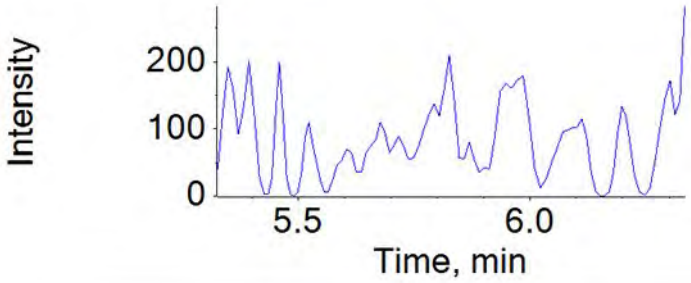
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



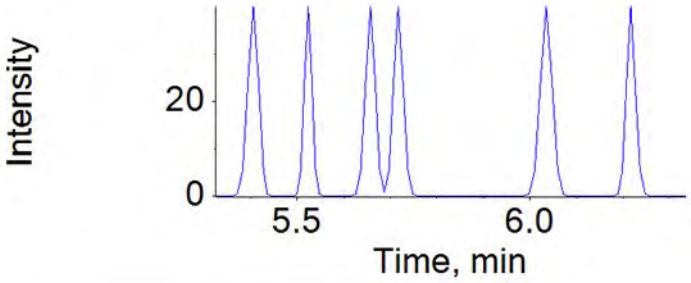

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



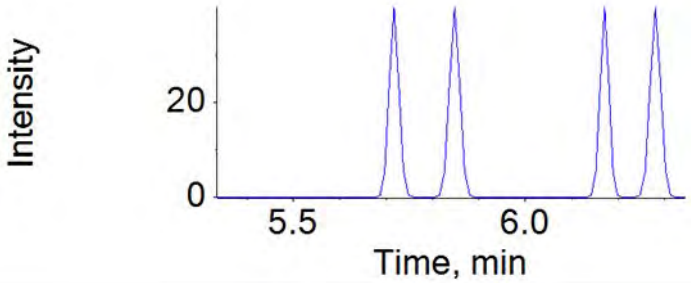

Component: PFUnDA
Primary Mass: 563.0 / 519.0



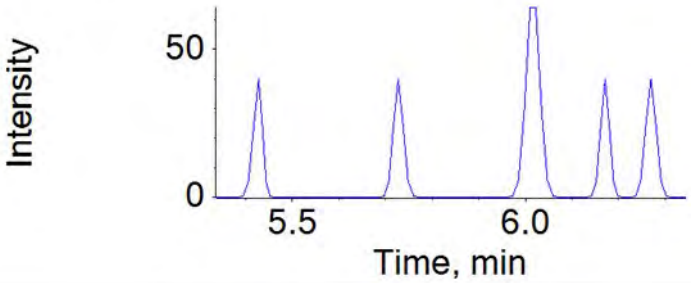

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



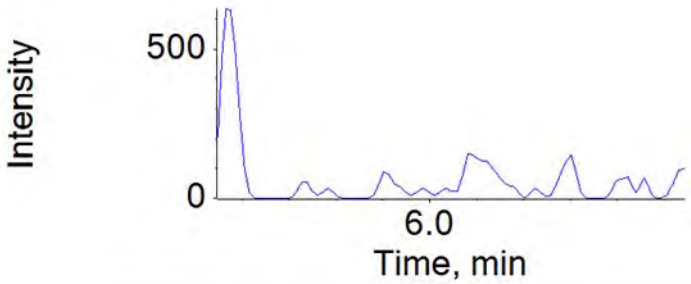

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



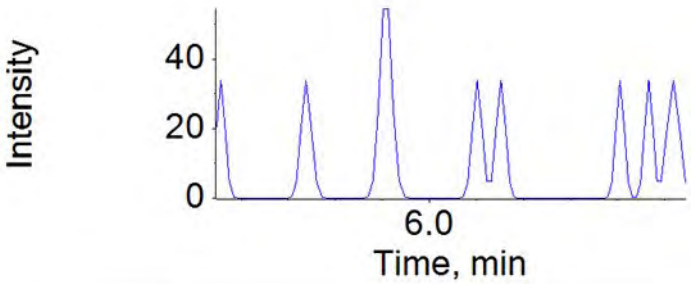

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0




Component: PFDoDA
Primary Mass: 613.0 / 569.0




Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0

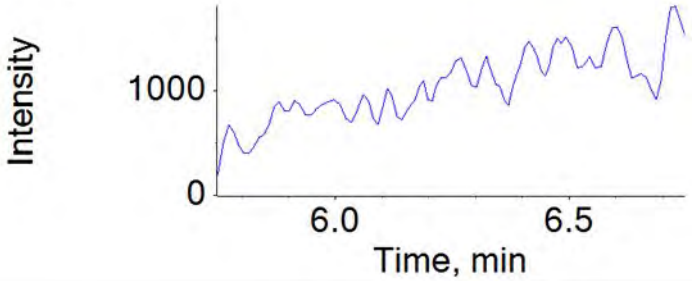



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*By MCD at 6:55 pm, 11/14/18*

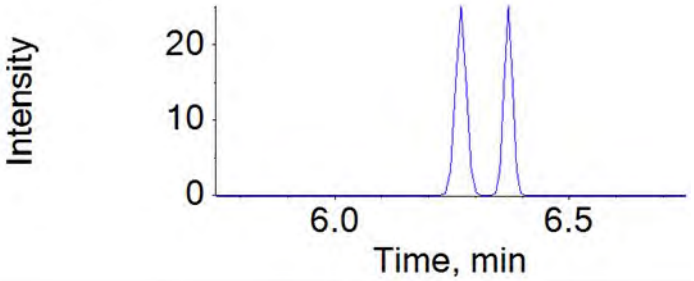


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*By HMK at 11:03 am, 11/15/18*

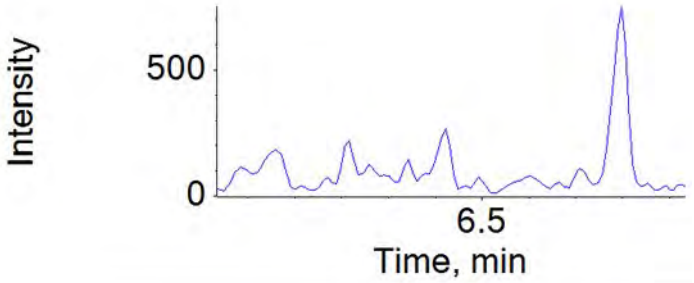
Component: PFTrDA
Primary Mass: 663.0 / 619.0



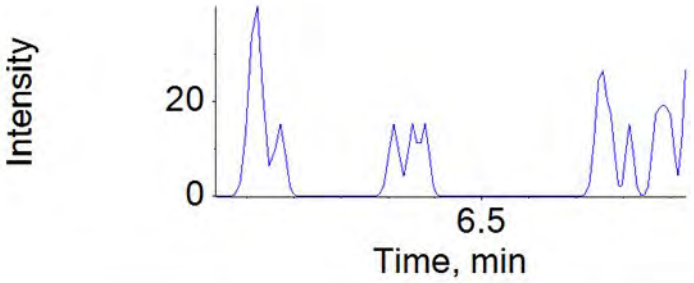

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0




Component: PFTeDA
Primary Mass: 713.0 / 669.0




Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0




APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | 9885165 | | | **Data File:** | | 18NOV13D-98.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-08 Grab Soil | | | **Acquis Date:** | | 2018-11-14T00:18:11 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 96 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 769874.2 | 661126.9 | 16 | 50 | |
| 13C2-PFOA | 5.0 | 538589.7 | 466902.6 | 15 | 50 | |
| 13C4-PFOS | 4.8 | 295947.3 | 247446.9 | 20 | 50 | |
| 13C2-PFDA | 5.0 | 340489.1 | 295381.6 | 15 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C3-PFBS | 454777.1 | 13C3-PFBA | 769874.2 | 0.591 | 9.029 | 8.097 | 90 | 50-150 | |
| E13C5-PFHxA | 725293.8 | 13C2-PFOA | 538589.7 | 1.347 | 9.709 | 9.446 | 97 | 50-150 | |
| E13C3-PFHxS | 331233.0 | 13C2-PFOA | 538589.7 | 0.615 | 9.184 | 8.194 | 89 | 50-150 | |
| E13C4-PFHpA | 565302.0 | 13C2-PFOA | 538589.7 | 1.050 | 9.709 | 9.182 | 95 | 50-150 | |
| E13C8-PFOA | 951933.8 | 13C2-PFOA | 538589.7 | 1.767 | 9.709 | 9.455 | 97 | 50-150 | |
| E13C8-PFOS | 301358.3 | 13C4-PFOS | 295947.3 | 1.018 | 9.282 | 8.761 | 94 | 50-150 | |
| E13C9-PFNA | 486941.5 | 13C4-PFOS | 295947.3 | 1.645 | 9.709 | 8.908 | 92 | 50-150 | |
| E13C6-PFDA | 660687.3 | 13C2-PFDA | 340489.1 | 1.940 | 9.709 | 8.792 | 91 | 50-150 | |
| Ed3-NMeFOSAA | 78236.4 | 13C2-PFDA | 340489.1 | 0.230 | 9.709 | 8.054 | 83 | 50-150 | |
| E13C7-PFUnDA | 278301.3 | 13C2-PFDA | 340489.1 | 0.817 | 9.709 | 9.215 | 95 | 50-150 | |
| Ed5-NEtFOSAA | 56972.7 | 13C2-PFDA | 340489.1 | 0.167 | 9.709 | 6.874 | 71 | 50-150 | |
| E13C2-PFDoDA | 571696.0 | 13C2-PFDA | 340489.1 | 1.679 | 9.709 | 8.465 | 87 | 50-150 | |
| E13C2-PFTeDA | 402228.8 | 13C2-PFDA | 340489.1 | 1.181 | 9.709 | 8.053 | 83 | 50-150 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

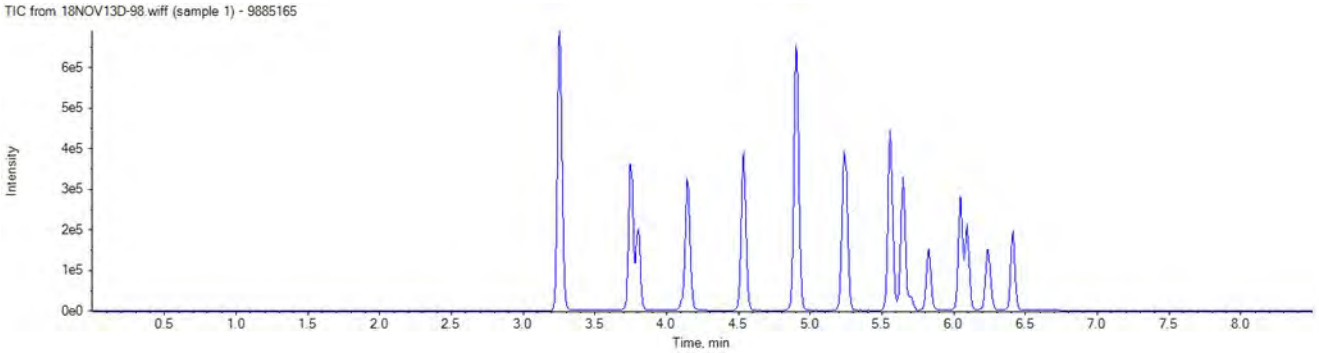
## Analyte Quantitation Peak Table

**Sample Name:** 9885165 **Instrument Name:** LM27631 **File Name:** 18NOV13D-98.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 | N/A | N/A | N/A | | A | 13C3-PFBS | 3.80 | 454777.1 | N/A | |
| PFHxA | N/A | N/A | N/A | | A | 13C5-PFHxA | 4.15 | 725293.8 | N/A | |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.53 | 565302.0 | N/A | |
| PFHxS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.54 | 331233.0 | N/A | |
| PFOA | N/A | N/A | N/A | | A | 13C8-PFOA | 4.90 | 951933.8 | N/A | |
| PFOS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.23 | 301358.3 | N/A | |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.25 | 486941.5 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.56 | 660687.3 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.70 | 78236.4 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.82 | 278301.3 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.83 | 56972.7 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 571696.0 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 571696.0 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.41 | 402228.8 | N/A | |

## Total Ion Chromatogram



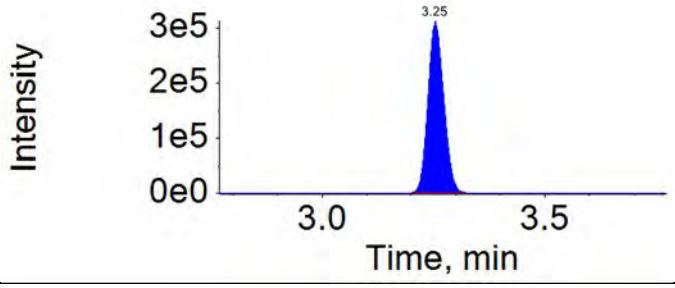

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*By MCD at 6:55 pm, 11/14/18*



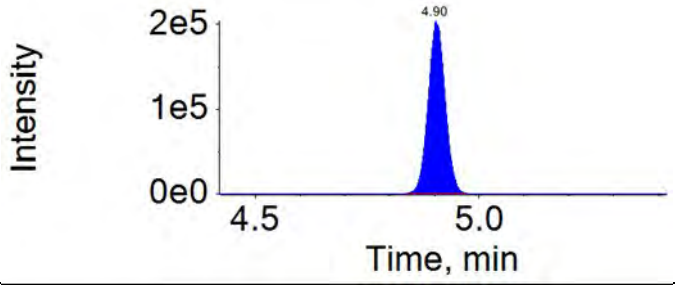
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

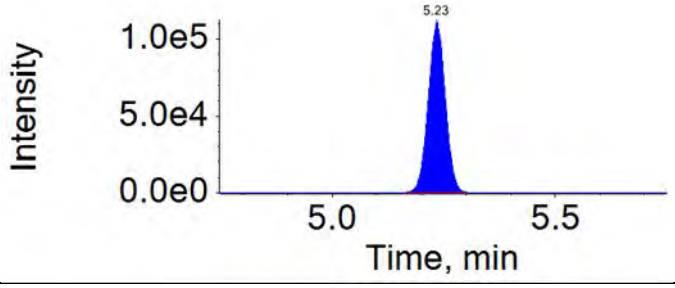
Injection Standard: 13C3-PFBA
216.0 / 172.0



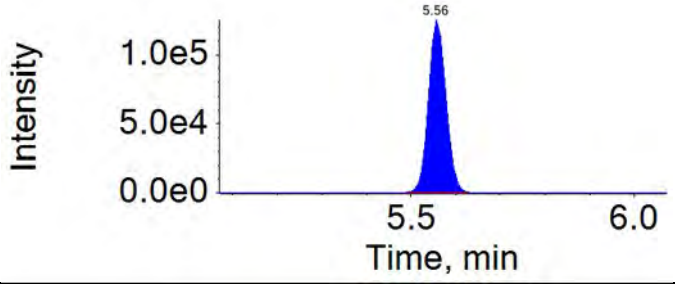

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

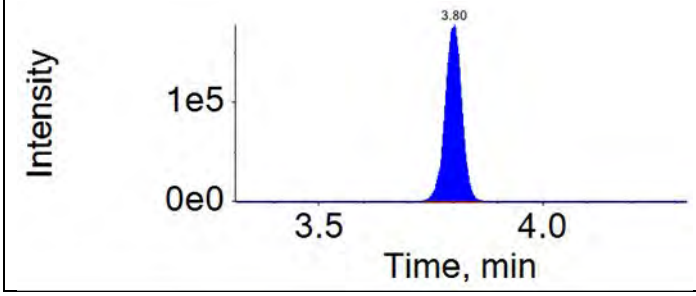
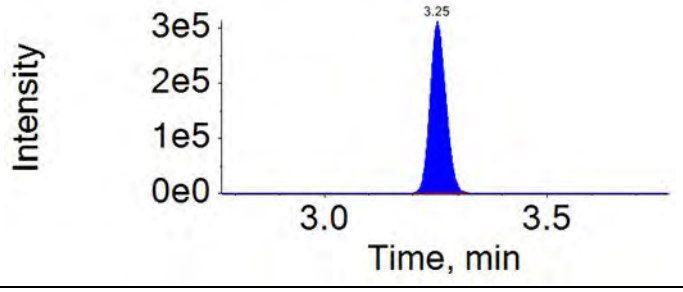



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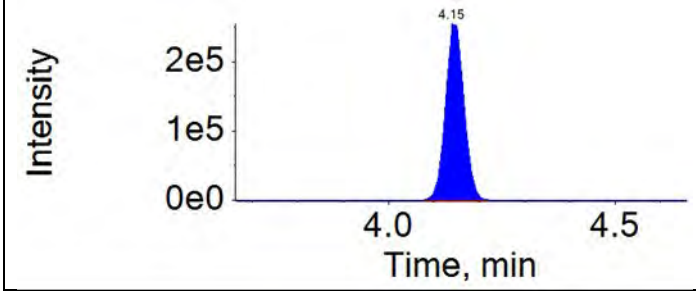
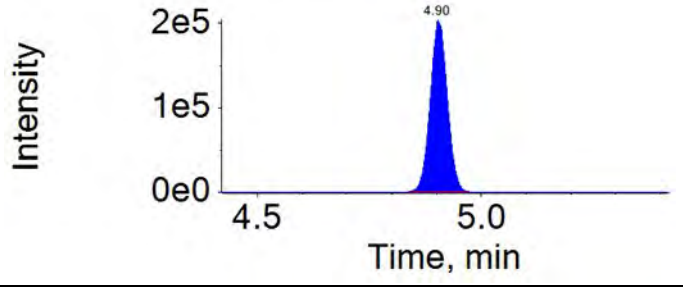
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

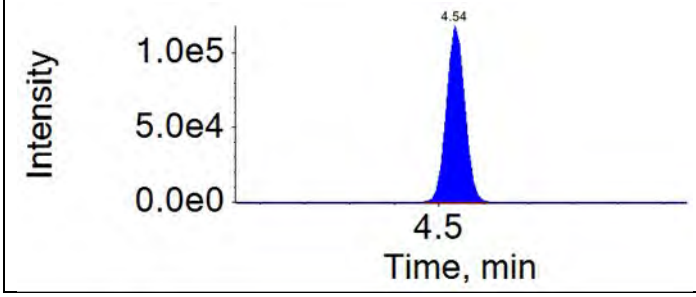
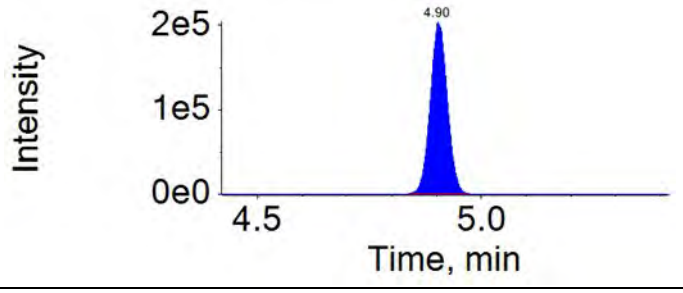




| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |
|  |  |

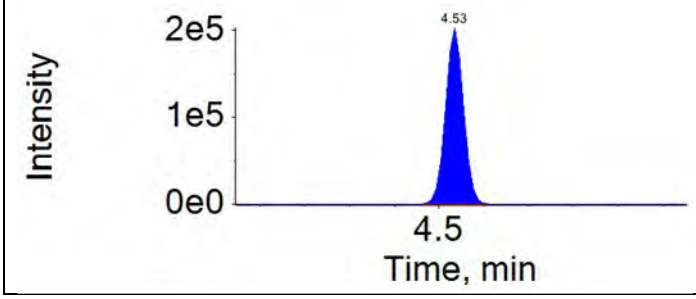
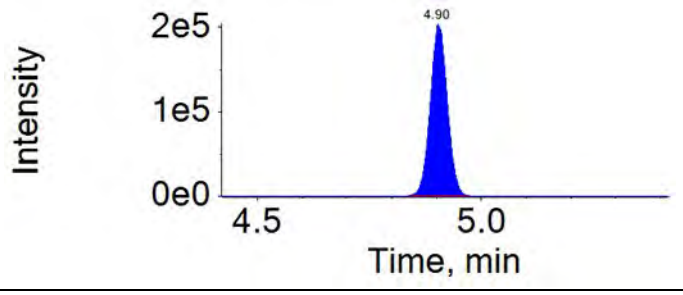




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |





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



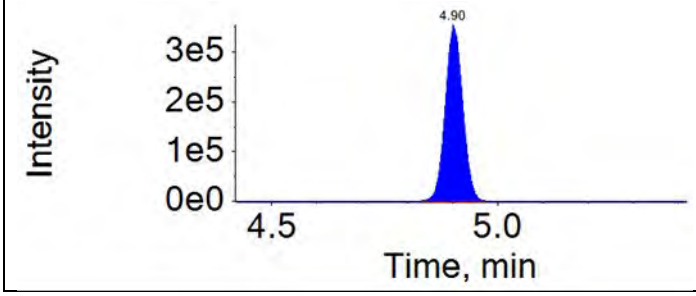
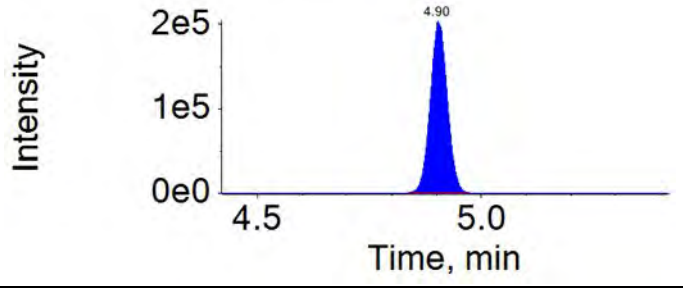


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*By MCD at 6:55 pm, 11/14/18*



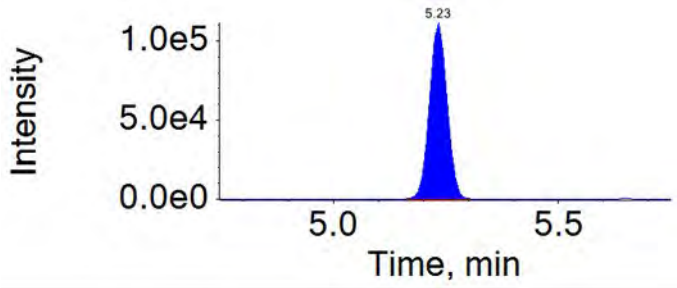
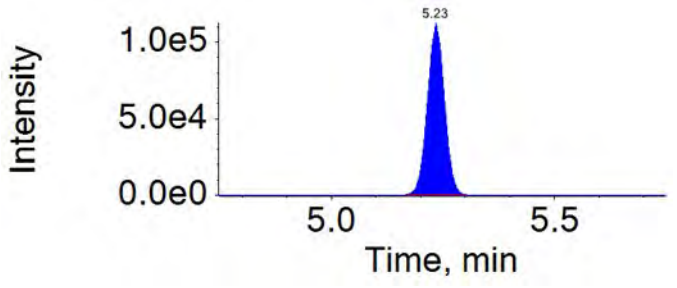
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

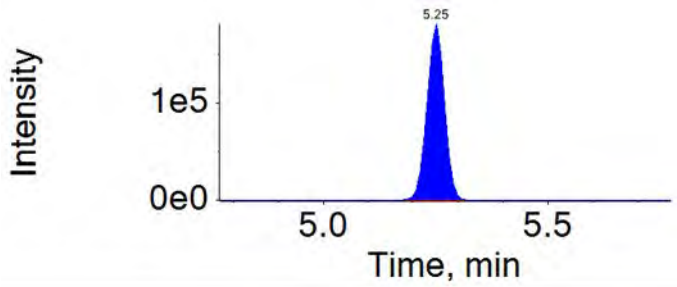
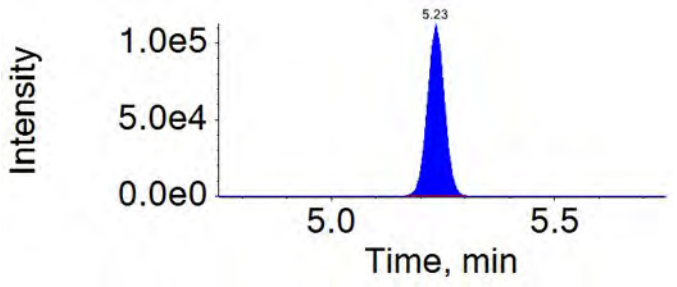




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

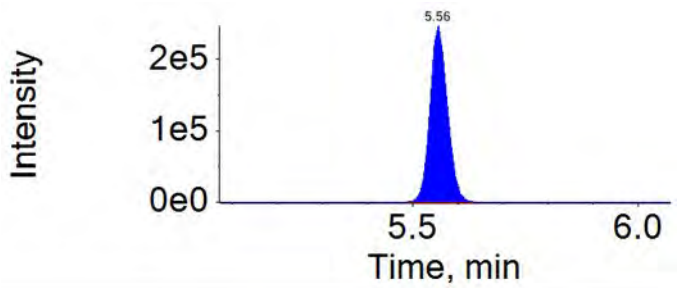
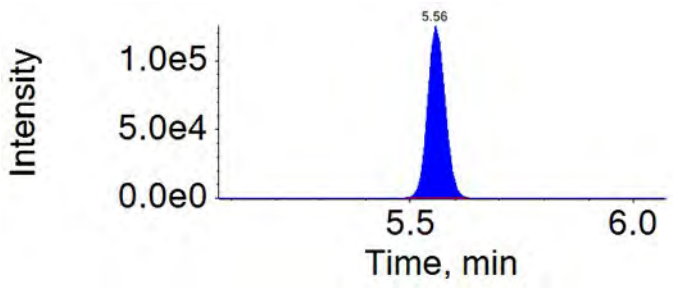




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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



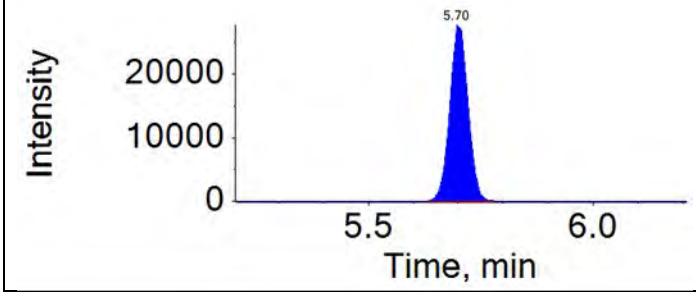
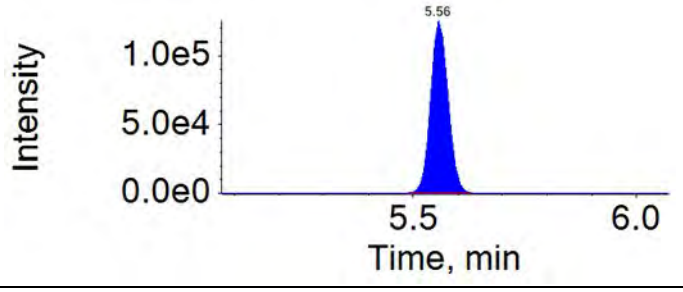


APPROVED
*By MCD at 6:55 pm, 11/14/18*



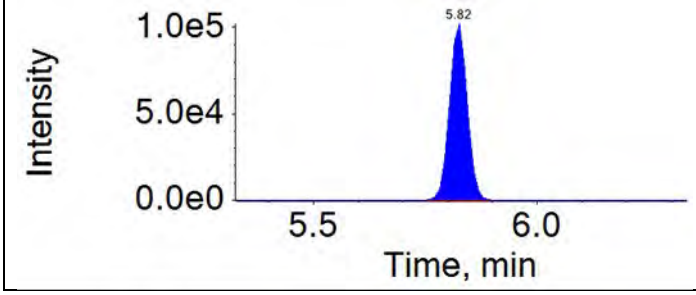
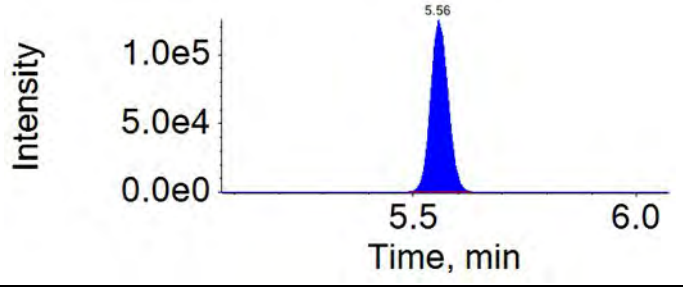
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

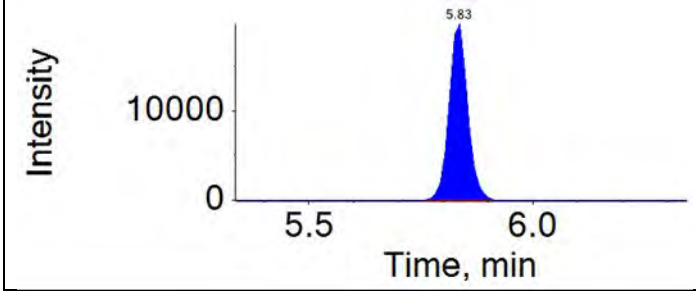
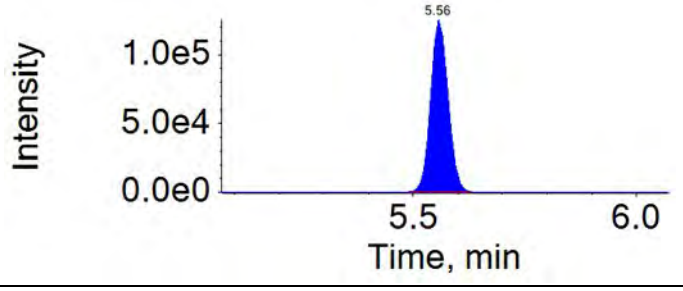




| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

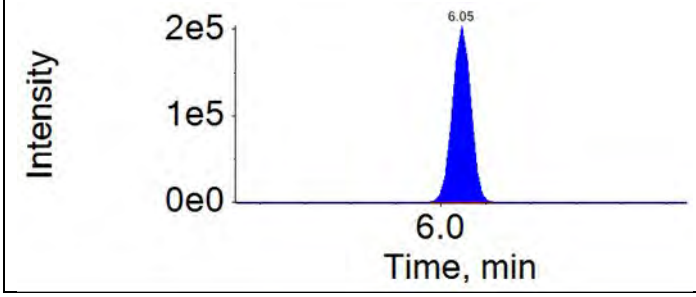
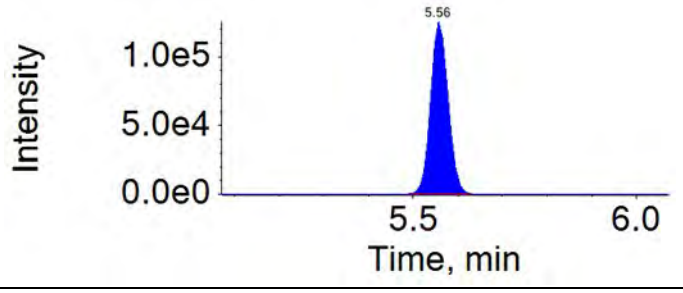




| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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



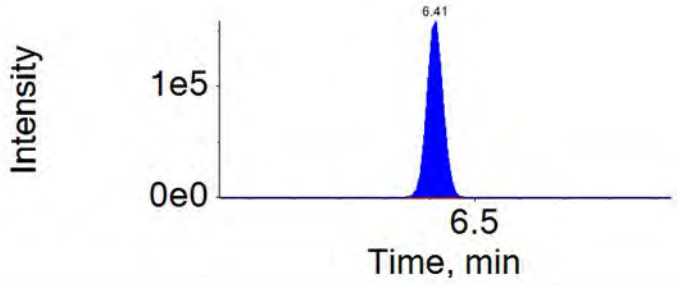
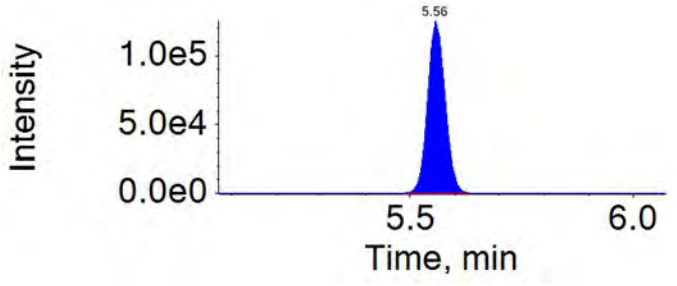


APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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





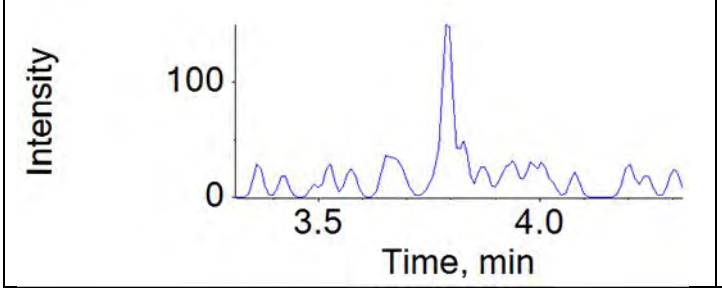
APPROVED
*By MCD at 6:55 pm, 11/14/18*

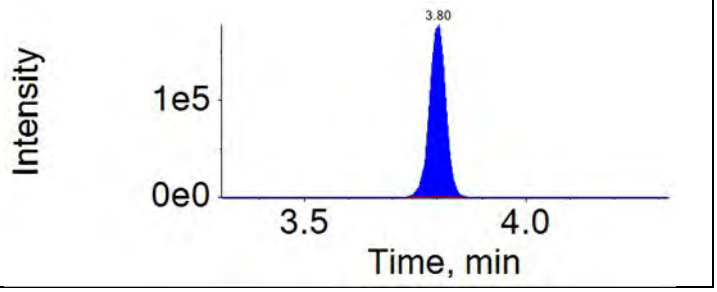


REVIEWED
*By HMK at 11:03 am, 11/15/18*

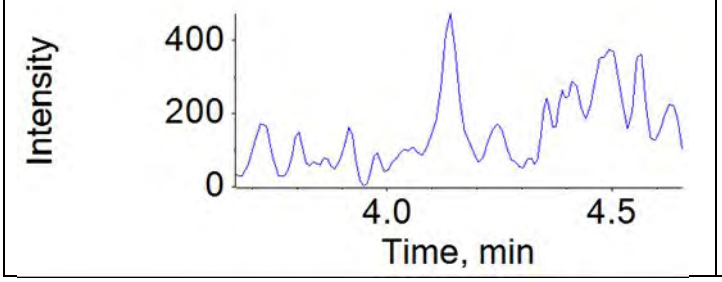
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

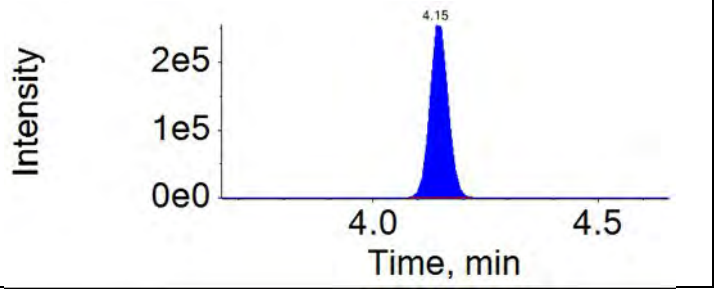
| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |



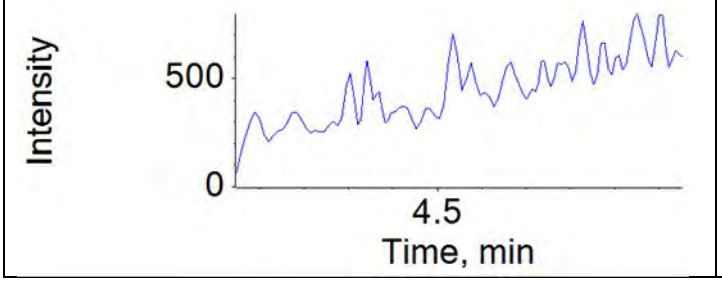



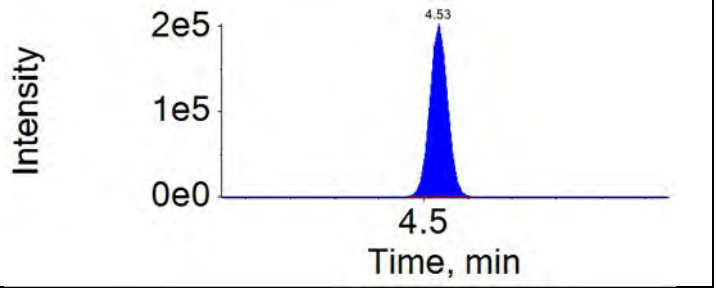

| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



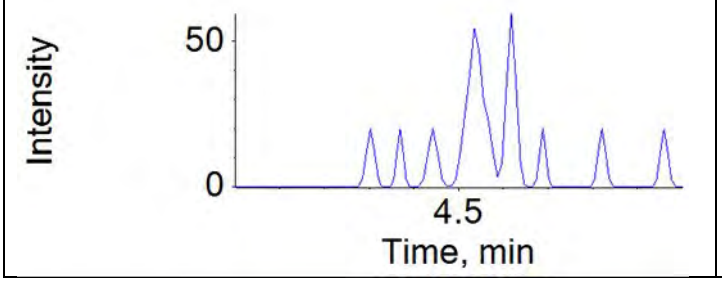



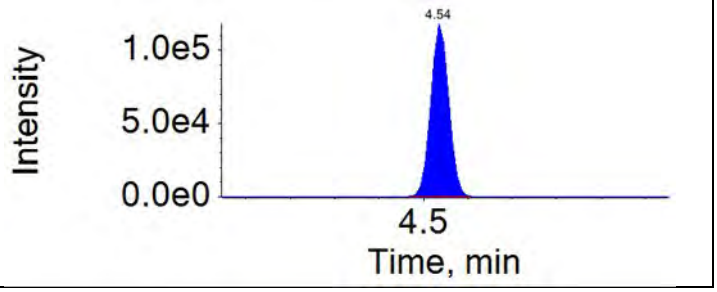

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



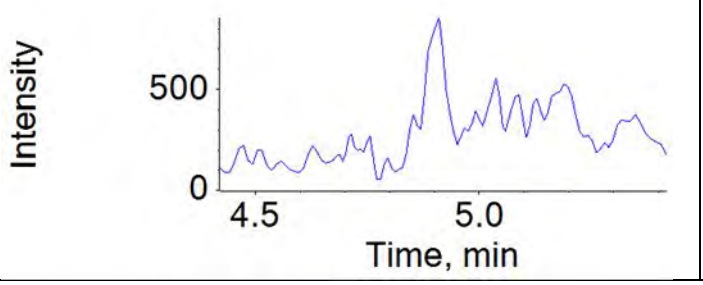

APPROVED
*By MCD at 6:55 pm, 11/14/18*

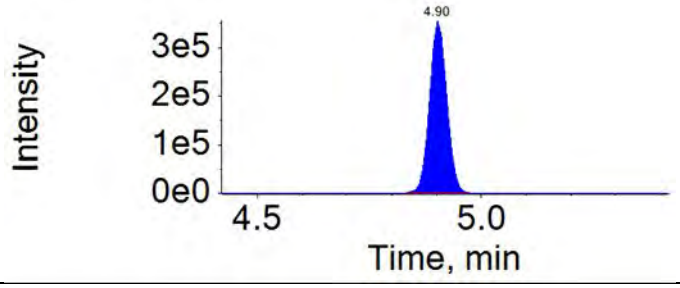


REVIEWED
*By HMK at 11:03 am, 11/15/18*

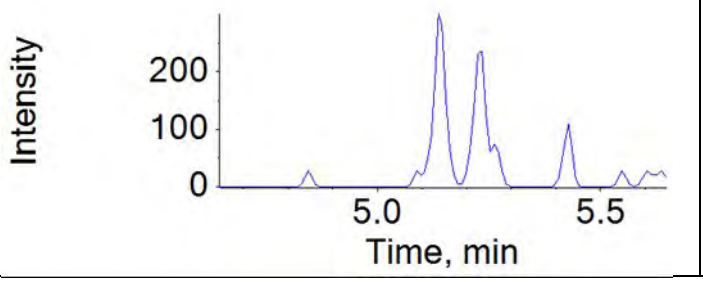
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

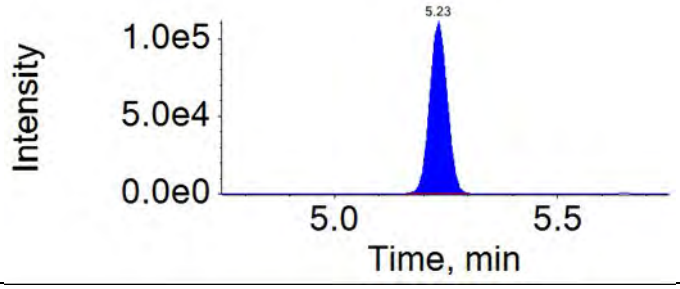
| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |



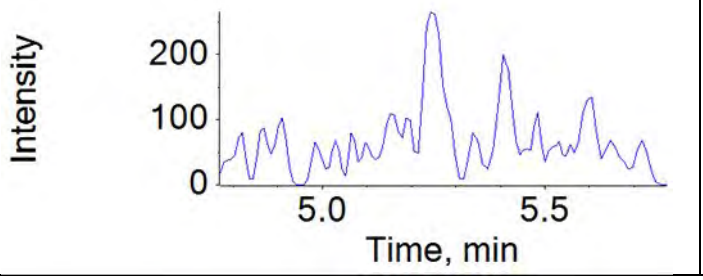



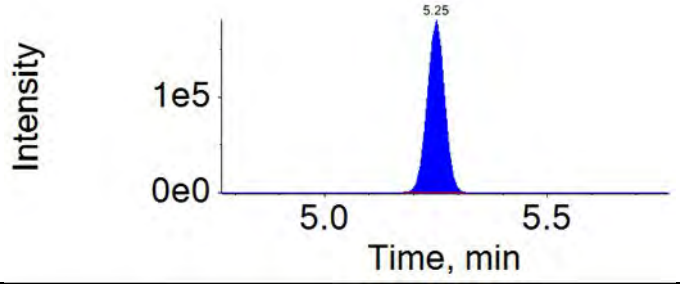

| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



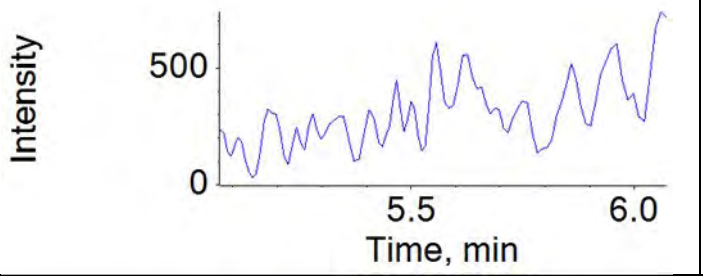



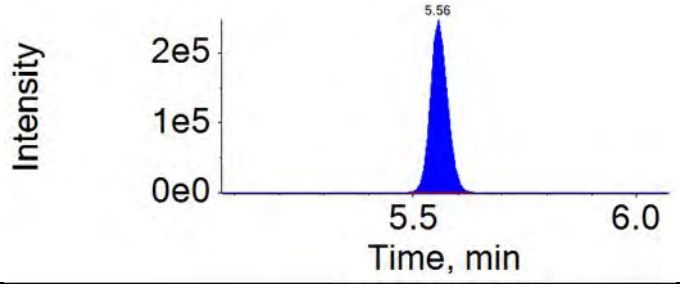

| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |




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



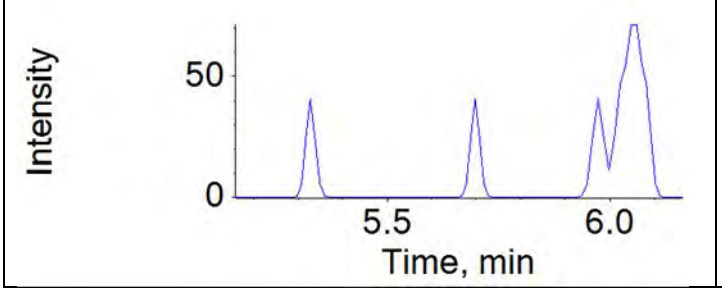

APPROVED
*By MCD at 6:55 pm, 11/14/18*

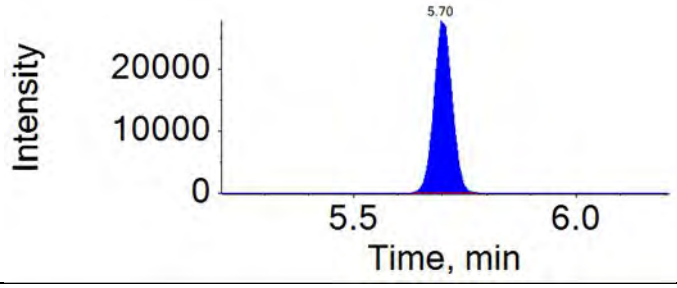


REVIEWED
*By HMK at 11:03 am, 11/15/18*

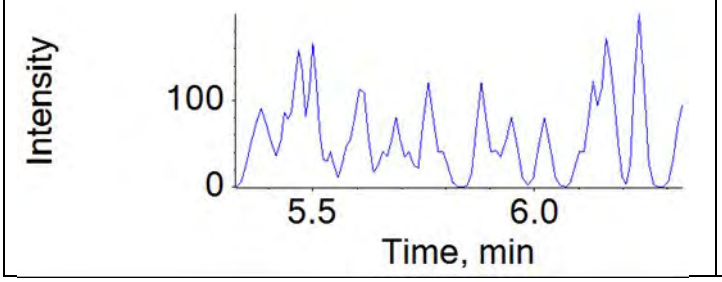
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

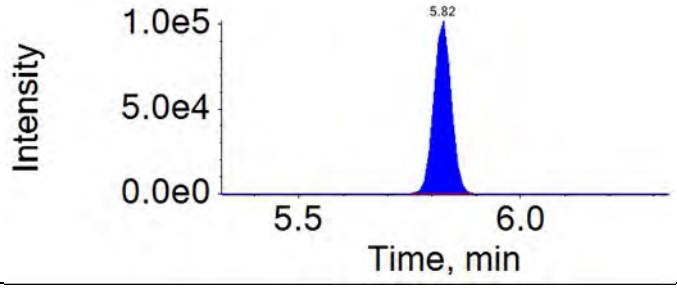
| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



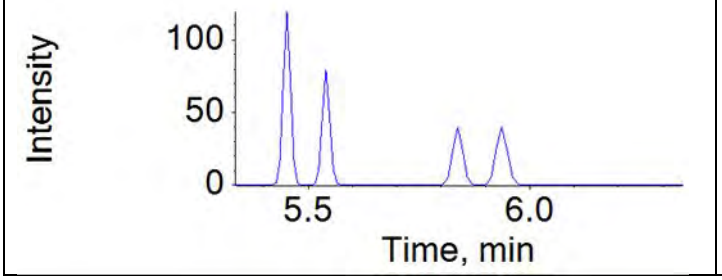



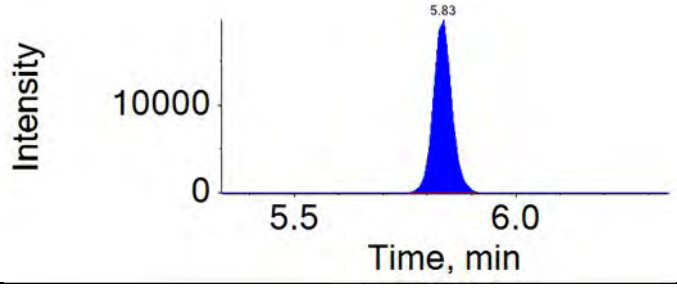

| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



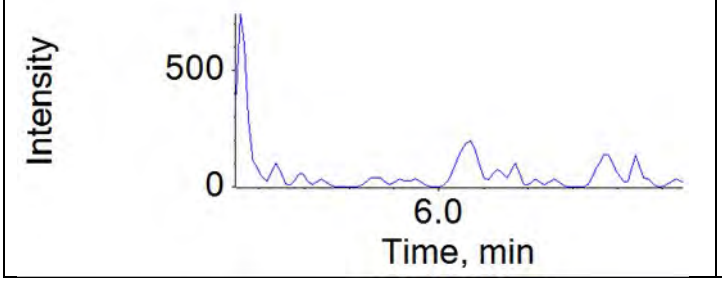



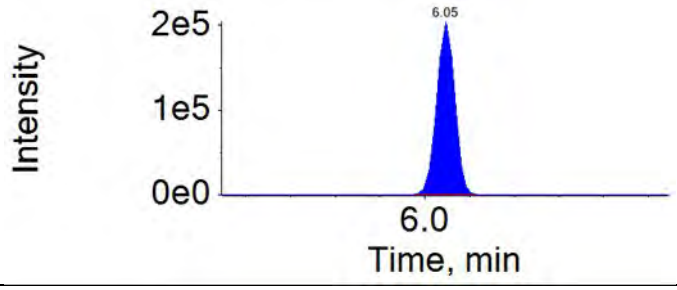

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |




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



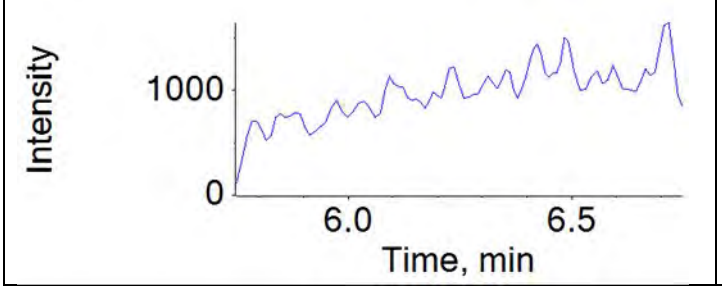

APPROVED
*By MCD at 6:55 pm, 11/14/18*

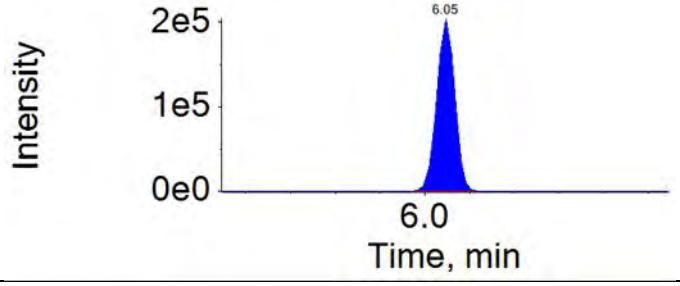


REVIEWED
*By HMK at 11:03 am, 11/15/18*

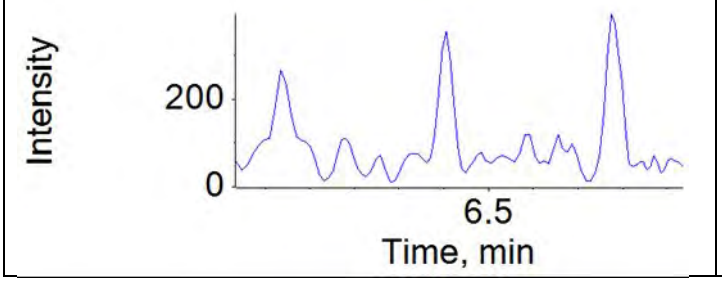
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

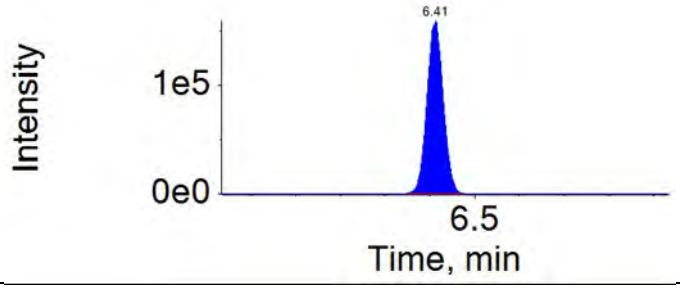
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |




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




APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Ion Ratio Report

**Sample Name:** 9885165 **Instrument Name:** LM27631 **File Name:** 18NOV13D-98.wiff

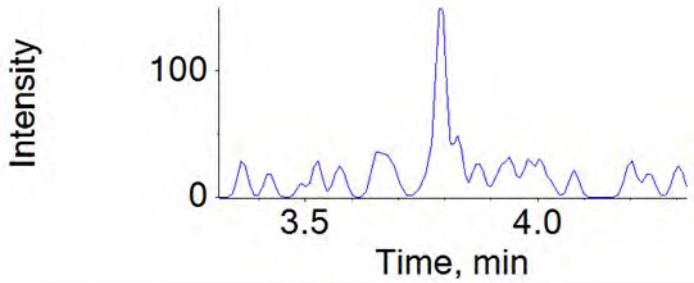
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxA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

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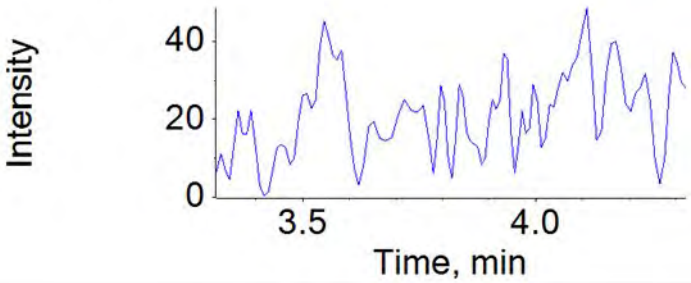


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*By HMK at 11:03 am, 11/15/18*

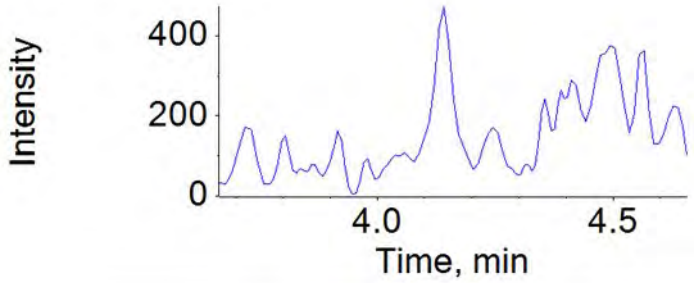
Component: PFBS
Primary Mass: 299.0 / 80.0



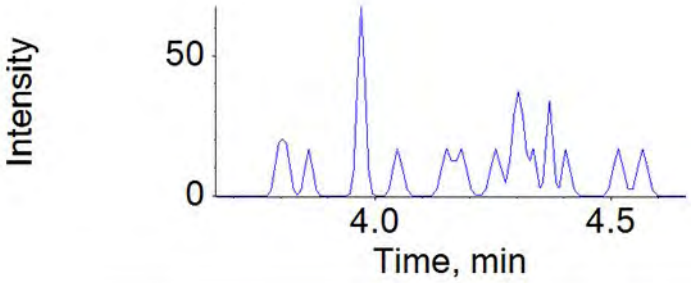

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



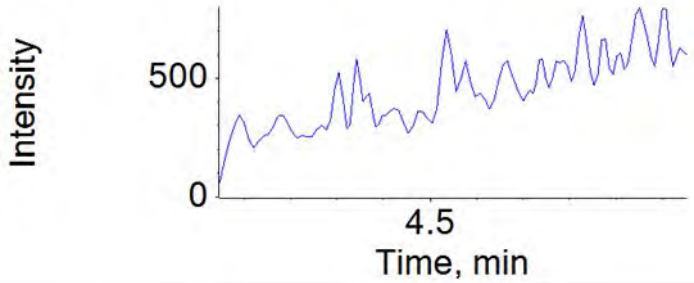

Component: PFHxA
Primary Mass: 313.0 / 269.0



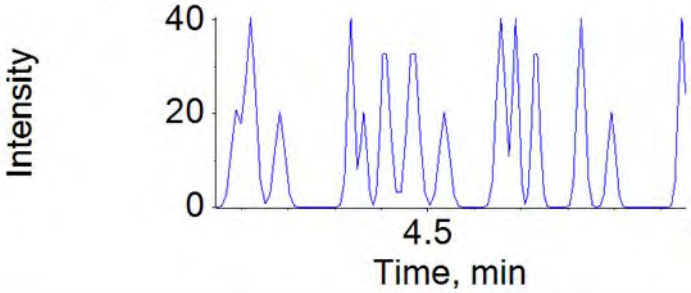

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



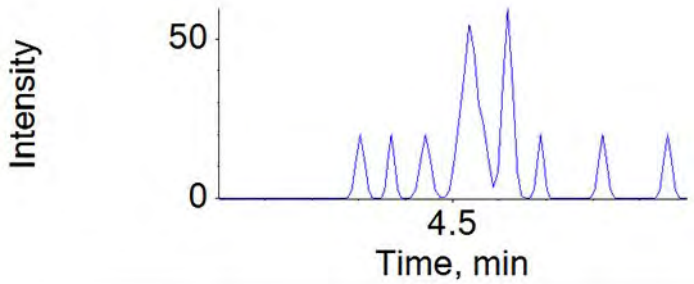

Component: PFHpA
Primary Mass: 363.0 / 319.0



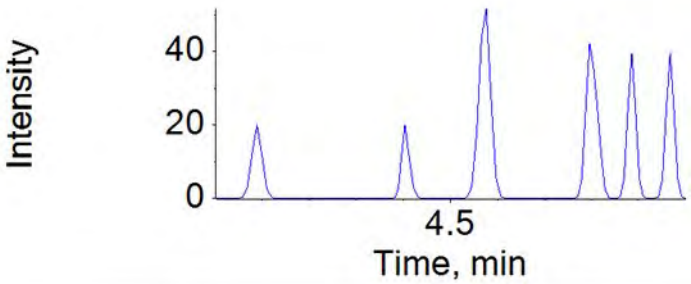

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0




Component: PFHxS
Primary Mass: 399.0 / 80.0




Component: PFHxS_2
Secondary Mass: 399.0 / 99.0

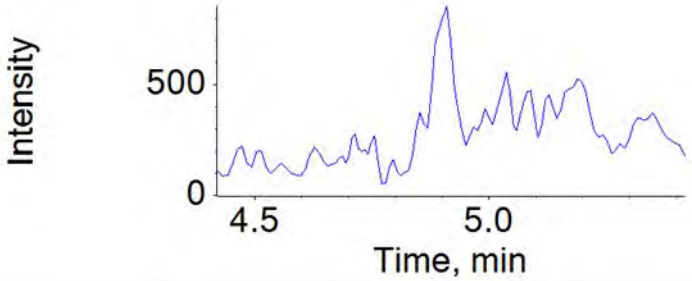



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*By MCD at 6:55 pm, 11/14/18*

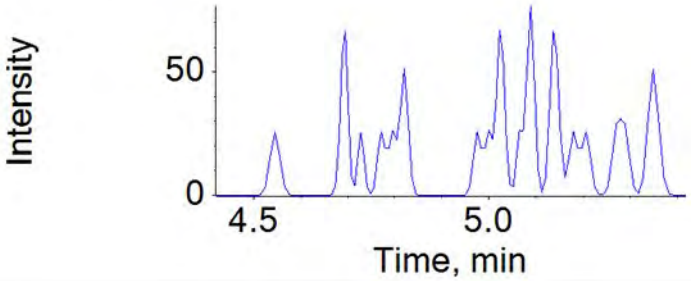


REVIEWED
*By HMK at 11:03 am, 11/15/18*

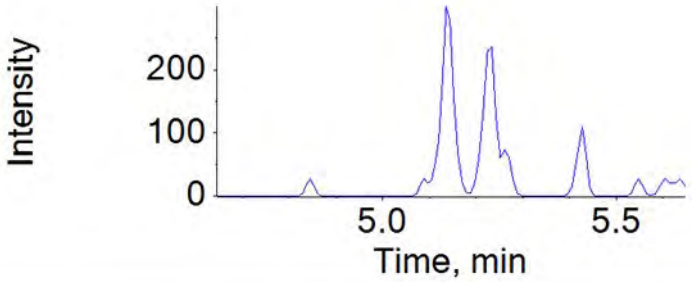
Component: PFOA
Primary Mass: 413.0 / 369.0



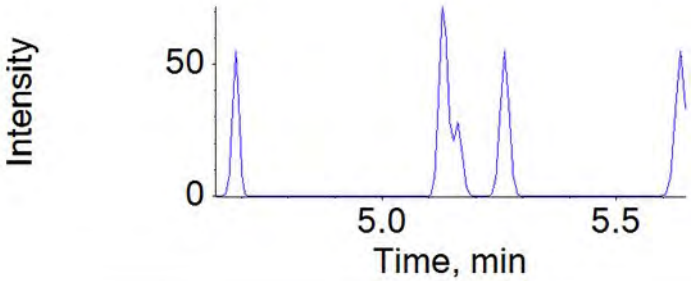

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



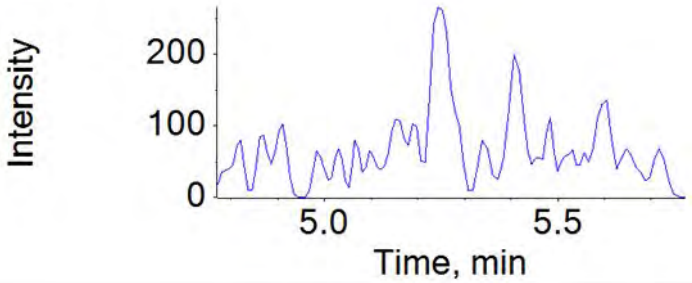

Component: PFOS
Primary Mass: 499.0 / 80.0



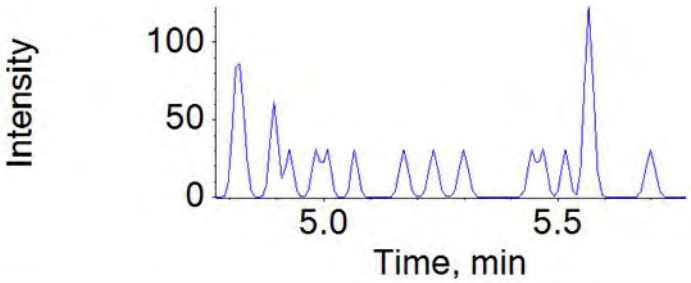

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



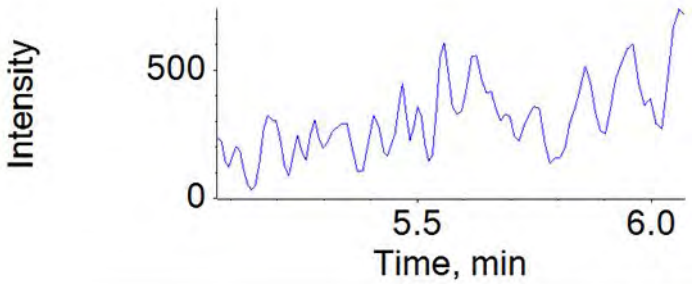

Component: PFNA
Primary Mass: 463.0 / 419.0



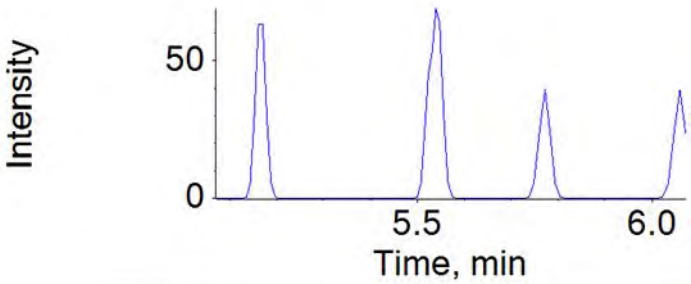

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFDA
Primary Mass: 513.0 / 469.0




Component: PFDA_2
Secondary Mass: 513.0 / 169.0

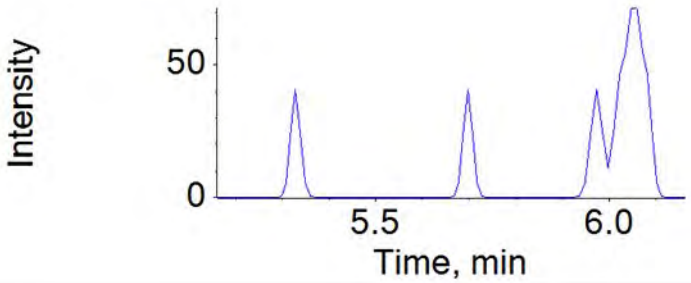



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*By MCD at 6:55 pm, 11/14/18*

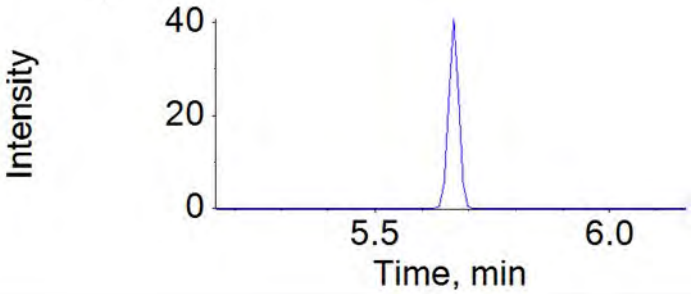


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*By HMK at 11:03 am, 11/15/18*

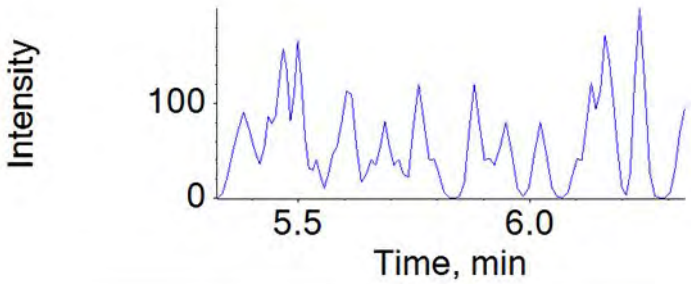
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



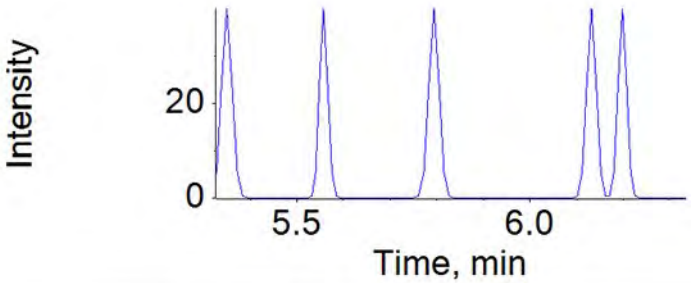

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



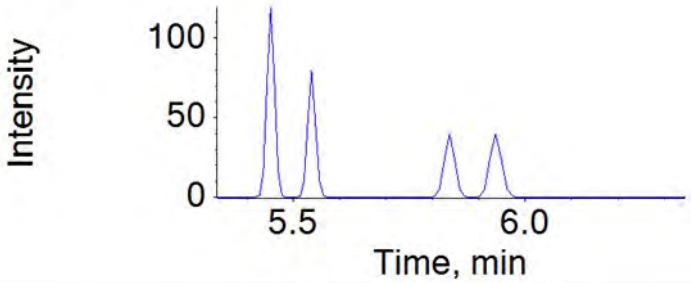

Component: PFUnDA
Primary Mass: 563.0 / 519.0



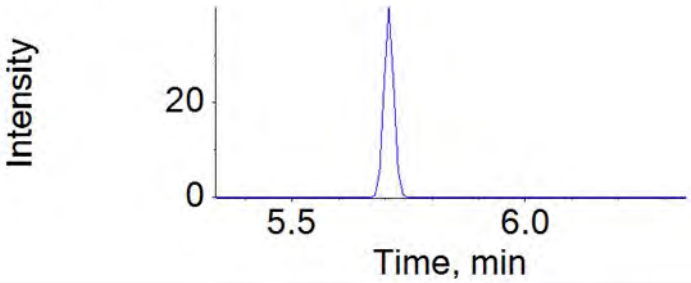

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



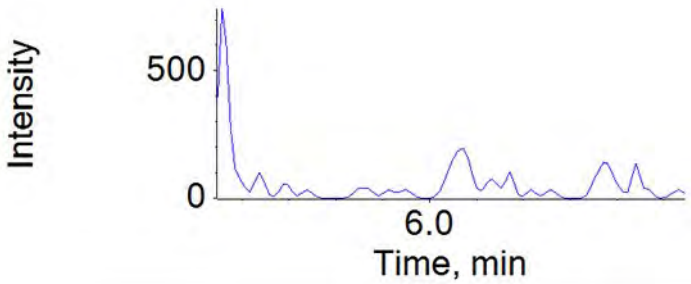

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



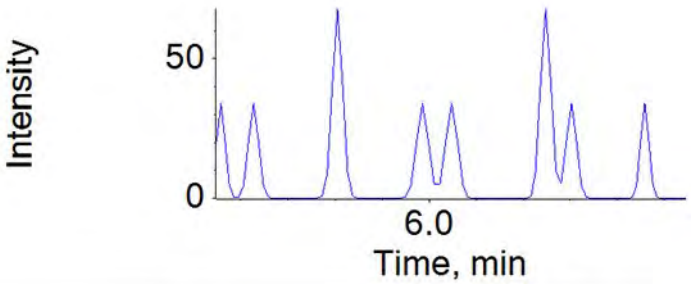

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0




Component: PFDoDA
Primary Mass: 613.0 / 569.0




Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0

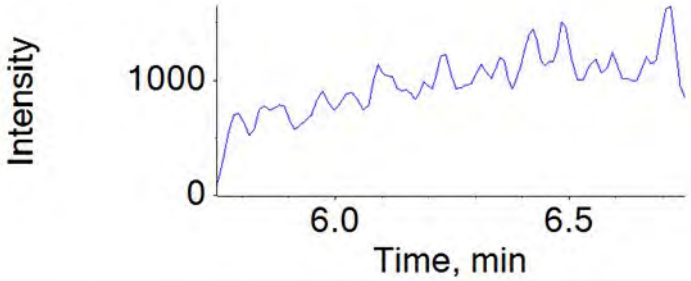



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*By MCD at 6:55 pm, 11/14/18*

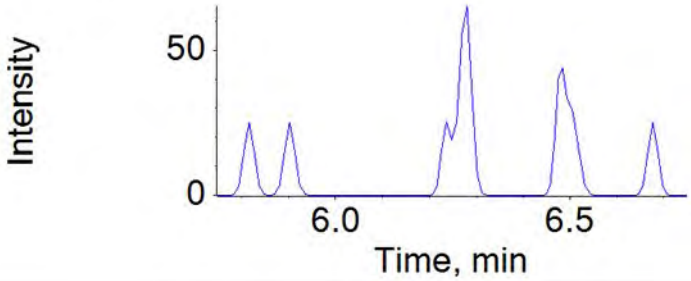


REVIEWED
*By HMK at 11:03 am, 11/15/18*

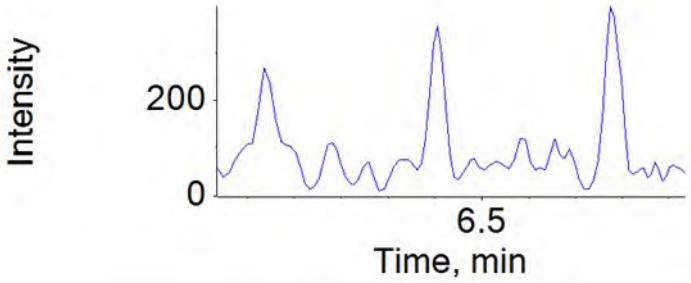
Component: PFTrDA
Primary Mass: 663.0 / 619.0



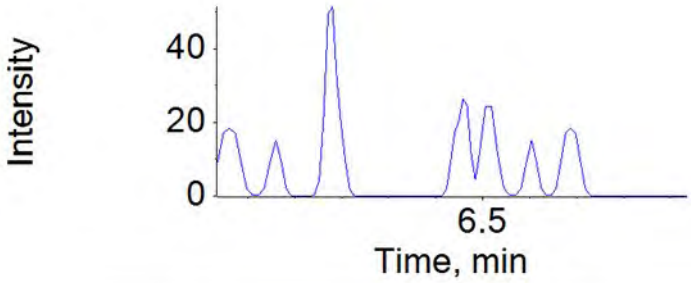

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0




Component: PFTeDA
Primary Mass: 713.0 / 669.0




Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0




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*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Standards Data

# PFAS by LC/MS/MS

**Instrument Name:** LM27631

| Data File Name | Sample ID | Batch No | Analysis Date/Time |
|---|---|---|---|
| 18NOV12DCAL-41.wiff | MDL | N\A | 11/12/2018 2:56:51 PM |
| 18NOV12DCAL-42.wiff | CAL1 | N\A | 11/12/2018 3:05:54 PM |
| 18NOV12DCAL-43.wiff | CAL2 | N\A | 11/12/2018 3:15:03 PM |
| 18NOV12DCAL-44.wiff | CAL3 | N\A | 11/12/2018 3:24:03 PM |
| 18NOV12DCAL-45.wiff | CAL4 | N\A | 11/12/2018 3:33:03 PM |
| 18NOV12DCAL-46.wiff | CAL5 | N\A | 11/12/2018 3:42:06 PM |
| 18NOV12DCAL-47.wiff | CAL6 | N\A | 11/12/2018 3:51:06 PM |
| 18NOV12DCAL-48.wiff | CAL7 | N\A | 11/12/2018 4:00:06 PM |
| 18NOV12DCAL-49.wiff | solvent | N\A | 11/12/2018 4:09:09 PM |
| 18NOV12DCAL-50.wiff | ICV | N\A | 11/12/2018 4:18:11 PM |
| 18NOV12DCAL-51.wiff | L+B CAL3 | N\A | 11/12/2018 4:27:15 PM |
| 18NOV12DCAL-52.wiff | CCV1_CAL3 | N\A | 11/12/2018 4:36:17 PM |
| 18NOV13D-01.wiff | solvent | N/A | 11/13/2018 9:07:50 AM |
| 18NOV13D-02.wiff | solvent | N/A | 11/13/2018 9:16:53 AM |
| 18NOV13D-03.wiff | solvent | N/A | 11/13/2018 9:25:56 AM |
| 18NOV13D-04.wiff | solvent | N/A | 11/13/2018 9:34:59 AM |
| 18NOV13D-05.wiff | CCV1_ISC_CAL2 | N/A | 11/13/2018 9:44:02 AM |
| 18NOV13D-06.wiff | INBLK | N/A | 11/13/2018 9:53:05 AM |
| 18NOV13D-07.wiff | BLK316012 | 18316012 | 11/13/2018 10:02:05 AM |
| 18NOV13D-08.wiff | LCS316012 | 18316012 | 11/13/2018 10:11:09 AM |
| 18NOV13D-09.wiff | 9881902 | 18316012 | 11/13/2018 10:20:11 AM |
| 18NOV13D-10.wiff | 9881903 | 18316012 | 11/13/2018 10:29:14 AM |
| 18NOV13D-11.wiff | 9881904 | 18316012 | 11/13/2018 10:38:14 AM |
| 18NOV13D-12.wiff | 9881907BKG | 18316012 | 11/13/2018 10:47:14 AM |
| 18NOV13D-13.wiff | 9881908MS | 18316012 | 11/13/2018 10:56:14 AM |
| 18NOV13D-14.wiff | 9881909MSD | 18316012 | 11/13/2018 11:05:17 AM |
| 18NOV13D-15.wiff | 9881910 | 18316012 | 11/13/2018 11:14:20 AM |
| 18NOV13D-16.wiff | 9881911 | 18316012 | 11/13/2018 11:23:20 AM |
| 18NOV13D-17.wiff | CCV2_CAL3 | N/A | 11/13/2018 11:32:20 AM |
| 18NOV13D-18.wiff | 9881912 | 18316012 | 11/13/2018 11:41:23 AM |
| 18NOV13D-19.wiff | 9881915 | 18316012 | 11/13/2018 11:50:23 AM |
| 18NOV13D-20.wiff | 9881916 | 18316012 | 11/13/2018 11:59:26 AM |
| 18NOV13D-21.wiff | 9881917 | 18316012 | 11/13/2018 12:08:26 PM |
| 18NOV13D-22.wiff | 9881918 | 18316012 | 11/13/2018 12:17:29 PM |
| 18NOV13D-23.wiff | CCV3_CAL4 | N/A | 11/13/2018 12:26:35 PM |
| 18NOV13D-24.wiff | solvent | N/A | 11/13/2018 1:10:48 PM |
| 18NOV13D-25.wiff | BLK316028 | 18316028 | 11/13/2018 1:19:50 PM |
| 18NOV13D-26.wiff | LCS316028 | 18316028 | 11/13/2018 1:28:53 PM |
| 18NOV13D-27.wiff | 9885141 | 18316028 | 11/13/2018 1:37:56 PM |
| 18NOV13D-28.wiff | 9885142BKG | 18316028 | 11/13/2018 1:46:59 PM |
| 18NOV13D-29.wiff | 9885143MS | 18316028 | 11/13/2018 1:55:59 PM |
| 18NOV13D-30.wiff | 9885144MSD | 18316028 | 11/13/2018 2:05:02 PM |
| 18NOV13D-31.wiff | 9885145 | 18316028 | 11/13/2018 2:14:02 PM |
| 18NOV13D-32.wiff | 9885147 | 18316028 | 11/13/2018 2:23:02 PM |
| 18NOV13D-33.wiff | 9885148 | 18316028 | 11/13/2018 2:32:05 PM |
| 18NOV13D-34.wiff | 9885149 | 18316028 | 11/13/2018 2:41:05 PM |
| 18NOV13D-35.wiff | CCV4_ISC_CAL2 | N/A | 11/13/2018 2:50:05 PM |
| 18NOV13D-36.wiff | 9885150 | 18316028 | 11/13/2018 2:59:05 PM |
| 18NOV13D-37.wiff | 9885152 | 18316028 | 11/13/2018 3:08:08 PM |
| 18NOV13D-38.wiff | 9885153 | 18316028 | 11/13/2018 3:17:11 PM |
| 18NOV13D-39.wiff | 9885154 | 18316028 | 11/13/2018 3:26:14 PM |
| 18NOV13D-40.wiff | 9885155 | 18316028 | 11/13/2018 3:35:17 PM |
| 18NOV13D-41.wiff | 9885156 | 18316028 | 11/13/2018 3:44:17 PM |
| 18NOV13D-42.wiff | 9885157 | 18316028 | 11/13/2018 3:53:20 PM |
| 18NOV13D-43.wiff | solvent | N/A | 11/13/2018 4:02:23 PM |
| 18NOV13D-44.wiff | 9881576 | 18314009 | 11/13/2018 4:11:23 PM |
| 18NOV13D-45.wiff | 9881589 | 18314009 | 11/13/2018 4:20:26 PM |



APPROVED
*By MCD at 7:04 pm, 11/14/18*

**Instrument Name:** LM27631

| | | | |
|---|---|---|---|
| 18NOV13D-46.wiff | 9881595 | 18314009 | 11/13/2018 4:29:26 PM |
| 18NOV13D-47.wiff | CCV5_CAL3 | N/A | 11/13/2018 4:38:29 PM |
| 18NOV13D-48.wiff | solvent | N/A | 11/13/2018 4:47:29 PM |
| 18NOV13D-49.wiff | BLK316011 | 18316011 | 11/13/2018 4:56:29 PM |
| 18NOV13D-50.wiff | LCS316011 | 18316011 | 11/13/2018 5:05:29 PM |
| 18NOV13D-51.wiff | 9885080 | 18316011 | 11/13/2018 5:14:29 PM |
| 18NOV13D-52.wiff | 9885081 | 18316011 | 11/13/2018 5:23:29 PM |
| 18NOV13D-53.wiff | 9885082 | 18316011 | 11/13/2018 5:32:29 PM |
| 18NOV13D-54.wiff | 9885085 | 18316011 | 11/13/2018 5:41:29 PM |
| 18NOV13D-55.wiff | 9885086BKG | 18316011 | 11/13/2018 5:50:29 PM |
| 18NOV13D-56.wiff | 9885087MS | 18316011 | 11/13/2018 5:59:32 PM |
| 18NOV13D-57.wiff | 9885088MSD | 18316011 | 11/13/2018 6:08:35 PM |
| 18NOV13D-58.wiff | 9885089 | 18316011 | 11/13/2018 6:17:35 PM |
| 18NOV13D-59.wiff | CCV6_CAL4 | N/A | 11/13/2018 6:26:35 PM |
| 18NOV13D-60.wiff | 9885090 | 18316011 | 11/13/2018 6:35:38 PM |
| 18NOV13D-61.wiff | 9885092 | 18316011 | 11/13/2018 6:44:38 PM |
| 18NOV13D-62.wiff | 9885093 | 18316011 | 11/13/2018 6:53:41 PM |
| 18NOV13D-63.wiff | 9885094 | 18316011 | 11/13/2018 7:02:41 PM |
| 18NOV13D-64.wiff | 9885095 | 18316011 | 11/13/2018 7:11:44 PM |
| 18NOV13D-65.wiff | 9885098 | 18316011 | 11/13/2018 7:20:47 PM |
| 18NOV13D-66.wiff | 9885099 | 18316011 | 11/13/2018 7:29:50 PM |
| 18NOV13D-67.wiff | 9885100 | 18316011 | 11/13/2018 7:38:50 PM |
| 18NOV13D-68.wiff | 9885101 | 18316011 | 11/13/2018 7:47:50 PM |
| 18NOV13D-69.wiff | 9885104 | 18316011 | 11/13/2018 7:56:50 PM |
| 18NOV13D-70.wiff | CCV7_ISC_CAL2 | N/A | 11/13/2018 8:05:50 PM |
| 18NOV13D-71.wiff | 9885105 | 18316011 | 11/13/2018 8:14:50 PM |
| 18NOV13D-72.wiff | 9885106 | 18316011 | 11/13/2018 8:23:50 PM |
| 18NOV13D-73.wiff | 9885118 | 18316011 | 11/13/2018 8:32:50 PM |
| 18NOV13D-74.wiff | 9885119 | 18316011 | 11/13/2018 8:41:50 PM |
| 18NOV13D-75.wiff | CCV8_CAL3 | N/A | 11/13/2018 8:50:50 PM |
| 18NOV13D-76.wiff | Instrument Blank | N/A | 11/13/2018 8:59:50 PM |
| 18NOV13D-77.wiff | BLK316024 | 18316024 | 11/13/2018 9:08:52 PM |
| 18NOV13D-78.wiff | LCS316024 | 18316024 | 11/13/2018 9:17:53 PM |
| 18NOV13D-79.wiff | 9885056 | 18316024 | 11/13/2018 9:26:53 PM |
| 18NOV13D-80.wiff | 9885057 | 18316024 | 11/13/2018 9:35:55 PM |
| 18NOV13D-81.wiff | 9885058 | 18316024 | 11/13/2018 9:44:58 PM |
| 18NOV13D-82.wiff | 9885059 | 18316024 | 11/13/2018 9:53:58 PM |
| 18NOV13D-83.wiff | 9885062BKG | 18316024 | 11/13/2018 10:02:58 PM |
| 18NOV13D-84.wiff | 9885063MS | 18316024 | 11/13/2018 10:11:59 PM |
| 18NOV13D-85.wiff | 9885064MSD | 18316024 | 11/13/2018 10:20:58 PM |
| 18NOV13D-86.wiff | 9885065 | 18316024 | 11/13/2018 10:29:58 PM |
| 18NOV13D-87.wiff | CCV9_CAL4 | N/A | 11/13/2018 10:38:59 PM |
| 18NOV13D-88.wiff | 9885075 | 18316024 | 11/13/2018 10:47:59 PM |
| 18NOV13D-89.wiff | solvent | N/A | 11/13/2018 10:56:58 PM |
| 18NOV13D-90.wiff | BLK316029 | 18316029 | 11/13/2018 11:06:02 PM |
| 18NOV13D-91.wiff | LCS316029 | 18316029 | 11/13/2018 11:15:01 PM |
| 18NOV13D-92.wiff | 9885078 | 18316029 | 11/13/2018 11:24:02 PM |
| 18NOV13D-93.wiff | 9885160 | 18316029 | 11/13/2018 11:33:01 PM |
| 18NOV13D-94.wiff | 9885161BKG | 18316029 | 11/13/2018 11:42:03 PM |
| 18NOV13D-95.wiff | 9885162MS | 18316029 | 11/13/2018 11:51:04 PM |
| 18NOV13D-96.wiff | 9885163MSD | 18316029 | 11/14/2018 12:00:09 AM |
| 18NOV13D-97.wiff | 9885164 | 18316029 | 11/14/2018 12:09:10 AM |
| 18NOV13D-98.wiff | 9885165 | 18316029 | 11/14/2018 12:18:11 AM |
| 18NOV13D-99.wiff | CCV10_ISC_CAL2 | N/A | 11/14/2018 12:27:10 AM |
| 18NOV13D-100.wiff | INBLK | N/A | 11/14/2018 12:36:10 AM |

20 mM Ammonium Acetate in H2O: 782411091833A
20 mM Ammonium Acetate in 0.5% H2O|Methanol: 782411091833B

APPROVED
*By MCD at 7:04 pm, 11/14/18*

# DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

| Sample File Name | Acquisition Date | Sample ID | Sample Name |
|---|---|---|---|
| 18NOV12DCAL-42.wiff | 11/12/2018 3:05:54 PM | CALBRN11833C | CAL1 |
| 18NOV12DCAL-43.wiff | 11/12/2018 3:15:03 PM | CALBRN21833C | CAL2 |
| 18NOV12DCAL-44.wiff | 11/12/2018 3:24:03 PM | CALBRN31833B | CAL3 |
| 18NOV12DCAL-45.wiff | 11/12/2018 3:33:03 PM | CALBRN41833B | CAL4 |
| 18NOV12DCAL-46.wiff | 11/12/2018 3:42:06 PM | CALBRN51833B | CAL5 |
| 18NOV12DCAL-47.wiff | 11/12/2018 3:51:06 PM | CALBRN61833B | CAL6 |
| 18NOV12DCAL-48.wiff | 11/12/2018 4:00:06 PM | CALBRN71833B | CAL7 |

## CAL3 Injection Standard Areas

| Sample Name | Injection Std Name | Injection Std Area |
|---|---|---|
| CAL3 | 13C3-PFBA | 659926.2 |
| CAL3 | 13C2-PFOA | 450219.7 |
| CAL3 | 13C4-PFOS | 249205.8 |
| CAL3 | 13C2-PFDA | 278743.9 |

APPROVED
*By MCD at 3:22 pm, 1/10/19*



REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

# DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## Response Factor Table

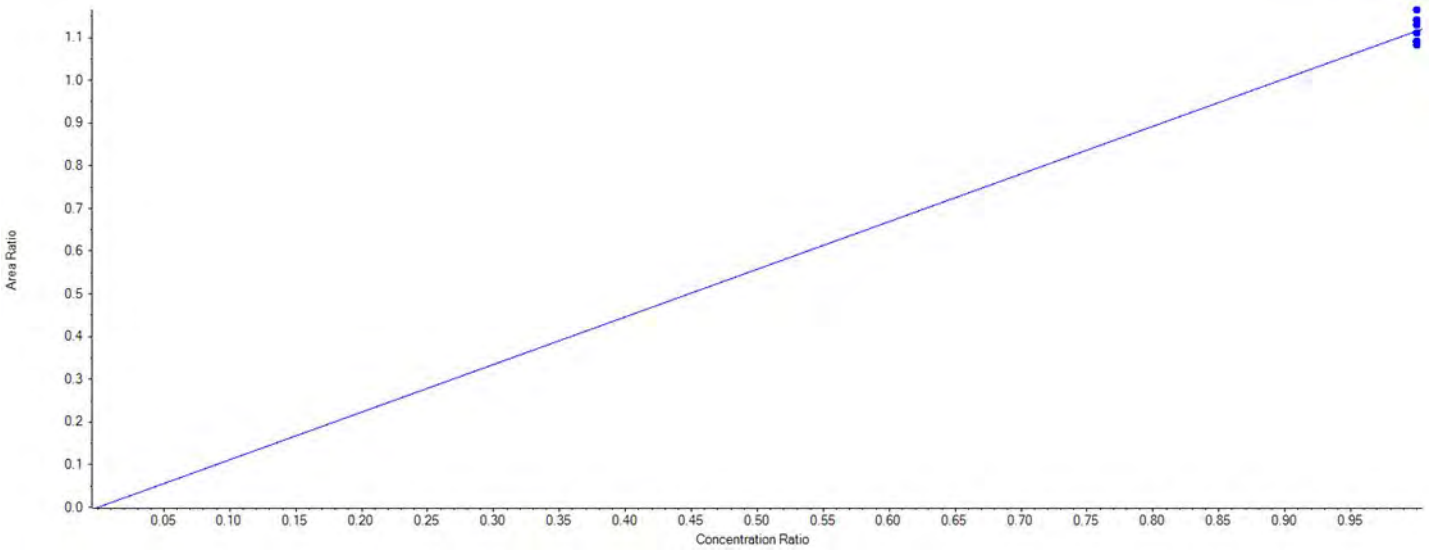
| Analyte Name | CAL 1 | CAL 2 | CAL 3 | CAL 4 | CAL 5 | CAL 6 | CAL 7 | %RSD | Limit | OOS | $r^2$ | OOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PFBA | 1.059 | 0.868 | 1.034 | 0.919 | 0.966 | 0.910 | 0.882 | 7 | 20 | | 0.999 | |
| PFPeA | 1.058 | 0.952 | 1.052 | 0.939 | 0.906 | 0.876 | 0.839 | 8 | 20 | | 0.999 | |
| PFBS | 1.061 | 0.938 | 1.061 | 0.954 | 1.001 | 0.997 | 0.964 | 5 | 20 | | 1.000 | |
| 4:2-FTS | 1.764 | 1.591 | 1.797 | 1.672 | 1.662 | 1.782 | 1.703 | 4 | 20 | | 0.999 | |
| PFHxA | 1.470 | 1.241 | 1.361 | 1.233 | 1.255 | 1.160 | N/A | 8 | 20 | | 0.998 | |
| PFPeS | 0.534 | 0.400 | 0.499 | 0.479 | 0.471 | 0.484 | 0.478 | 8 | 20 | | 1.000 | |
| PFHpA | 1.776 | 1.486 | 1.766 | 1.619 | 1.555 | 1.461 | N/A | 8 | 20 | | 0.998 | |
| PFHxS | 1.019 | 0.838 | 1.029 | 0.984 | 0.957 | 0.972 | 0.980 | 6 | 20 | | 1.000 | |
| 6:2-FTS | 1.892 | 1.888 | 2.214 | 2.112 | 2.098 | 1.876 | N/A | 7 | 20 | | 0.996 | |
| PFHpS | 1.007 | 0.773 | 0.988 | 0.856 | 0.922 | 0.911 | 0.890 | 8 | 20 | | 1.000 | |
| PFOA | 1.136 | 0.940 | 1.059 | 0.960 | 1.022 | 0.956 | 0.904 | 7 | 20 | | 0.998 | |
| PFOS | 1.194 | 1.024 | 1.112 | 1.084 | 1.110 | 1.087 | 1.093 | 4 | 20 | | 1.000 | |
| PFNA | 1.545 | 1.489 | 1.658 | 1.424 | 1.542 | 1.407 | 1.336 | 7 | 20 | | 0.997 | |
| PFNS | 0.602 | 0.621 | 0.674 | 0.628 | 0.676 | 0.673 | 0.695 | 5 | 20 | | 0.999 | |
| PFDA | 1.122 | 0.883 | 1.037 | 0.962 | 0.987 | 0.919 | N/A | 8 | 20 | | 0.999 | |
| 8:2-FTS | 2.201 | 1.873 | 2.243 | 1.857 | 2.127 | 2.051 | N/A | 7 | 20 | | 0.998 | |
| PFOSA | 1.113 | 0.931 | 1.074 | 0.954 | 1.047 | 1.024 | N/A | 6 | 20 | | 0.999 | |
| NMeFOSAA | 0.663 | 0.620 | 0.877 | 0.890 | 0.865 | 0.893 | 0.886 | 13 | 20 | | 1.000 | |
| PFDS | 0.521 | 0.496 | 0.511 | 0.520 | 0.537 | 0.515 | 0.533 | 2 | 20 | | 1.000 | |
| PFUnDA | 2.280 | 1.757 | 2.026 | 2.069 | 1.918 | 1.881 | N/A | 8 | 20 | | 0.999 | |
| NEtFOSAA | 0.709 | 1.011 | 1.153 | 0.906 | 0.931 | 0.963 | N/A | 14 | 20 | | 0.998 | |
| PFDoDA | 1.015 | 0.935 | 1.079 | 0.963 | 1.034 | 0.961 | N/A | 5 | 20 | | 0.999 | |
| 10:2-FTS | 1.703 | 1.561 | 1.573 | 1.278 | 1.573 | 1.511 | 1.383 | 9 | 20 | | 0.997 | |
| NMePFOSAE | 1.287 | 1.110 | 1.331 | 1.179 | 1.255 | 1.278 | 1.152 | 6 | 20 | | 0.997 | |
| NMePFOSA | 0.758 | 0.950 | 0.975 | 1.020 | 1.096 | 0.983 | N/A | 11 | 20 | | 0.998 | |
| PFDoS | 0.306 | 0.272 | 0.264 | 0.272 | 0.266 | 0.278 | 0.272 | 5 | 20 | | 1.000 | |
| NEtPFOSAE | 1.873 | 1.487 | 1.717 | 1.622 | 1.623 | 1.516 | N/A | 8 | 20 | | 0.999 | |
| NEtPFOSA | 1.129 | 1.156 | 1.156 | 1.125 | 1.166 | 1.070 | 1.078 | 3 | 20 | | 0.999 | |
| PFTrDA | 0.925 | 0.751 | 0.839 | 0.808 | 0.827 | 0.774 | N/A | 7 | 20 | | 0.999 | |
| PFTeDA | 0.996 | 0.851 | 0.994 | 0.911 | 0.934 | 0.892 | 0.880 | 6 | 20 | | 0.999 | |
| PFHxDA | 0.486 | 0.402 | 0.442 | 0.409 | 0.413 | 0.435 | 0.414 | 6 | 20 | | 0.999 | |
| PFODA | 0.367 | 0.316 | 0.367 | 0.349 | 0.358 | 0.360 | 0.359 | 5 | 20 | | 1.000 | |

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

### E13C4-PFBA

y = 1.11523 x (std. dev. = 0.03058) (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 | 763334.3 | 676527.501 | True | 5.00 | 1.128 | 3.27 | 1.000 | 5.000 | 5.059 | 1 | 30 | |
| CAL2 | 771445.8 | 662396.701 | True | 5.00 | 1.165 | 3.27 | 1.000 | 5.000 | 5.221 | 4 | 30 | |
| CAL3 | 733360.2 | 659926.183 | True | 5.00 | 1.111 | 3.27 | 1.000 | 5.000 | 4.982 | 0 | 30 | |
| CAL4 | 726396.0 | 671568.052 | True | 5.00 | 1.082 | 3.26 | 1.000 | 5.000 | 4.849 | -3 | 30 | |
| CAL5 | 698871.9 | 641789.507 | True | 5.00 | 1.089 | 3.26 | 1.000 | 5.000 | 4.882 | -2 | 30 | |
| CAL6 | 633648.4 | 555817.856 | True | 5.00 | 1.140 | 3.27 | 1.000 | 5.000 | 5.111 | 2 | 30 | |
| CAL7 | 557392.8 | 510525.814 | True | 5.00 | 1.092 | 3.25 | 1.000 | 5.000 | 4.895 | -2 | 30 | |

APPROVED
*By MCD at 3:22 pm, 1/10/19*



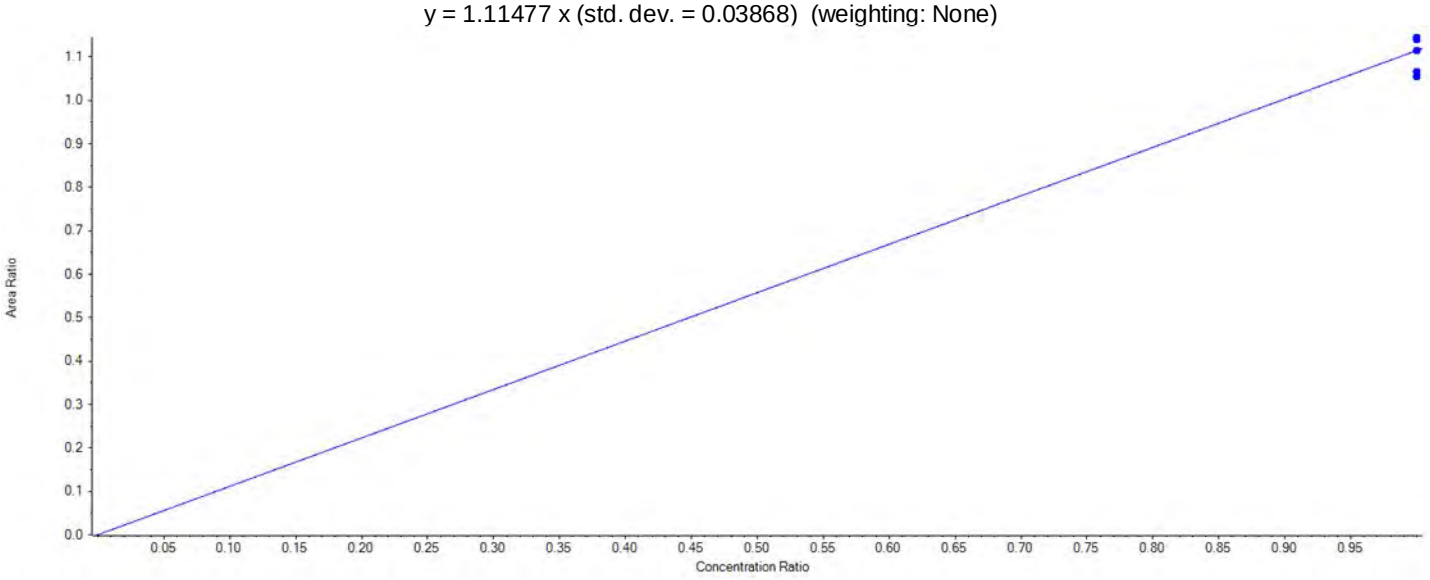
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C5-PFPeA

y = 1.11477 x (std. dev. = 0.03868) (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 | 771179.4 | 676527.501 | True | 5.00 | 1.140 | 3.76 | 1.150 | 5.000 | 5.113 | 2 | 30 | |
| CAL2 | 738194.7 | 662396.701 | True | 5.00 | 1.114 | 3.77 | 1.150 | 5.000 | 4.998 | 0 | 30 | |
| CAL3 | 695805.7 | 659926.183 | True | 5.00 | 1.054 | 3.77 | 1.150 | 5.000 | 4.729 | -5 | 30 | |
| CAL4 | 716206.9 | 671568.052 | True | 5.00 | 1.066 | 3.76 | 1.150 | 5.000 | 4.783 | -4 | 30 | |
| CAL5 | 734598.3 | 641789.507 | True | 5.00 | 1.145 | 3.76 | 1.150 | 5.000 | 5.134 | 3 | 30 | |
| CAL6 | 635977.8 | 555817.856 | True | 5.00 | 1.144 | 3.76 | 1.150 | 5.000 | 5.132 | 3 | 30 | |
| CAL7 | 581688.7 | 510525.814 | True | 5.00 | 1.139 | 3.75 | 1.150 | 5.000 | 5.110 | 2 | 30 | |

APPROVED
*By MCD at 3:22 pm, 1/10/19*



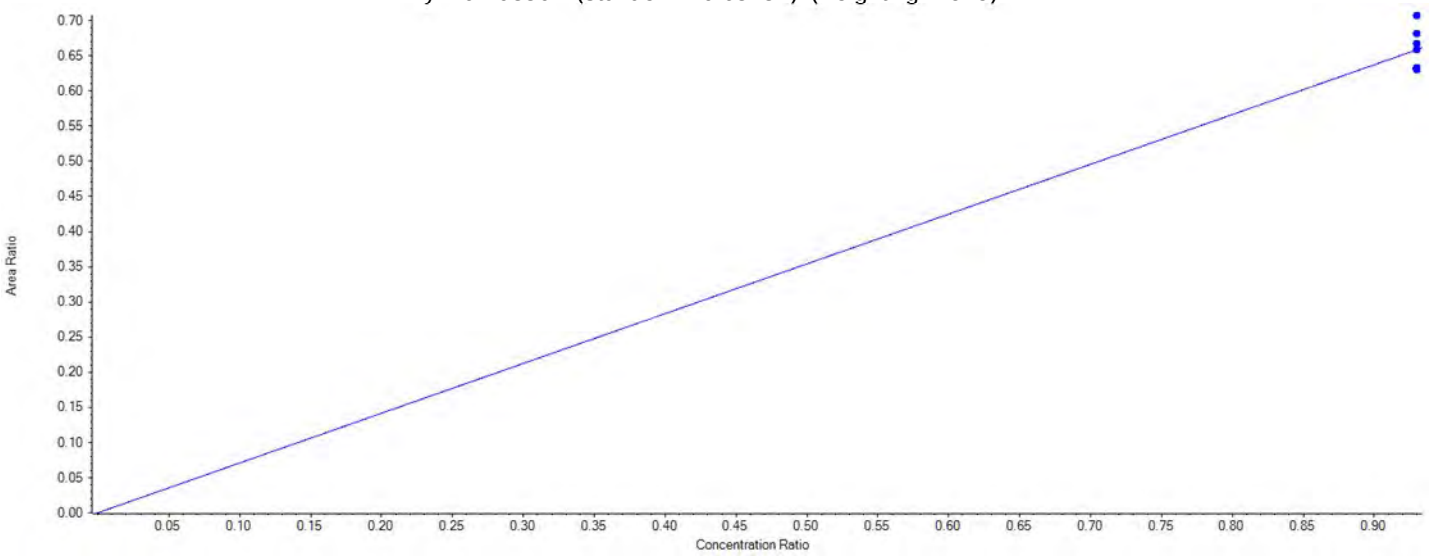
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

# DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C3-PFBS

y = 0.70830 x (std. dev. = 0.03132) (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 | 445963.4 | 676527.501 | True | 5.00 | 0.659 | 3.81 | 1.170 | 4.650 | 4.653 | 0 | 30 | |
| CAL2 | 418860.7 | 662396.701 | True | 5.00 | 0.632 | 3.82 | 1.170 | 4.650 | 4.464 | -4 | 30 | |
| CAL3 | 416352.7 | 659926.183 | True | 5.00 | 0.631 | 3.82 | 1.170 | 4.650 | 4.454 | -4 | 30 | |
| CAL4 | 425015.7 | 671568.052 | True | 5.00 | 0.633 | 3.81 | 1.170 | 4.650 | 4.468 | -4 | 30 | |
| CAL5 | 428050.6 | 641789.507 | True | 5.00 | 0.667 | 3.81 | 1.170 | 4.650 | 4.708 | 1 | 30 | |
| CAL6 | 378676.8 | 555817.856 | True | 5.00 | 0.681 | 3.81 | 1.170 | 4.650 | 4.809 | 3 | 30 | |
| CAL7 | 361166.0 | 510525.814 | True | 5.00 | 0.707 | 3.80 | 1.170 | 4.650 | 4.994 | 7 | 30 | |

APPROVED
By MCD at 3:22 pm, 1/10/19



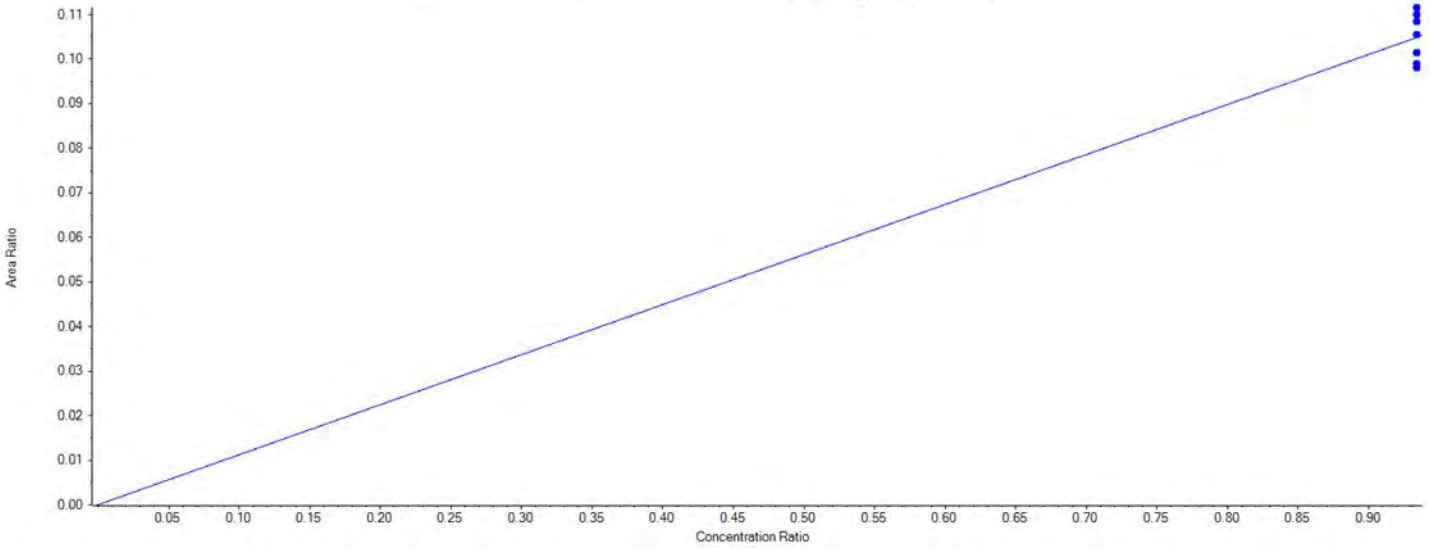
REVIEWED
By ucmr at 3:21 pm, 1/25/19

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C2-4:2-FTS

y = 0.11226 x (std. dev. = 0.00584) (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 | 51494.6 | 474834.926 | True | 5.00 | 0.108 | 4.13 | 0.840 | 4.670 | 4.830 | 3 | 30 | |
| CAL2 | 46141.8 | 454466.719 | True | 5.00 | 0.102 | 4.13 | 0.840 | 4.670 | 4.522 | -3 | 30 | |
| CAL3 | 47514.8 | 450219.683 | True | 5.00 | 0.106 | 4.13 | 0.840 | 4.670 | 4.700 | 1 | 30 | |
| CAL4 | 47246.4 | 477519.675 | True | 5.00 | 0.099 | 4.13 | 0.840 | 4.670 | 4.407 | -6 | 30 | |
| CAL5 | 51791.9 | 464284.617 | True | 5.00 | 0.112 | 4.12 | 0.840 | 4.670 | 4.968 | 6 | 30 | |
| CAL6 | 41422.2 | 422900.470 | True | 5.00 | 0.098 | 4.13 | 0.840 | 4.670 | 4.362 | -7 | 30 | |
| CAL7 | 40505.1 | 368158.252 | True | 5.00 | 0.110 | 4.11 | 0.840 | 4.670 | 4.900 | 5 | 30 | |

APPROVED
*By MCD at 3:22 pm, 1/10/19*



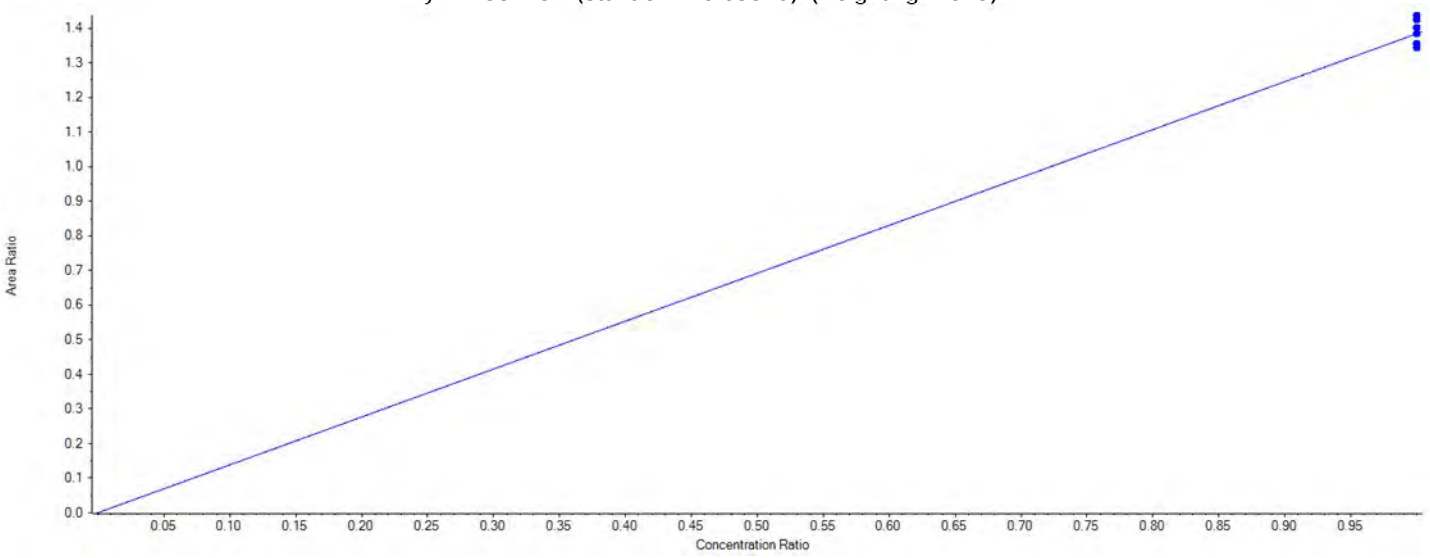
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C5-PFHxA

y = 1.38415 x (std. dev. = 0.03876) (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 | 664975.9 | 474834.926 | True | 5.00 | 1.400 | 4.16 | 0.850 | 5.000 | 5.059 | 1 | 30 | |
| CAL2 | 648170.1 | 454466.719 | True | 5.00 | 1.426 | 4.17 | 0.850 | 5.000 | 5.152 | 3 | 30 | |
| CAL3 | 646783.5 | 450219.683 | True | 5.00 | 1.437 | 4.17 | 0.850 | 5.000 | 5.189 | 4 | 30 | |
| CAL4 | 641195.8 | 477519.675 | True | 5.00 | 1.343 | 4.16 | 0.850 | 5.000 | 4.851 | -3 | 30 | |
| CAL5 | 628952.8 | 464284.617 | True | 5.00 | 1.355 | 4.15 | 0.850 | 5.000 | 4.894 | -2 | 30 | |
| CAL6 | 568205.8 | 422900.470 | True | 5.00 | 1.344 | 4.16 | 0.850 | 5.000 | 4.854 | -3 | 30 | |
| CAL7 | 509807.9 | 368158.252 | True | 5.00 | 1.385 | 4.15 | 0.840 | 5.000 | 5.002 | 0 | 30 | |

APPROVED
*By MCD at 3:22 pm, 1/10/19*



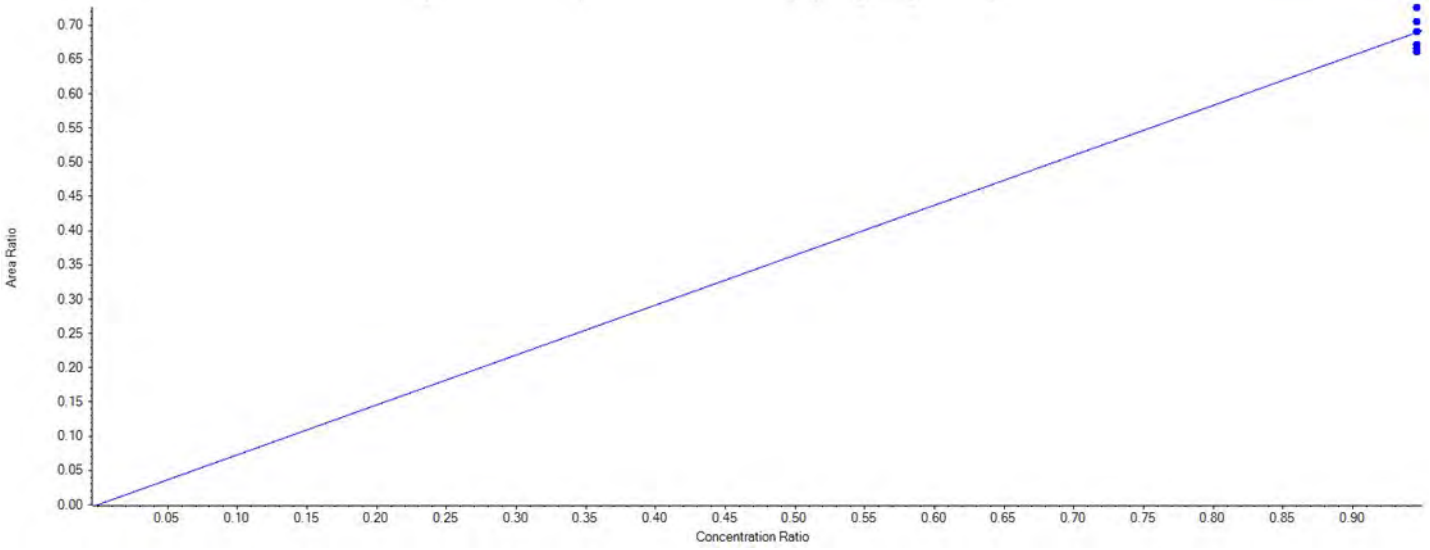
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C3-PFHxS

y = 0.72866 x (std. dev. = 0.02531) (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 | 327944.5 | 474834.926 | True | 5.00 | 0.691 | 4.55 | 0.930 | 4.730 | 4.739 | 0 | 30 | |
| CAL2 | 320400.4 | 454466.719 | True | 5.00 | 0.705 | 4.56 | 0.930 | 4.730 | 4.838 | 2 | 30 | |
| CAL3 | 317243.2 | 450219.683 | True | 5.00 | 0.705 | 4.56 | 0.930 | 4.730 | 4.835 | 2 | 30 | |
| CAL4 | 315722.6 | 477519.675 | True | 5.00 | 0.661 | 4.55 | 0.930 | 4.730 | 4.537 | -4 | 30 | |
| CAL5 | 309304.5 | 464284.617 | True | 5.00 | 0.666 | 4.54 | 0.920 | 4.730 | 4.571 | -3 | 30 | |
| CAL6 | 284116.5 | 422900.470 | True | 5.00 | 0.672 | 4.55 | 0.920 | 4.730 | 4.610 | -3 | 30 | |
| CAL7 | 267182.8 | 368158.252 | True | 5.00 | 0.726 | 4.54 | 0.920 | 4.730 | 4.980 | 5 | 30 | |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



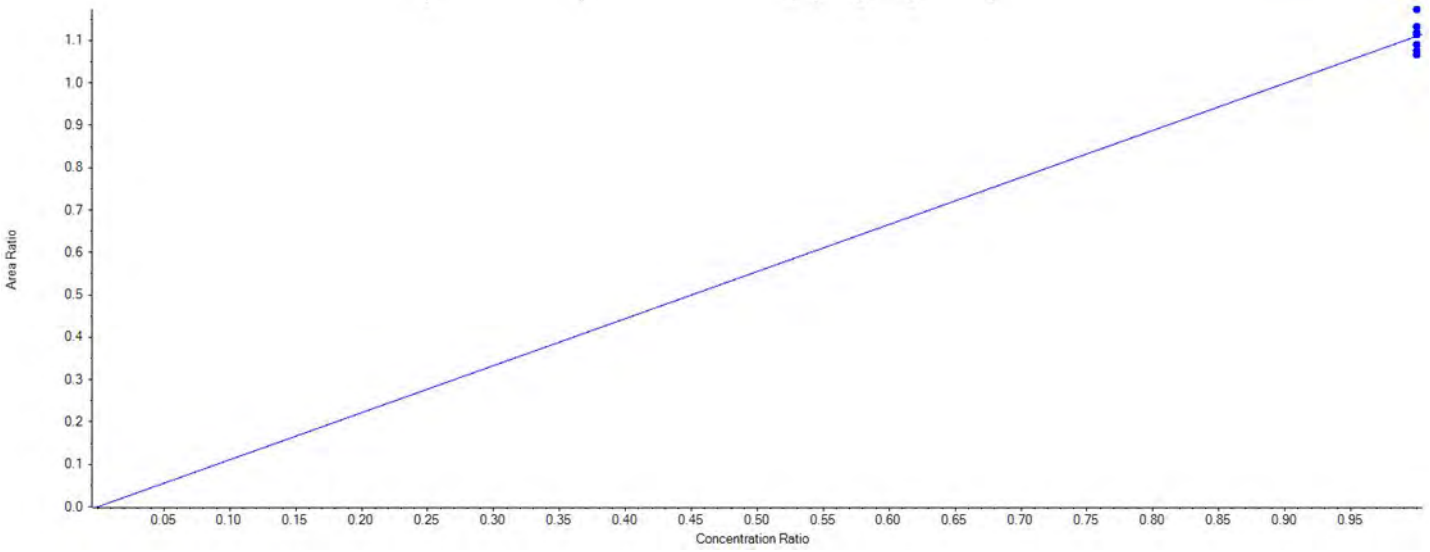
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C4-PFHpA

y = 1.10984 x (std. dev. = 0.03656) (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 | 528473.5 | 474834.926 | True | 5.00 | 1.113 | 4.55 | 0.920 | 5.000 | 5.014 | 0 | 30 | |
| CAL2 | 532987.5 | 454466.719 | True | 5.00 | 1.173 | 4.55 | 0.920 | 5.000 | 5.284 | 6 | 30 | |
| CAL3 | 503681.0 | 450219.683 | True | 5.00 | 1.119 | 4.55 | 0.920 | 5.000 | 5.040 | 1 | 30 | |
| CAL4 | 509151.8 | 477519.675 | True | 5.00 | 1.066 | 4.55 | 0.920 | 5.000 | 4.804 | -4 | 30 | |
| CAL5 | 525802.0 | 464284.617 | True | 5.00 | 1.132 | 4.54 | 0.920 | 5.000 | 5.102 | 2 | 30 | |
| CAL6 | 455005.8 | 422900.470 | True | 5.00 | 1.076 | 4.55 | 0.920 | 5.000 | 4.847 | -3 | 30 | |
| CAL7 | 401203.9 | 368158.252 | True | 5.00 | 1.090 | 4.54 | 0.920 | 5.000 | 4.910 | -2 | 30 | |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



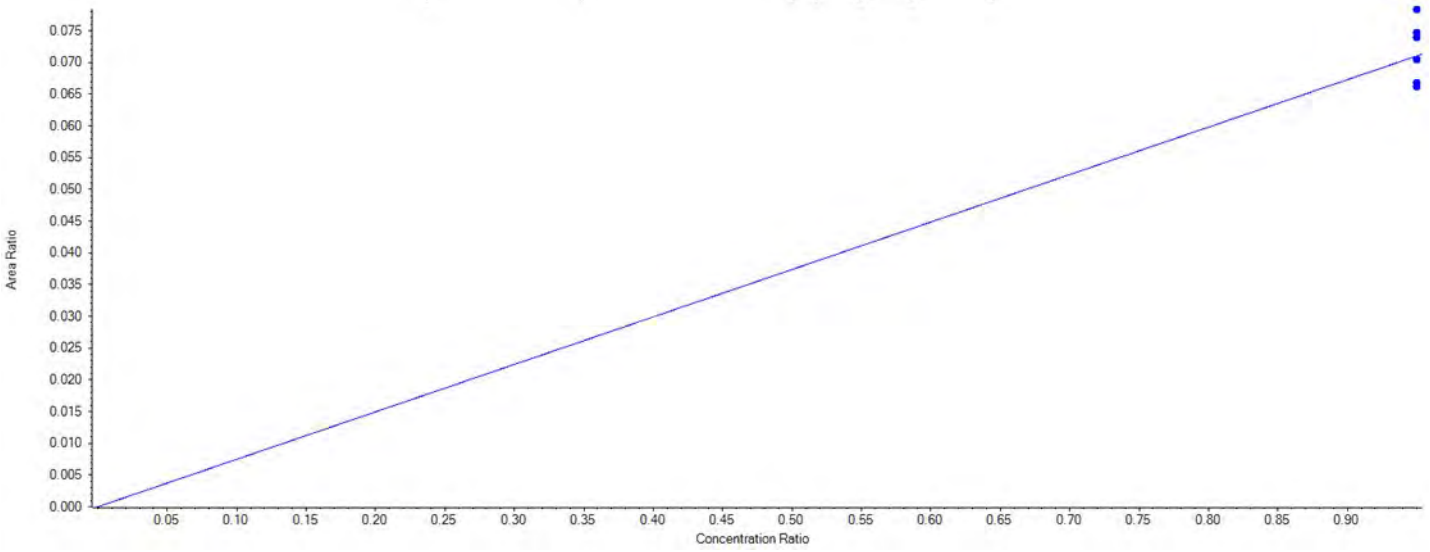
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C2-6:2-FTS

y = 0.07473 x (std. dev. = 0.00497) (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 | 35455.2 | 474834.926 | True | 5.00 | 0.075 | 4.91 | 1.000 | 4.750 | 4.996 | 5 | 30 | |
| CAL2 | 35585.7 | 454466.719 | True | 5.00 | 0.078 | 4.91 | 1.000 | 4.750 | 5.239 | 10 | 30 | |
| CAL3 | 31706.4 | 450219.683 | True | 5.00 | 0.070 | 4.91 | 1.000 | 4.750 | 4.712 | -1 | 30 | |
| CAL4 | 31883.3 | 477519.675 | True | 5.00 | 0.067 | 4.91 | 1.000 | 4.750 | 4.467 | -6 | 30 | |
| CAL5 | 31012.0 | 464284.617 | True | 5.00 | 0.067 | 4.90 | 1.000 | 4.750 | 4.469 | -6 | 30 | |
| CAL6 | 27988.5 | 422900.470 | True | 5.00 | 0.066 | 4.91 | 1.000 | 4.750 | 4.428 | -7 | 30 | |
| CAL7 | 27180.2 | 368158.252 | True | 5.00 | 0.074 | 4.89 | 1.000 | 4.750 | 4.939 | 4 | 30 | |

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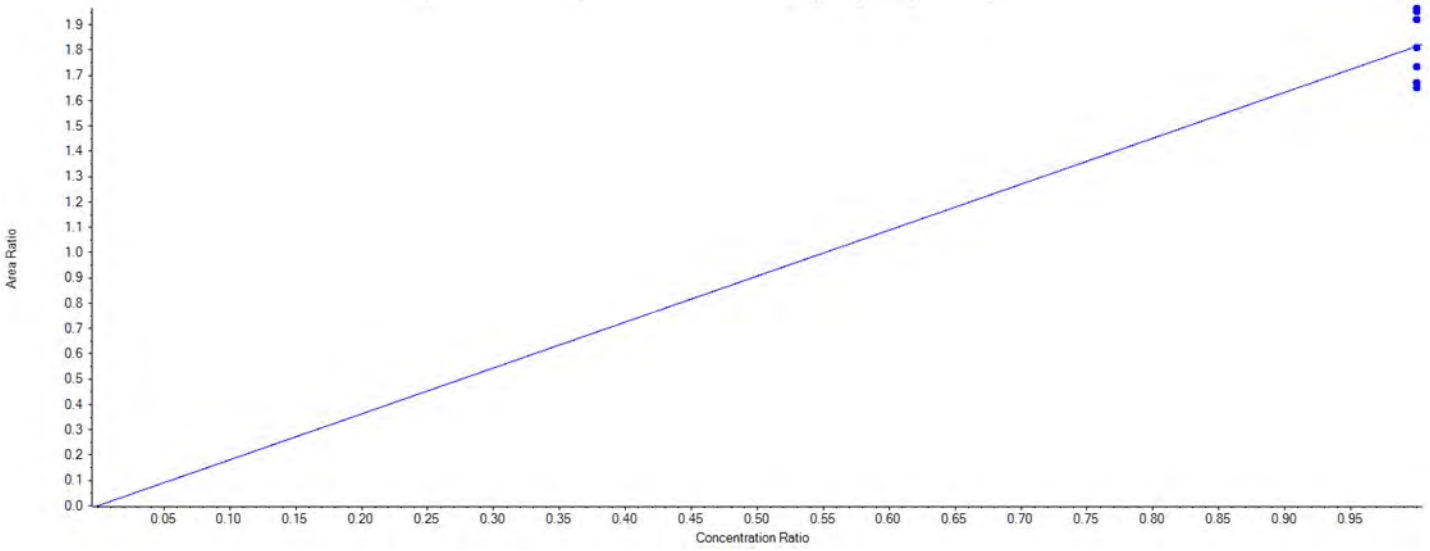
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C8-PFOA

y = 1.81479 x (std. dev. = 0.13316) (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 | 912537.7 | 474834.926 | True | 5.00 | 1.922 | 4.92 | 1.000 | 5.000 | 5.295 | 6 | 30 | |
| CAL2 | 892584.2 | 454466.719 | True | 5.00 | 1.964 | 4.92 | 1.000 | 5.000 | 5.411 | 8 | 30 | |
| CAL3 | 878868.5 | 450219.683 | True | 5.00 | 1.952 | 4.93 | 1.000 | 5.000 | 5.378 | 8 | 30 | |
| CAL4 | 863597.3 | 477519.675 | True | 5.00 | 1.809 | 4.92 | 1.000 | 5.000 | 4.983 | 0 | 30 | |
| CAL5 | 805288.7 | 464284.617 | True | 5.00 | 1.734 | 4.91 | 1.000 | 5.000 | 4.779 | -4 | 30 | |
| CAL6 | 707130.3 | 422900.470 | True | 5.00 | 1.672 | 4.92 | 1.000 | 5.000 | 4.607 | -8 | 30 | |
| CAL7 | 607669.5 | 368158.252 | True | 5.00 | 1.651 | 4.91 | 1.000 | 5.000 | 4.548 | -9 | 30 | |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



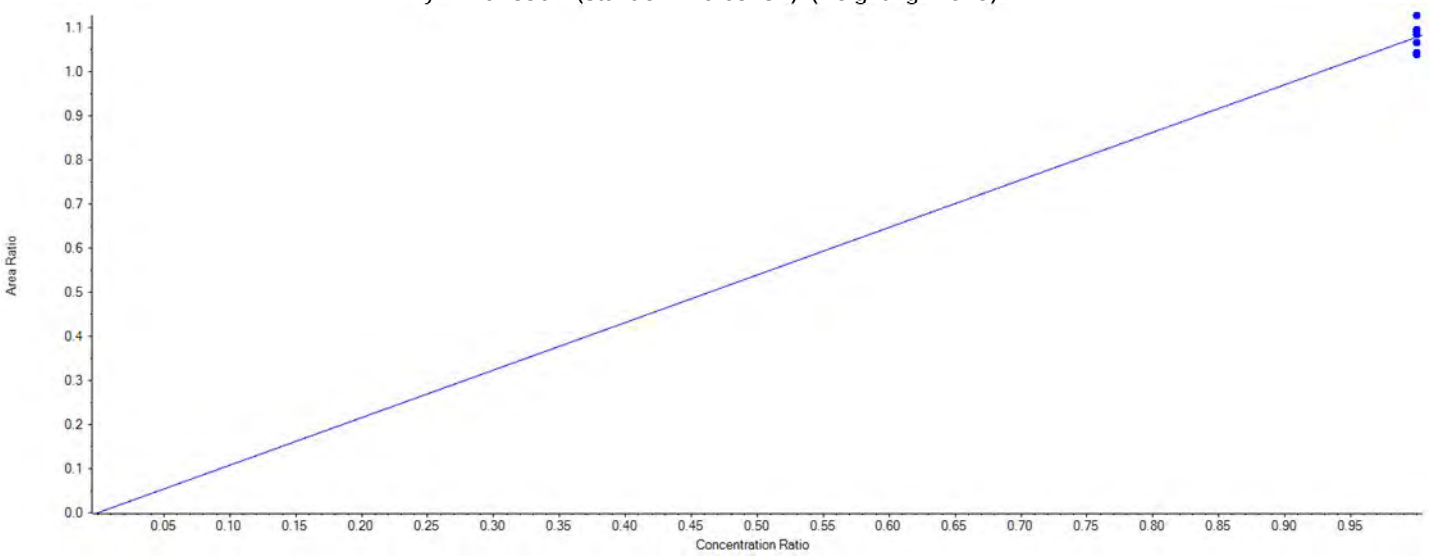
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C8-PFOS

y = 1.07880 x (std. dev. = 0.03134) (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 | 283127.4 | 265368.985 | True | 4.78 | 1.067 | 5.25 | 1.000 | 4.780 | 4.727 | -1 | 30 | |
| CAL2 | 271778.8 | 250483.817 | True | 4.78 | 1.085 | 5.25 | 1.000 | 4.780 | 4.808 | 1 | 30 | |
| CAL3 | 281035.5 | 249205.780 | True | 4.78 | 1.128 | 5.25 | 1.000 | 4.780 | 4.997 | 5 | 30 | |
| CAL4 | 267380.8 | 256143.287 | True | 4.78 | 1.044 | 5.25 | 1.000 | 4.780 | 4.625 | -3 | 30 | |
| CAL5 | 267157.6 | 243589.874 | True | 4.78 | 1.097 | 5.24 | 1.000 | 4.780 | 4.860 | 2 | 30 | |
| CAL6 | 253129.2 | 231712.116 | True | 4.78 | 1.092 | 5.25 | 1.000 | 4.780 | 4.840 | 1 | 30 | |
| CAL7 | 242617.5 | 233532.695 | True | 4.78 | 1.039 | 5.24 | 1.000 | 4.780 | 4.603 | -4 | 30 | |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



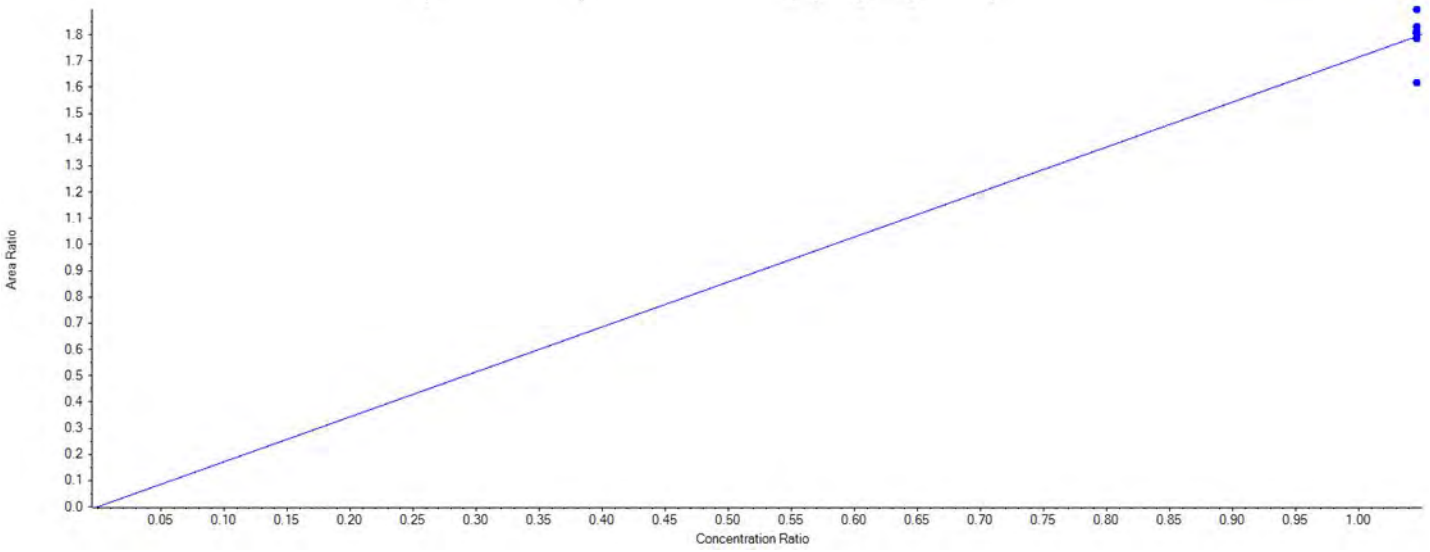
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C9-PFNA

y = 1.71440 x (std. dev. = 0.08194) (weighting: None)




## Extraction Standard Calibration Verification

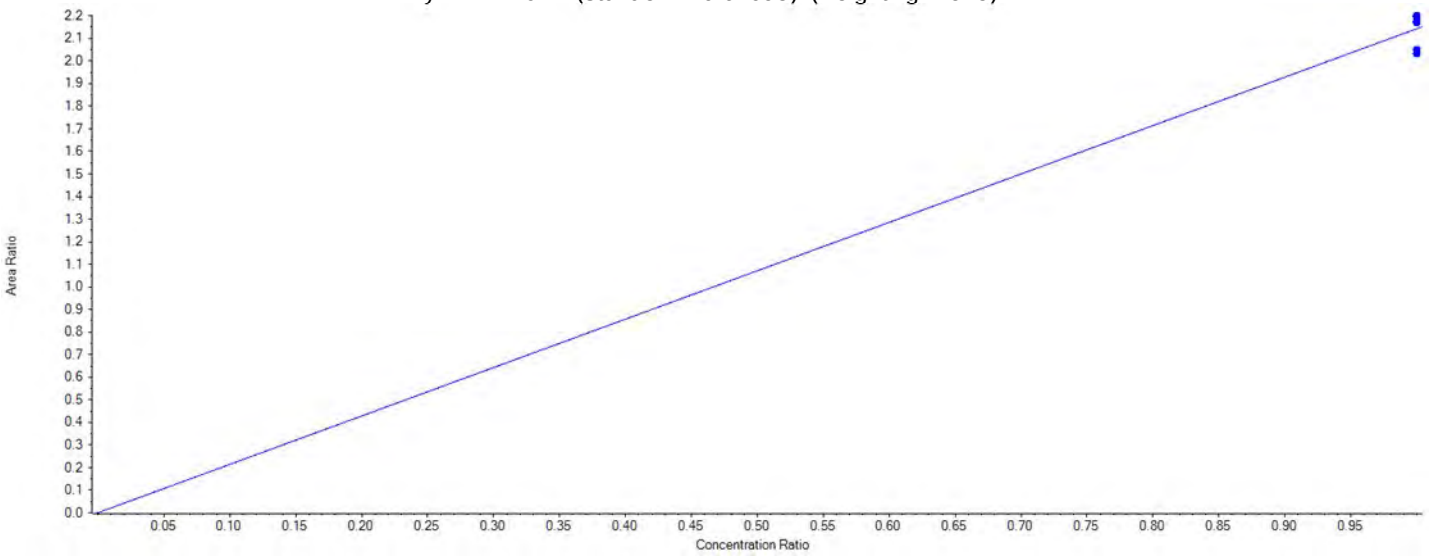
| Sample Name | E13C9-PFNA Area | 13C4-PFOS Area | Used | ES Conc | Area Ratio | RT (min) | RRT | Spec Amount | Calc Amount | %Diff | %D Limit | %D OOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAL1 | 479931.4 | 265368.985 | True | 4.78 | 1.809 | 5.26 | 1.000 | 5.000 | 5.042 | 1 | 30 | |
| CAL2 | 451850.1 | 250483.817 | True | 4.78 | 1.804 | 5.27 | 1.000 | 5.000 | 5.030 | 1 | 30 | |
| CAL3 | 455948.9 | 249205.780 | True | 4.78 | 1.830 | 5.27 | 1.000 | 5.000 | 5.101 | 2 | 30 | |
| CAL4 | 485570.4 | 256143.287 | True | 4.78 | 1.896 | 5.26 | 1.000 | 5.000 | 5.285 | 6 | 30 | |
| CAL5 | 441776.8 | 243589.874 | True | 4.78 | 1.814 | 5.26 | 1.000 | 5.000 | 5.057 | 1 | 30 | |
| CAL6 | 413811.3 | 231712.116 | True | 4.78 | 1.786 | 5.27 | 1.000 | 5.000 | 4.979 | 0 | 30 | |
| CAL7 | 377369.8 | 233532.695 | True | 4.78 | 1.616 | 5.25 | 1.000 | 5.000 | 4.505 | -10 | 30 | |

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C6-PFDA

y = 2.14262 x (std. dev. = 0.07095) (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 | 612577.4 | 281654.747 | True | 5.00 | 2.175 | 5.57 | 1.000 | 5.000 | 5.075 | 2 | 30 | |
| CAL2 | 601859.8 | 277324.192 | True | 5.00 | 2.170 | 5.57 | 1.000 | 5.000 | 5.064 | 1 | 30 | |
| CAL3 | 612680.8 | 278743.894 | True | 5.00 | 2.198 | 5.57 | 1.000 | 5.000 | 5.129 | 3 | 30 | |
| CAL4 | 612056.5 | 301327.179 | True | 5.00 | 2.031 | 5.56 | 1.000 | 5.000 | 4.740 | -5 | 30 | |
| CAL5 | 585231.2 | 269315.722 | True | 5.00 | 2.173 | 5.56 | 1.000 | 5.000 | 5.071 | 1 | 30 | |
| CAL6 | 522613.8 | 237446.928 | True | 5.00 | 2.201 | 5.57 | 1.000 | 5.000 | 5.136 | 3 | 30 | |
| CAL7 | 479333.1 | 233825.066 | True | 5.00 | 2.050 | 5.55 | 1.000 | 5.000 | 4.784 | -4 | 30 | |

APPROVED
By MCD at 3:23 pm, 1/10/19



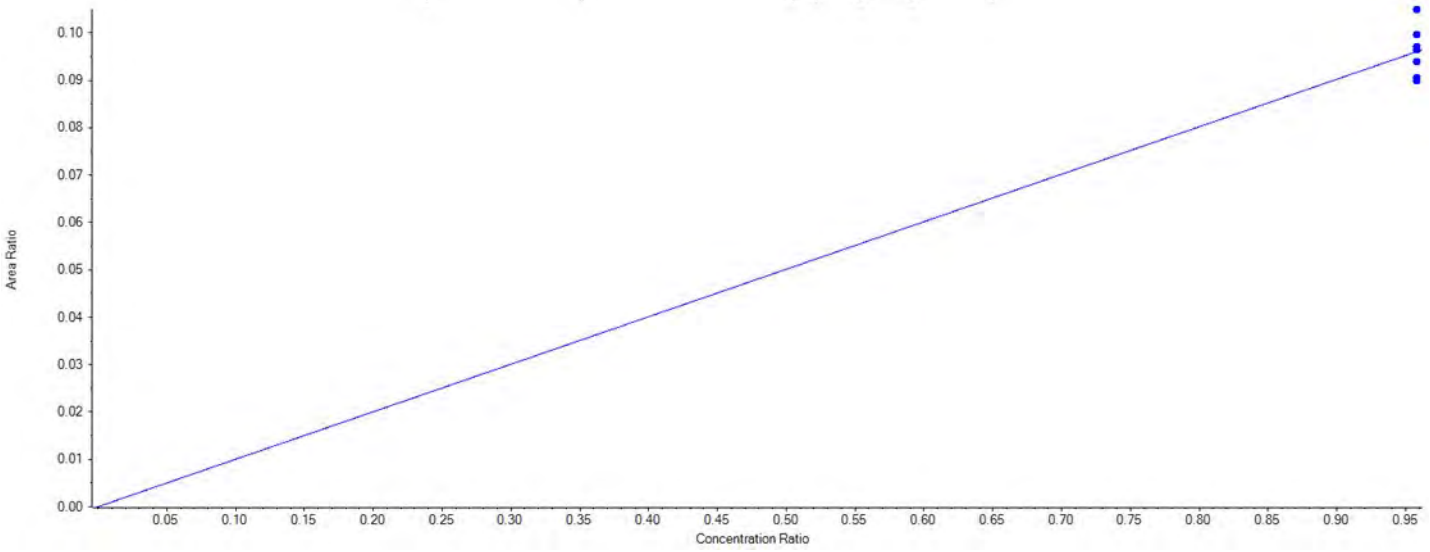
REVIEWED
By ucmr at 3:21 pm, 1/25/19

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C2-8:2-FTS

y = 0.10026 x (std. dev. = 0.00552) (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 | 26445.5 | 281654.747 | True | 5.00 | 0.094 | 5.57 | 1.000 | 4.790 | 4.683 | -2 | 30 | |
| CAL2 | 27639.2 | 277324.192 | True | 5.00 | 0.100 | 5.57 | 1.000 | 4.790 | 4.970 | 4 | 30 | |
| CAL3 | 29249.8 | 278743.894 | True | 5.00 | 0.105 | 5.57 | 1.000 | 4.790 | 5.233 | 9 | 30 | |
| CAL4 | 27253.5 | 301327.179 | True | 5.00 | 0.090 | 5.57 | 1.000 | 4.790 | 4.511 | -6 | 30 | |
| CAL5 | 24192.1 | 269315.722 | True | 5.00 | 0.090 | 5.56 | 1.000 | 4.790 | 4.480 | -6 | 30 | |
| CAL6 | 22899.0 | 237446.928 | True | 5.00 | 0.096 | 5.57 | 1.000 | 4.790 | 4.810 | 0 | 30 | |
| CAL7 | 22711.0 | 233825.066 | True | 5.00 | 0.097 | 5.56 | 1.000 | 4.790 | 4.844 | 1 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



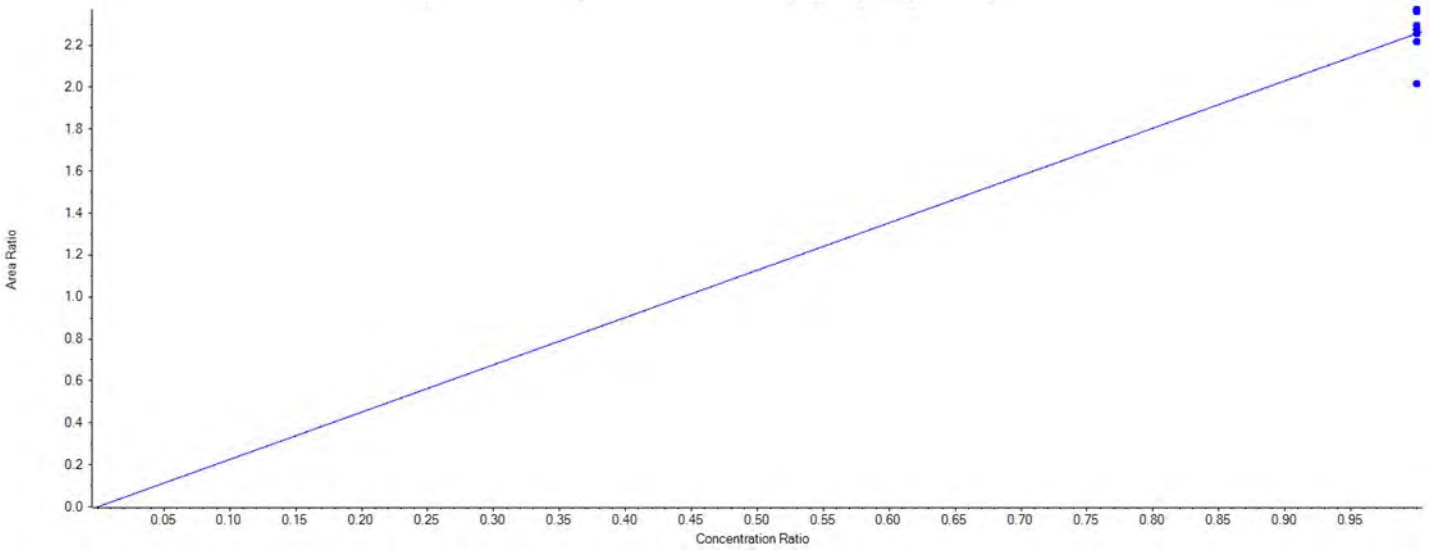
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C8-PFOSA

y = 2.25533 x (std. dev. = 0.11852) (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 | 664489.9 | 281654.747 | True | 5.00 | 2.359 | 5.65 | 1.010 | 5.000 | 5.230 | 5 | 30 | |
| CAL2 | 636543.1 | 277324.192 | True | 5.00 | 2.295 | 5.65 | 1.010 | 5.000 | 5.089 | 2 | 30 | |
| CAL3 | 629109.9 | 278743.894 | True | 5.00 | 2.257 | 5.65 | 1.010 | 5.000 | 5.004 | 0 | 30 | |
| CAL4 | 607762.0 | 301327.179 | True | 5.00 | 2.017 | 5.64 | 1.010 | 5.000 | 4.472 | -11 | 30 | |
| CAL5 | 596544.1 | 269315.722 | True | 5.00 | 2.215 | 5.64 | 1.010 | 5.000 | 4.911 | -2 | 30 | |
| CAL6 | 539992.5 | 237446.928 | True | 5.00 | 2.274 | 5.65 | 1.010 | 5.000 | 5.042 | 1 | 30 | |
| CAL7 | 554092.6 | 233825.066 | True | 5.00 | 2.370 | 5.63 | 1.010 | 5.000 | 5.254 | 5 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



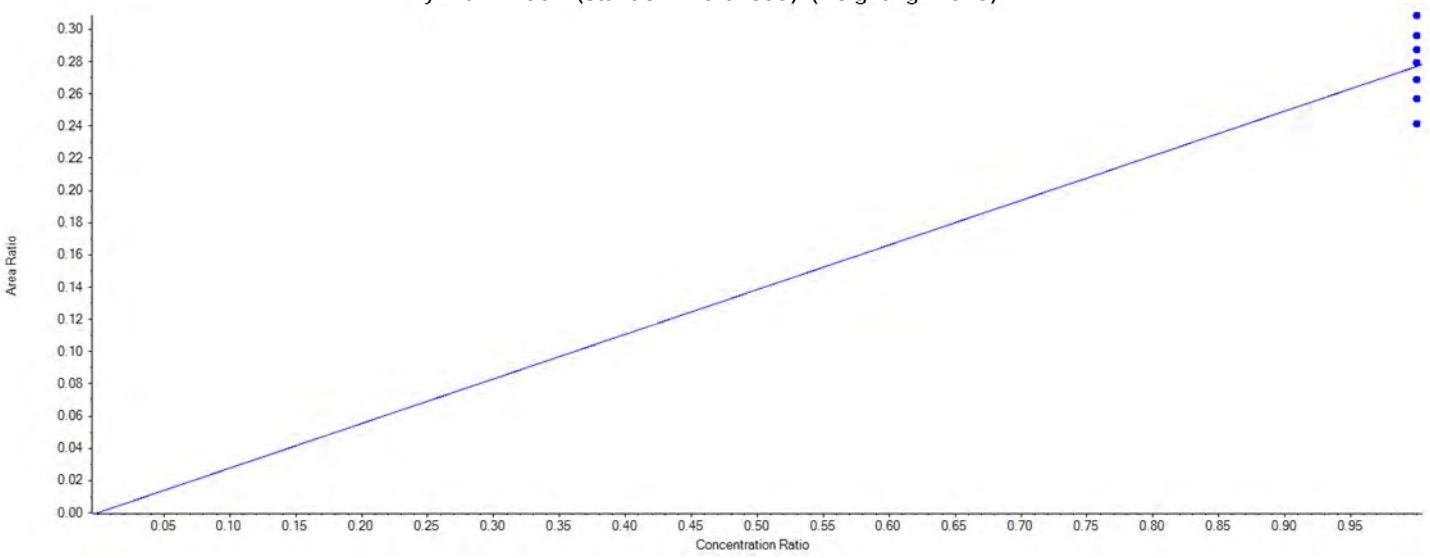
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## Ed3-NMeFOSAA

y = 0.27700 x (std. dev. = 0.02309) (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 | 86914.5 | 281654.747 | True | 5.00 | 0.309 | 5.70 | 1.020 | 5.000 | 5.570 | 11 | 30 | |
| CAL2 | 77388.6 | 277324.192 | True | 5.00 | 0.279 | 5.71 | 1.020 | 5.000 | 5.037 | 1 | 30 | |
| CAL3 | 71670.3 | 278743.894 | True | 5.00 | 0.257 | 5.71 | 1.030 | 5.000 | 4.641 | -7 | 30 | |
| CAL4 | 72788.0 | 301327.179 | True | 5.00 | 0.242 | 5.70 | 1.020 | 5.000 | 4.360 | -13 | 30 | |
| CAL5 | 72424.5 | 269315.722 | True | 5.00 | 0.269 | 5.70 | 1.020 | 5.000 | 4.854 | -3 | 30 | |
| CAL6 | 70320.3 | 237446.928 | True | 5.00 | 0.296 | 5.71 | 1.020 | 5.000 | 5.346 | 7 | 30 | |
| CAL7 | 67250.5 | 233825.066 | True | 5.00 | 0.288 | 5.69 | 1.020 | 5.000 | 5.192 | 4 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



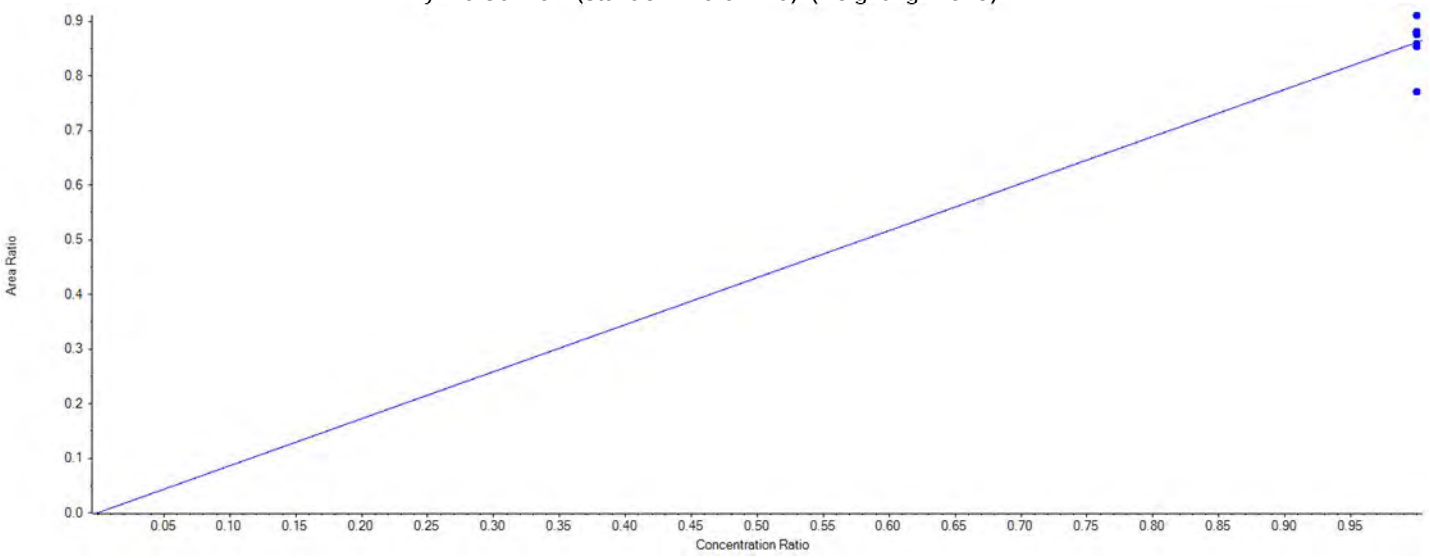
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C7-PFUnDA

y = 0.86119 x (std. dev. = 0.04416) (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 | 256402.0 | 281654.747 | True | 5.00 | 0.910 | 5.83 | 1.050 | 5.000 | 5.285 | 6 | 30 | |
| CAL2 | 242881.7 | 277324.192 | True | 5.00 | 0.876 | 5.83 | 1.050 | 5.000 | 5.085 | 2 | 30 | |
| CAL3 | 245605.3 | 278743.894 | True | 5.00 | 0.881 | 5.83 | 1.050 | 5.000 | 5.116 | 2 | 30 | |
| CAL4 | 232014.1 | 301327.179 | True | 5.00 | 0.770 | 5.82 | 1.050 | 5.000 | 4.470 | -11 | 30 | |
| CAL5 | 231187.9 | 269315.722 | True | 5.00 | 0.858 | 5.82 | 1.050 | 5.000 | 4.984 | 0 | 30 | |
| CAL6 | 208574.1 | 237446.928 | True | 5.00 | 0.878 | 5.83 | 1.050 | 5.000 | 5.100 | 2 | 30 | |
| CAL7 | 199746.8 | 233825.066 | True | 5.00 | 0.854 | 5.81 | 1.050 | 5.000 | 4.960 | -1 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



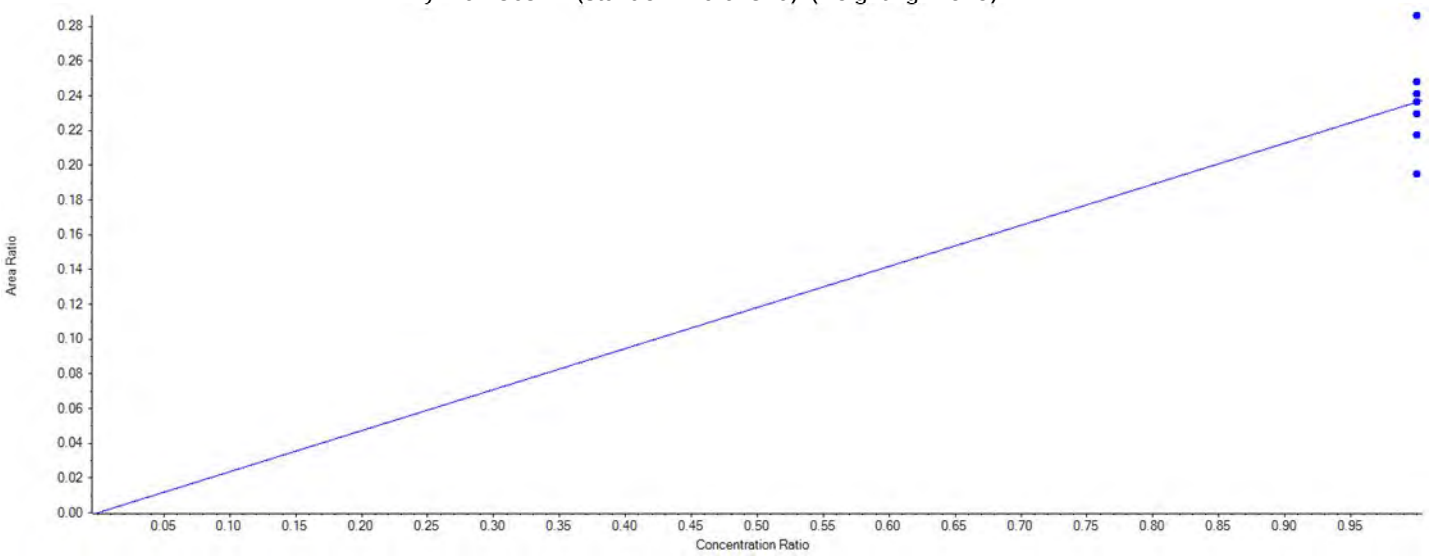
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## Ed5-NEtFOSAA

y = 0.23634 x (std. dev. = 0.02816) (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 | 80597.2 | 281654.747 | True | 5.00 | 0.286 | 5.84 | 1.050 | 5.000 | 6.054 | 21 | 30 | |
| CAL2 | 63686.9 | 277324.192 | True | 5.00 | 0.230 | 5.84 | 1.050 | 5.000 | 4.859 | -3 | 30 | |
| CAL3 | 54383.9 | 278743.894 | True | 5.00 | 0.195 | 5.84 | 1.050 | 5.000 | 4.128 | -17 | 30 | |
| CAL4 | 65478.0 | 301327.179 | True | 5.00 | 0.217 | 5.83 | 1.050 | 5.000 | 4.597 | -8 | 30 | |
| CAL5 | 63701.7 | 269315.722 | True | 5.00 | 0.237 | 5.83 | 1.050 | 5.000 | 5.004 | 0 | 30 | |
| CAL6 | 57308.1 | 237446.928 | True | 5.00 | 0.241 | 5.84 | 1.050 | 5.000 | 5.106 | 2 | 30 | |
| CAL7 | 58049.5 | 233825.066 | True | 5.00 | 0.248 | 5.82 | 1.050 | 5.000 | 5.252 | 5 | 30 | |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



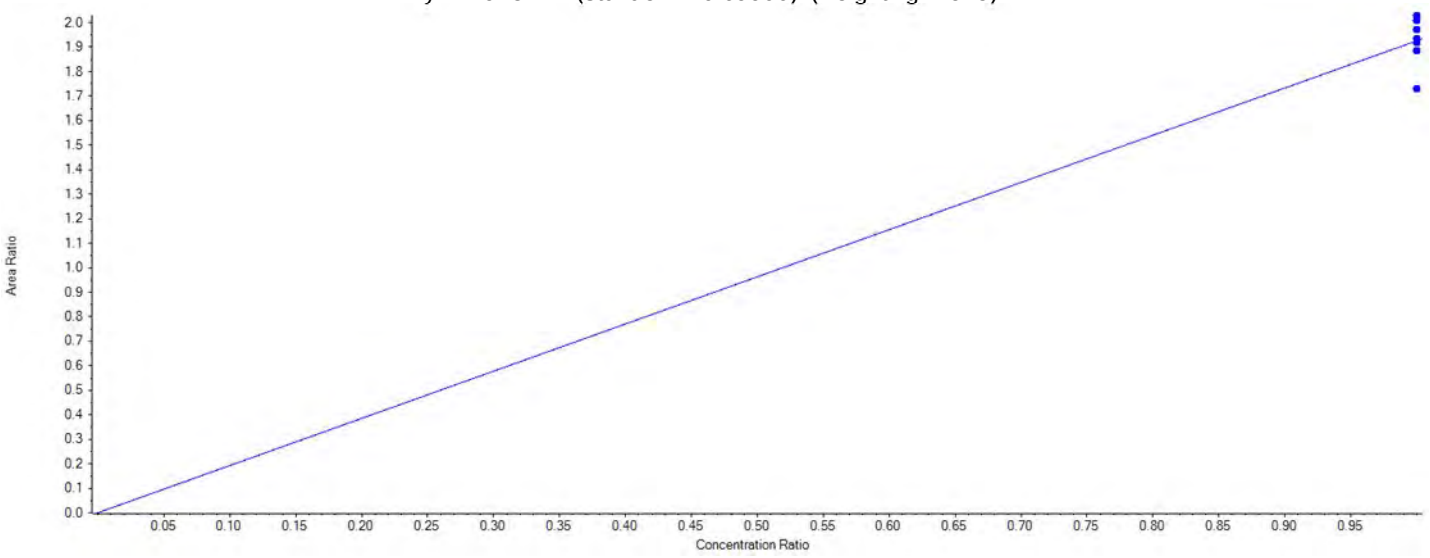
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C2-PFDoDA

y = 1.92577 x (std. dev. = 0.09966) (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 | 545413.2 | 281654.747 | True | 5.00 | 1.936 | 6.05 | 1.090 | 5.000 | 5.028 | 1 | 30 | |
| CAL2 | 532175.3 | 277324.192 | True | 5.00 | 1.919 | 6.06 | 1.090 | 5.000 | 4.982 | 0 | 30 | |
| CAL3 | 549542.3 | 278743.894 | True | 5.00 | 1.971 | 6.06 | 1.090 | 5.000 | 5.119 | 2 | 30 | |
| CAL4 | 521514.1 | 301327.179 | True | 5.00 | 1.731 | 6.05 | 1.090 | 5.000 | 4.494 | -10 | 30 | |
| CAL5 | 507556.8 | 269315.722 | True | 5.00 | 1.885 | 6.04 | 1.090 | 5.000 | 4.893 | -2 | 30 | |
| CAL6 | 477105.5 | 237446.928 | True | 5.00 | 2.009 | 6.06 | 1.090 | 5.000 | 5.217 | 4 | 30 | |
| CAL7 | 474393.8 | 233825.066 | True | 5.00 | 2.029 | 6.04 | 1.090 | 5.000 | 5.268 | 5 | 30 | |

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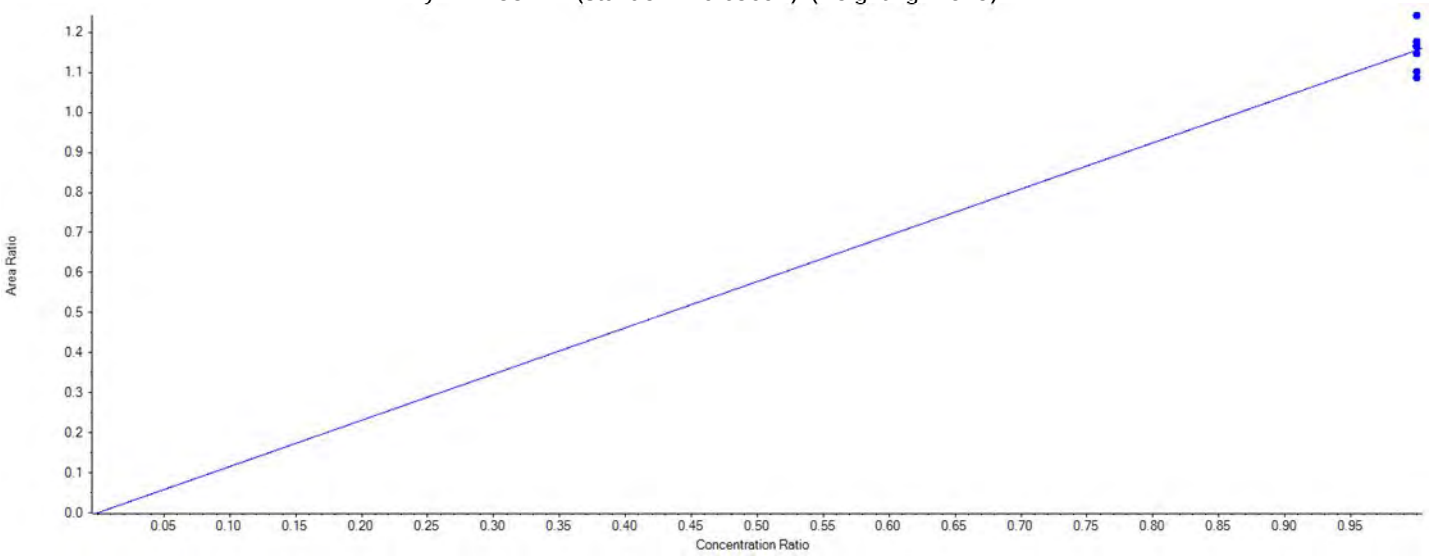
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## Ed7-NMePFOSAE

y = 1.15541 x (std. dev. = 0.05092) (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 | 349854.5 | 281654.747 | True | 5.00 | 1.242 | 6.09 | 1.090 | 5.000 | 5.375 | 8 | 30 | |
| CAL2 | 323456.5 | 277324.192 | True | 5.00 | 1.166 | 6.09 | 1.090 | 5.000 | 5.047 | 1 | 30 | |
| CAL3 | 307355.4 | 278743.894 | True | 5.00 | 1.103 | 6.09 | 1.090 | 5.000 | 4.772 | -5 | 30 | |
| CAL4 | 327796.4 | 301327.179 | True | 5.00 | 1.088 | 6.09 | 1.090 | 5.000 | 4.708 | -6 | 30 | |
| CAL5 | 316777.8 | 269315.722 | True | 5.00 | 1.176 | 6.08 | 1.090 | 5.000 | 5.090 | 2 | 30 | |
| CAL6 | 272639.0 | 237446.928 | True | 5.00 | 1.148 | 6.09 | 1.090 | 5.000 | 4.969 | -1 | 30 | |
| CAL7 | 272283.1 | 233825.066 | True | 5.00 | 1.164 | 6.08 | 1.090 | 5.000 | 5.039 | 1 | 30 | |

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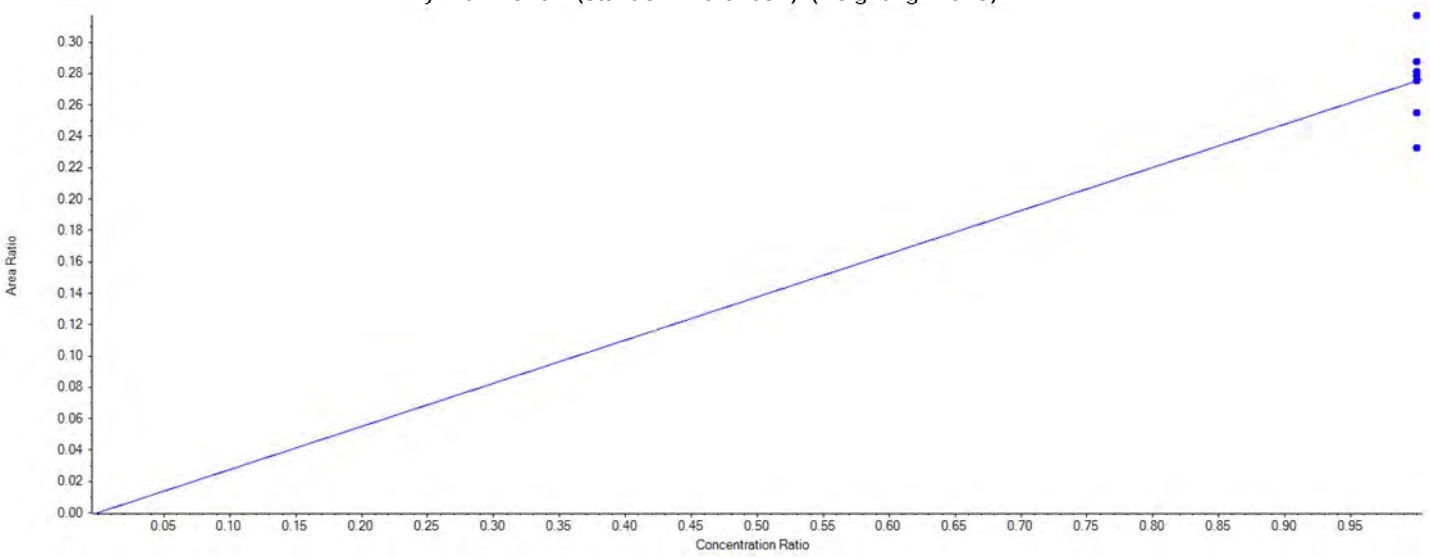
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By ucmr at 3:21 pm, 1/25/19

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## Ed3-NMePFOSA

y = 0.27520 x (std. dev. = 0.02631) (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 | 78396.5 | 281654.747 | True | 5.00 | 0.278 | 6.10 | 1.100 | 5.000 | 5.057 | 1 | 30 | |
| CAL2 | 77893.2 | 277324.192 | True | 5.00 | 0.281 | 6.11 | 1.100 | 5.000 | 5.103 | 2 | 30 | |
| CAL3 | 76782.9 | 278743.894 | True | 5.00 | 0.275 | 6.11 | 1.100 | 5.000 | 5.005 | 0 | 30 | |
| CAL4 | 70122.5 | 301327.179 | True | 5.00 | 0.233 | 6.10 | 1.100 | 5.000 | 4.228 | -15 | 30 | |
| CAL5 | 68615.7 | 269315.722 | True | 5.00 | 0.255 | 6.09 | 1.100 | 5.000 | 4.629 | -7 | 30 | |
| CAL6 | 68215.9 | 237446.928 | True | 5.00 | 0.287 | 6.11 | 1.100 | 5.000 | 5.220 | 4 | 30 | |
| CAL7 | 74110.3 | 233825.066 | True | 5.00 | 0.317 | 6.09 | 1.100 | 5.000 | 5.758 | 15 | 30 | |

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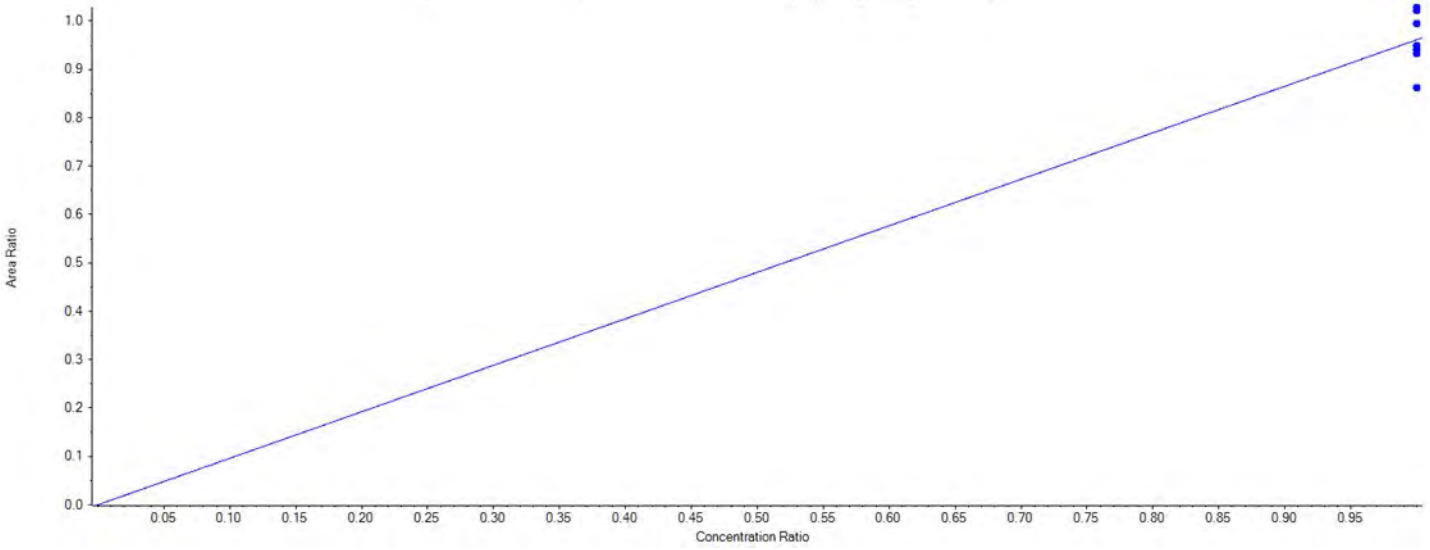
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## Ed9-NEtPFOSAE

y = 0.96134 x (std. dev. = 0.05866) (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 | 280311.6 | 281654.747 | True | 5.00 | 0.995 | 6.24 | 1.120 | 5.000 | 5.176 | 4 | 30 | |
| CAL2 | 261195.6 | 277324.192 | True | 5.00 | 0.942 | 6.25 | 1.120 | 5.000 | 4.899 | -2 | 30 | |
| CAL3 | 259792.3 | 278743.894 | True | 5.00 | 0.932 | 6.25 | 1.120 | 5.000 | 4.847 | -3 | 30 | |
| CAL4 | 259467.4 | 301327.179 | True | 5.00 | 0.861 | 6.24 | 1.120 | 5.000 | 4.479 | -10 | 30 | |
| CAL5 | 255767.7 | 269315.722 | True | 5.00 | 0.950 | 6.23 | 1.120 | 5.000 | 4.939 | -1 | 30 | |
| CAL6 | 242587.5 | 237446.928 | True | 5.00 | 1.022 | 6.25 | 1.120 | 5.000 | 5.314 | 6 | 30 | |
| CAL7 | 240346.5 | 233825.066 | True | 5.00 | 1.028 | 6.23 | 1.120 | 5.000 | 5.346 | 7 | 30 | |

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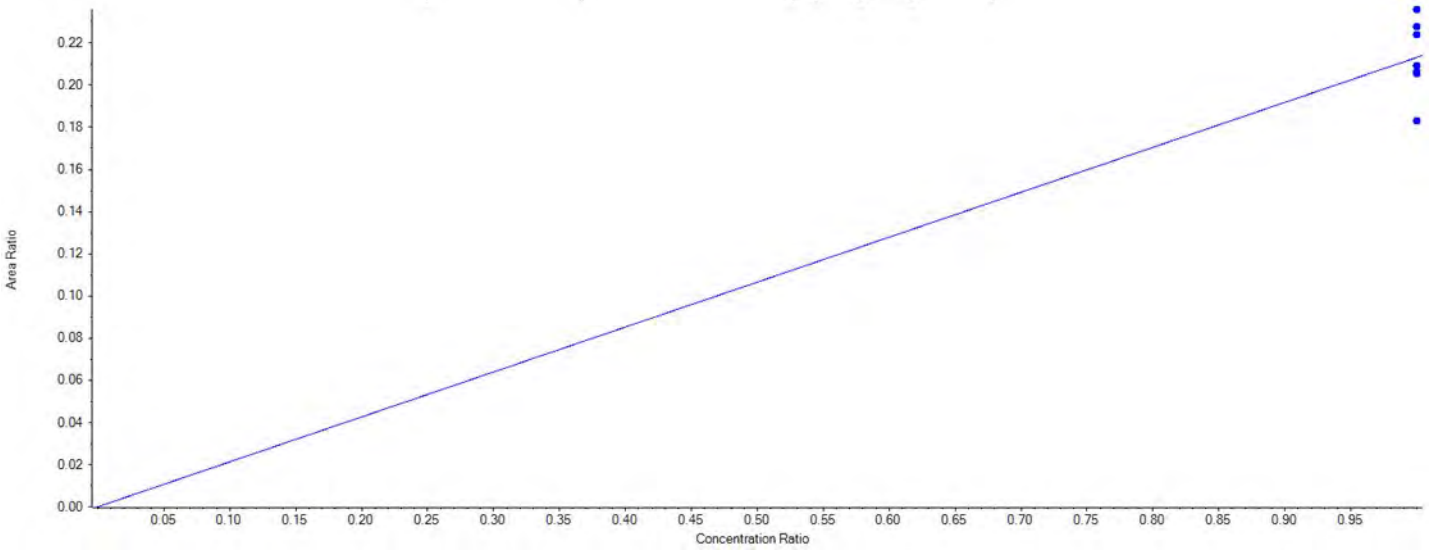
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## Ed5-NEtPFOSA

y = 0.21315 x (std. dev. = 0.01765) (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 | 63047.1 | 281654.747 | True | 5.00 | 0.224 | 6.26 | 1.130 | 5.000 | 5.251 | 5 | 30 | |
| CAL2 | 58073.5 | 277324.192 | True | 5.00 | 0.209 | 6.27 | 1.130 | 5.000 | 4.912 | -2 | 30 | |
| CAL3 | 57485.9 | 278743.894 | True | 5.00 | 0.206 | 6.27 | 1.130 | 5.000 | 4.838 | -3 | 30 | |
| CAL4 | 55177.3 | 301327.179 | True | 5.00 | 0.183 | 6.26 | 1.130 | 5.000 | 4.296 | -14 | 30 | |
| CAL5 | 55378.4 | 269315.722 | True | 5.00 | 0.206 | 6.25 | 1.130 | 5.000 | 4.824 | -4 | 30 | |
| CAL6 | 56004.0 | 237446.928 | True | 5.00 | 0.236 | 6.27 | 1.130 | 5.000 | 5.533 | 11 | 30 | |
| CAL7 | 53297.8 | 233825.066 | True | 5.00 | 0.228 | 6.25 | 1.130 | 5.000 | 5.347 | 7 | 30 | |

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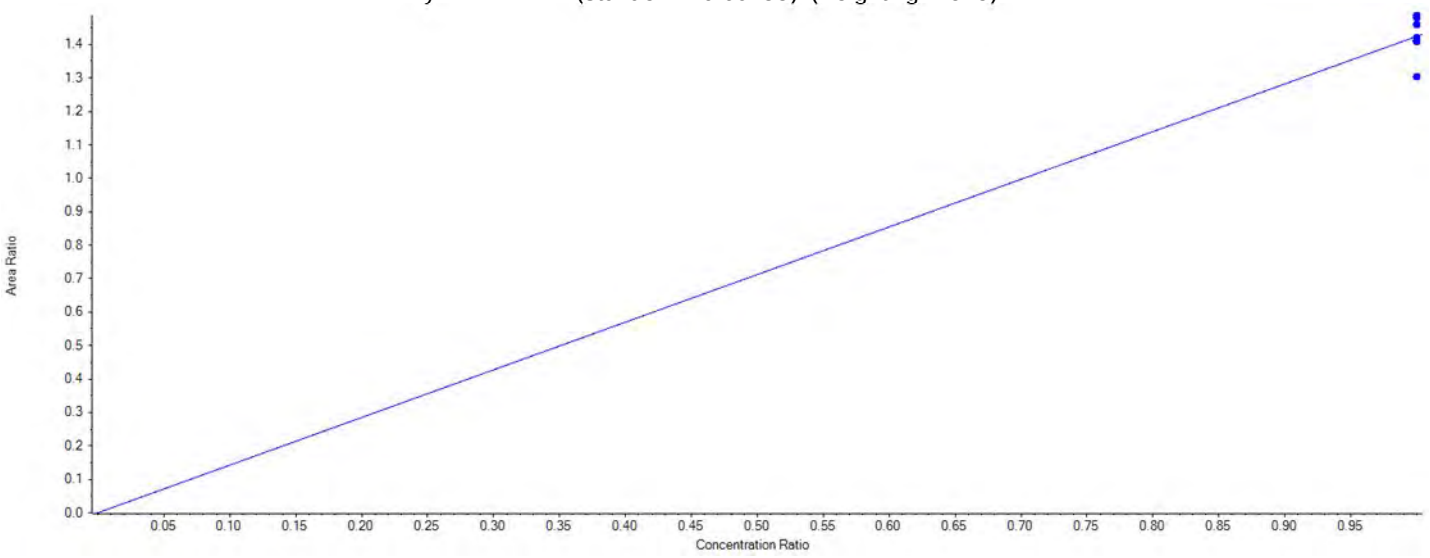
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## E13C2-PFTeDA

y = 1.42422 x (std. dev. = 0.06255) (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 | 410633.0 | 281654.747 | True | 5.00 | 1.458 | 6.43 | 1.160 | 5.000 | 5.118 | 2 | 30 | |
| CAL2 | 394146.2 | 277324.192 | True | 5.00 | 1.421 | 6.43 | 1.160 | 5.000 | 4.990 | 0 | 30 | |
| CAL3 | 393544.9 | 278743.894 | True | 5.00 | 1.412 | 6.43 | 1.160 | 5.000 | 4.957 | -1 | 30 | |
| CAL4 | 392356.6 | 301327.179 | True | 5.00 | 1.302 | 6.43 | 1.160 | 5.000 | 4.571 | -9 | 30 | |
| CAL5 | 379571.6 | 269315.722 | True | 5.00 | 1.409 | 6.42 | 1.160 | 5.000 | 4.948 | -1 | 30 | |
| CAL6 | 352892.2 | 237446.928 | True | 5.00 | 1.486 | 6.43 | 1.160 | 5.000 | 5.218 | 4 | 30 | |
| CAL7 | 346256.6 | 233825.066 | True | 5.00 | 1.481 | 6.42 | 1.160 | 5.000 | 5.199 | 4 | 30 | |

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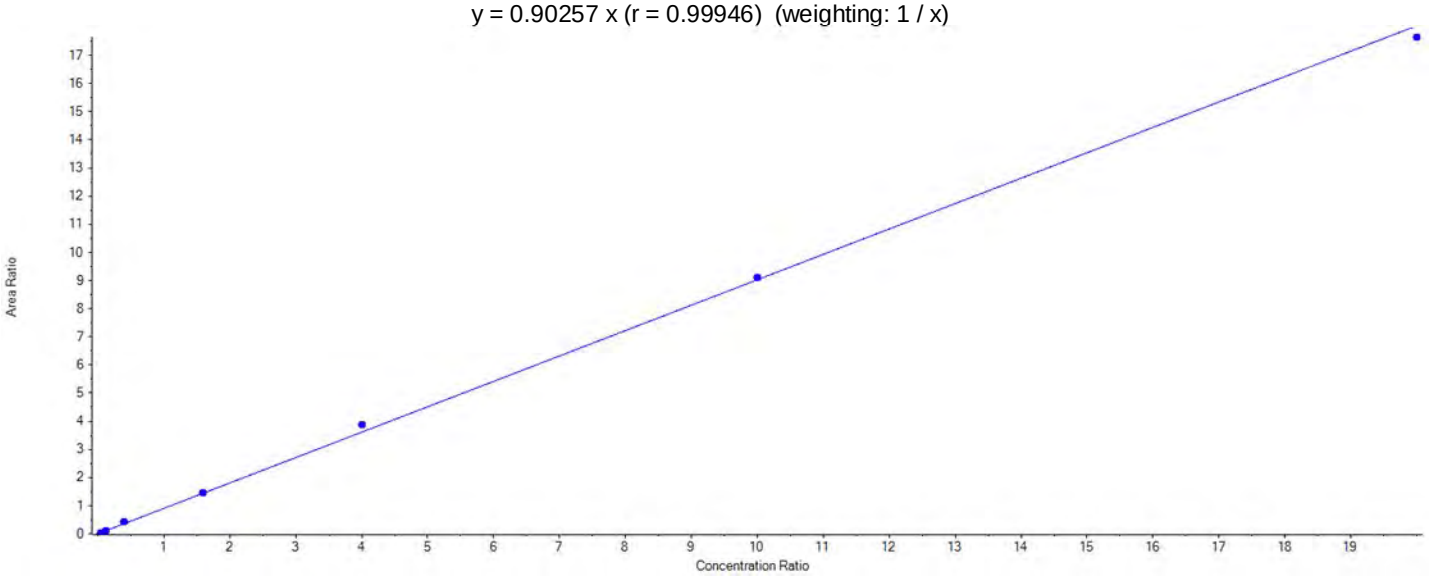
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFBA

y = 0.90257 x (r = 0.99946) (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 | 32322.9 | 189.9 | 763334.268 | True | 5.00 | 0.042 | 3.27 | 1.000 | 0.200 | 0.235 | 17 | 30 | |
| CAL2 | 80396.2 | 328.7 | 771445.801 | True | 5.00 | 0.104 | 3.27 | 1.000 | 0.600 | 0.577 | -4 | 30 | |
| CAL3 | 303228.7 | 603.0 | 733360.151 | True | 5.00 | 0.413 | 3.27 | 1.000 | 2.000 | 2.291 | 15 | 30 | |
| CAL4 | 1068414.9 | 996.7 | 726395.964 | True | 5.00 | 1.471 | 3.26 | 1.000 | 8.000 | 8.148 | 2 | 30 | |
| CAL5 | 2700090.8 | 1579.9 | 698871.915 | True | 5.00 | 3.863 | 3.26 | 1.000 | 20.000 | 21.403 | 7 | 30 | |
| CAL6 | 5765353.4 | 2132.7 | 633648.378 | True | 5.00 | 9.099 | 3.26 | 1.000 | 50.000 | 50.404 | 1 | 30 | |
| CAL7 | 9834601.7 | 2326.7 | 557392.782 | True | 5.00 | 17.644 | 3.25 | 1.000 | 100.000 | 97.743 | -2 | 30 | |

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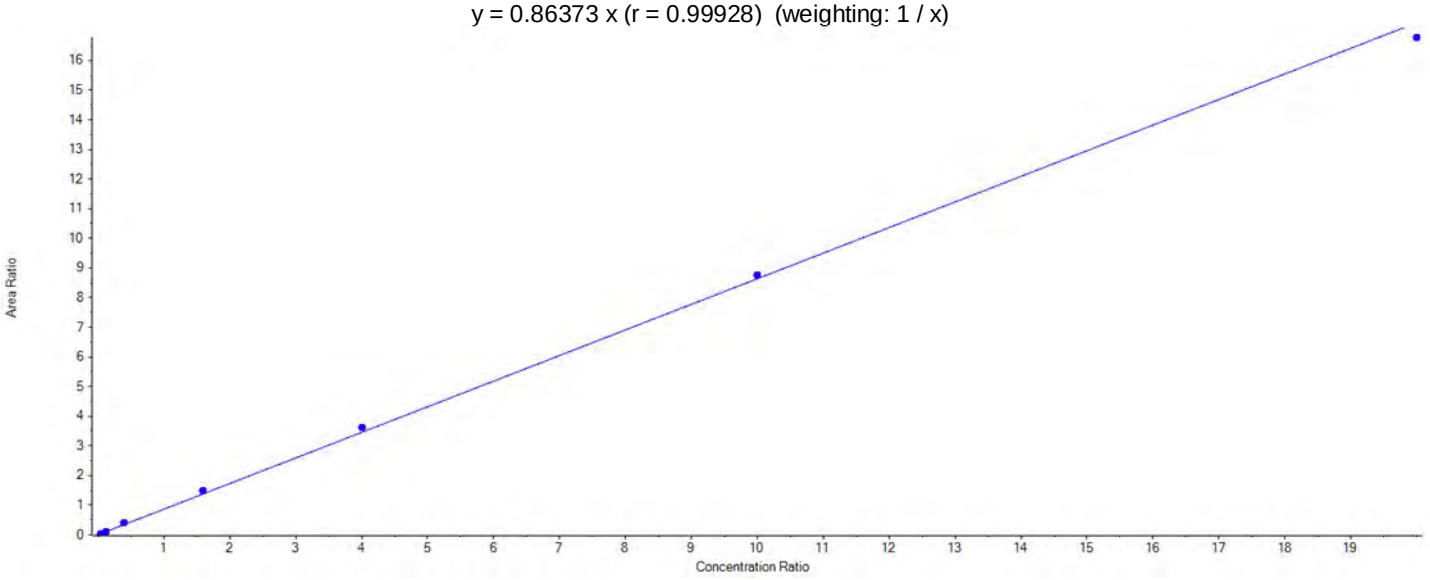
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFPeA

y = 0.86373 x (r = 0.99928) (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 | 32633.1 | 78.7 | 771179.392 | True | 5.00 | 0.042 | 3.77 | 1.000 | 0.200 | 0.245 | 22 | 30 | |
| CAL2 | 84319.4 | 153.0 | 738194.743 | True | 5.00 | 0.114 | 3.77 | 1.000 | 0.600 | 0.661 | 10 | 30 | |
| CAL3 | 292715.8 | 240.6 | 695805.672 | True | 5.00 | 0.421 | 3.77 | 1.000 | 2.000 | 2.435 | 22 | 30 | |
| CAL4 | 1075643.5 | 403.4 | 716206.931 | True | 5.00 | 1.502 | 3.76 | 1.000 | 8.000 | 8.694 | 9 | 30 | |
| CAL5 | 2660895.4 | 642.6 | 734598.250 | True | 5.00 | 3.622 | 3.76 | 1.000 | 20.000 | 20.969 | 5 | 30 | |
| CAL6 | 5570221.7 | 1016.0 | 635977.788 | True | 5.00 | 8.759 | 3.77 | 1.000 | 50.000 | 50.702 | 1 | 30 | |
| CAL7 | 9756431.5 | 1095.7 | 581688.659 | True | 5.00 | 16.773 | 3.75 | 1.000 | 100.000 | 97.094 | -3 | 30 | |

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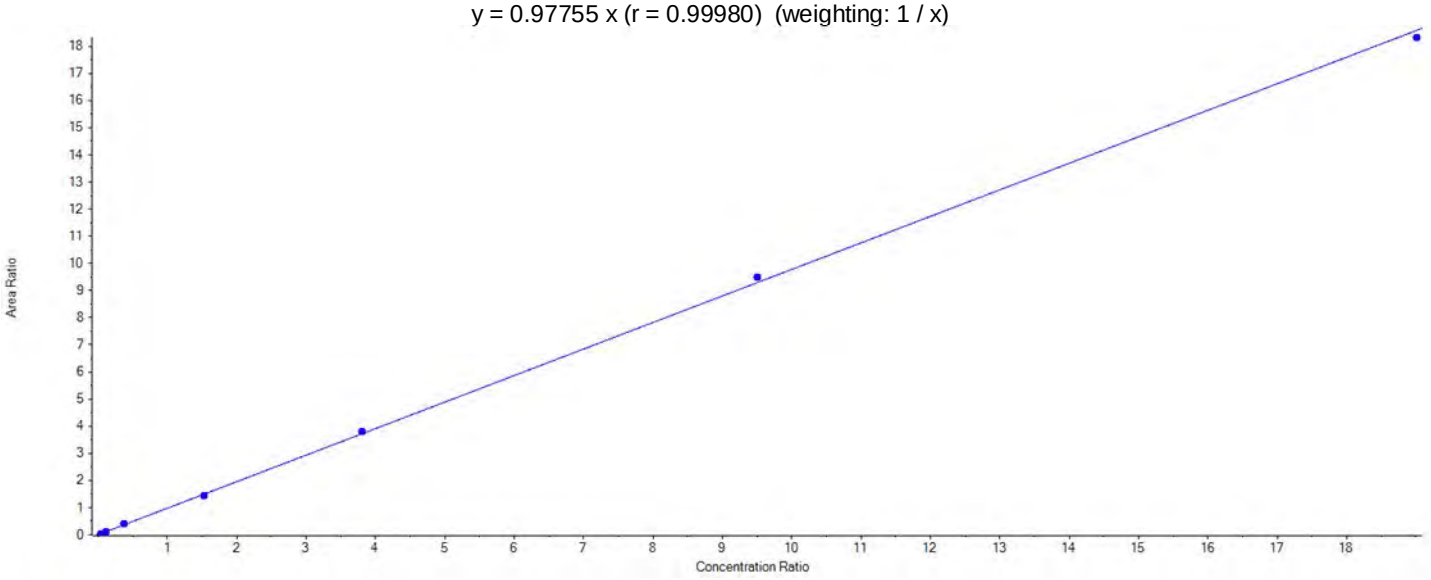
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFBS

y = 0.97755 x (r = 0.99980) (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 | 18010.0 | 456.9 | 445963.431 | True | 4.65 | 0.040 | 3.81 | 1.000 | 0.177 | 0.192 | 9 | 30 | |
| CAL2 | 44885.2 | 959.4 | 418860.683 | True | 4.65 | 0.107 | 3.82 | 1.000 | 0.531 | 0.510 | -4 | 30 | |
| CAL3 | 168144.6 | 1287.7 | 416352.746 | True | 4.65 | 0.404 | 3.82 | 1.000 | 1.770 | 1.921 | 9 | 30 | |
| CAL4 | 617045.6 | 2604.2 | 425015.723 | True | 4.65 | 1.452 | 3.81 | 1.000 | 7.080 | 6.906 | -2 | 30 | |
| CAL5 | 1630613.5 | 4013.6 | 428050.642 | True | 4.65 | 3.809 | 3.80 | 1.000 | 17.700 | 18.121 | 2 | 30 | |
| CAL6 | 3588084.1 | 4714.2 | 378676.812 | True | 4.65 | 9.475 | 3.81 | 1.000 | 44.200 | 45.072 | 2 | 30 | |
| CAL7 | 6615935.3 | 4086.7 | 361166.004 | True | 4.65 | 18.318 | 3.80 | 1.000 | 88.400 | 87.136 | -1 | 30 | |

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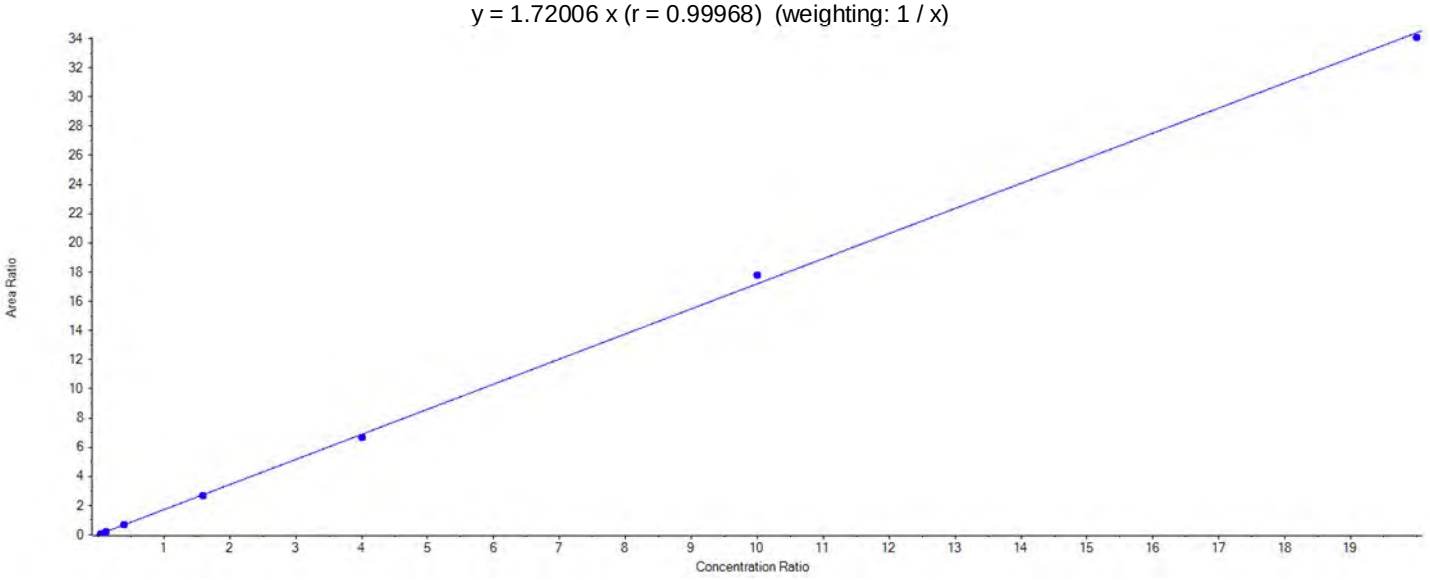
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## 4:2-FTS

y = 1.72006 x (r = 0.99968) (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 | 3636.4 | 188.8 | 51494.566 | True | 4.67 | 0.071 | 4.13 | 1.000 | 0.187 | 0.192 | 3 | 30 | |
| CAL2 | 8804.0 | 391.1 | 46141.763 | True | 4.67 | 0.191 | 4.13 | 1.000 | 0.560 | 0.518 | -7 | 30 | |
| CAL3 | 34188.5 | 932.2 | 47514.792 | True | 4.67 | 0.720 | 4.13 | 1.000 | 1.870 | 1.954 | 4 | 30 | |
| CAL4 | 126396.5 | 2063.7 | 47246.369 | True | 4.67 | 2.675 | 4.13 | 1.000 | 7.470 | 7.263 | -3 | 30 | |
| CAL5 | 344695.9 | 2546.9 | 51791.866 | True | 4.67 | 6.655 | 4.12 | 1.000 | 18.700 | 18.070 | -3 | 30 | |
| CAL6 | 738293.9 | 3115.2 | 41422.166 | True | 4.67 | 17.824 | 4.13 | 1.000 | 46.700 | 48.392 | 4 | 30 | |
| CAL7 | 1379983.9 | 3342.5 | 40505.086 | True | 4.67 | 34.069 | 4.11 | 1.000 | 93.400 | 92.499 | -1 | 30 | |

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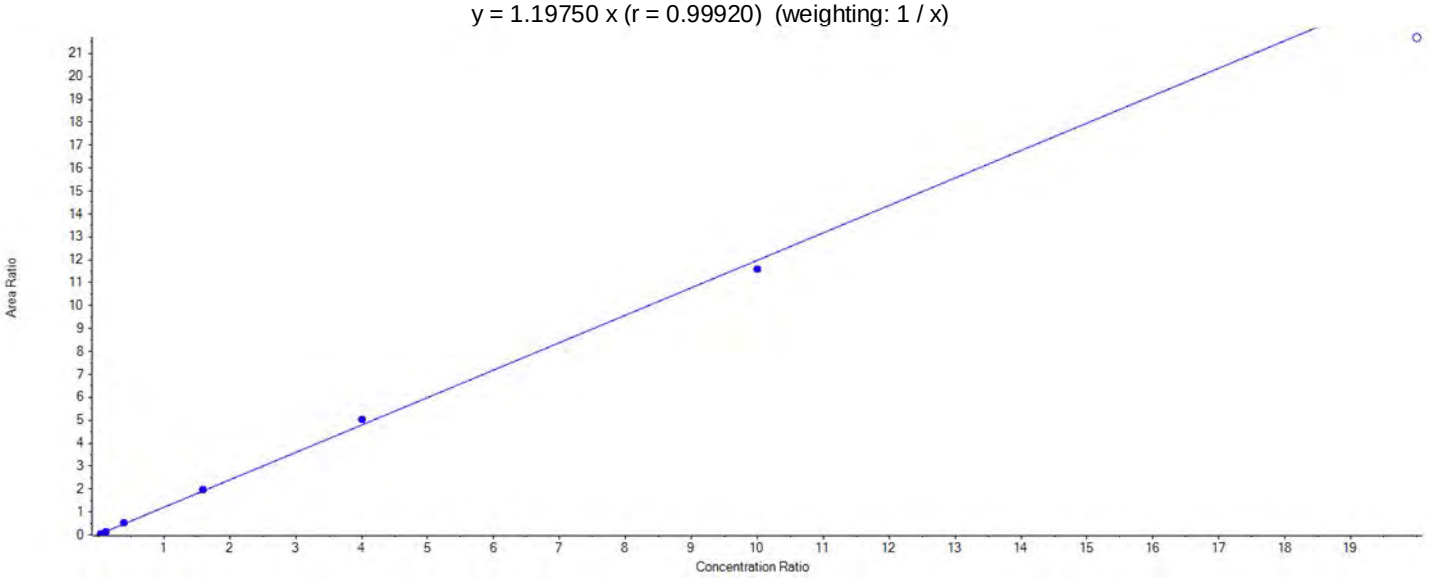
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFHxA

y = 1.19750 x (r = 0.99920) (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 | 39108.2 | 254.9 | 664975.876 | True | 5.00 | 0.059 | 4.16 | 1.000 | 0.200 | 0.246 | 23 | 30 | |
| CAL2 | 96559.3 | 367.8 | 648170.061 | True | 5.00 | 0.149 | 4.16 | 1.000 | 0.600 | 0.622 | 4 | 30 | |
| CAL3 | 352013.5 | 713.4 | 646783.501 | True | 5.00 | 0.544 | 4.17 | 1.000 | 2.000 | 2.272 | 14 | 30 | |
| CAL4 | 1265231.1 | 1181.4 | 641195.847 | True | 5.00 | 1.973 | 4.16 | 1.000 | 8.000 | 8.239 | 3 | 30 | |
| CAL5 | 3158486.4 | 1640.8 | 628952.790 | True | 5.00 | 5.022 | 4.15 | 1.000 | 20.000 | 20.968 | 5 | 30 | |
| CAL6 | 6593779.0 | 2095.1 | 568205.817 | True | 5.00 | 11.605 | 4.16 | 1.000 | 50.000 | 48.453 | -3 | 30 | |
| CAL7 | 11059420.3 | 2611.8 | 509807.950 | False | 5.00 | 21.693 | 4.15 | 1.000 | 100.000 | 90.577 | -9 | 30 | |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



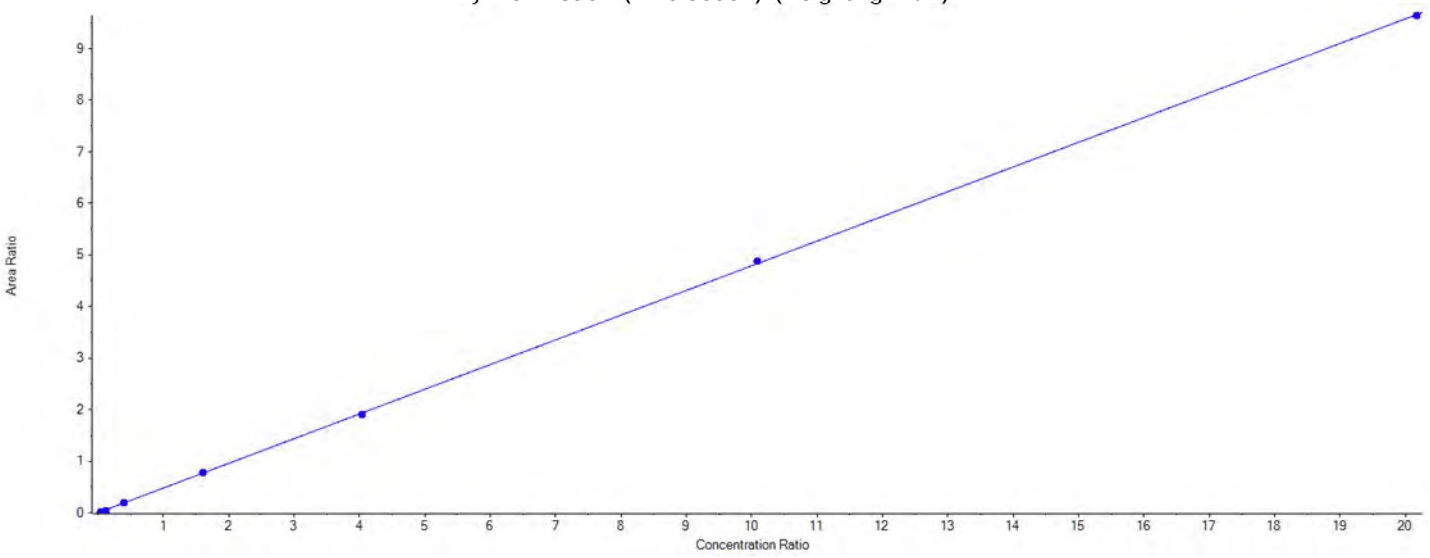
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFPeS

y = 0.47896 x (r = 0.99991) (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 | 9620.1 | 321.5 | 445963.431 | True | 4.65 | 0.022 | 4.18 | 1.100 | 0.188 | 0.209 | 11 | 30 | |
| CAL2 | 20295.0 | 611.8 | 418860.683 | True | 4.65 | 0.048 | 4.19 | 1.100 | 0.563 | 0.470 | -16 | 30 | |
| CAL3 | 84071.2 | 1175.2 | 416352.746 | True | 4.65 | 0.202 | 4.19 | 1.100 | 1.880 | 1.960 | 4 | 30 | |
| CAL4 | 328681.7 | 3455.2 | 425015.723 | True | 4.65 | 0.773 | 4.18 | 1.100 | 7.500 | 7.508 | 0 | 30 | |
| CAL5 | 815928.2 | 2443.7 | 428050.642 | True | 4.65 | 1.906 | 4.17 | 1.100 | 18.800 | 18.506 | -2 | 30 | |
| CAL6 | 1847826.8 | 3263.9 | 378676.812 | True | 4.65 | 4.880 | 4.18 | 1.100 | 46.900 | 47.375 | 1 | 30 | |
| CAL7 | 3482095.9 | 4201.9 | 361166.004 | True | 4.65 | 9.641 | 4.17 | 1.100 | 93.800 | 93.602 | 0 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



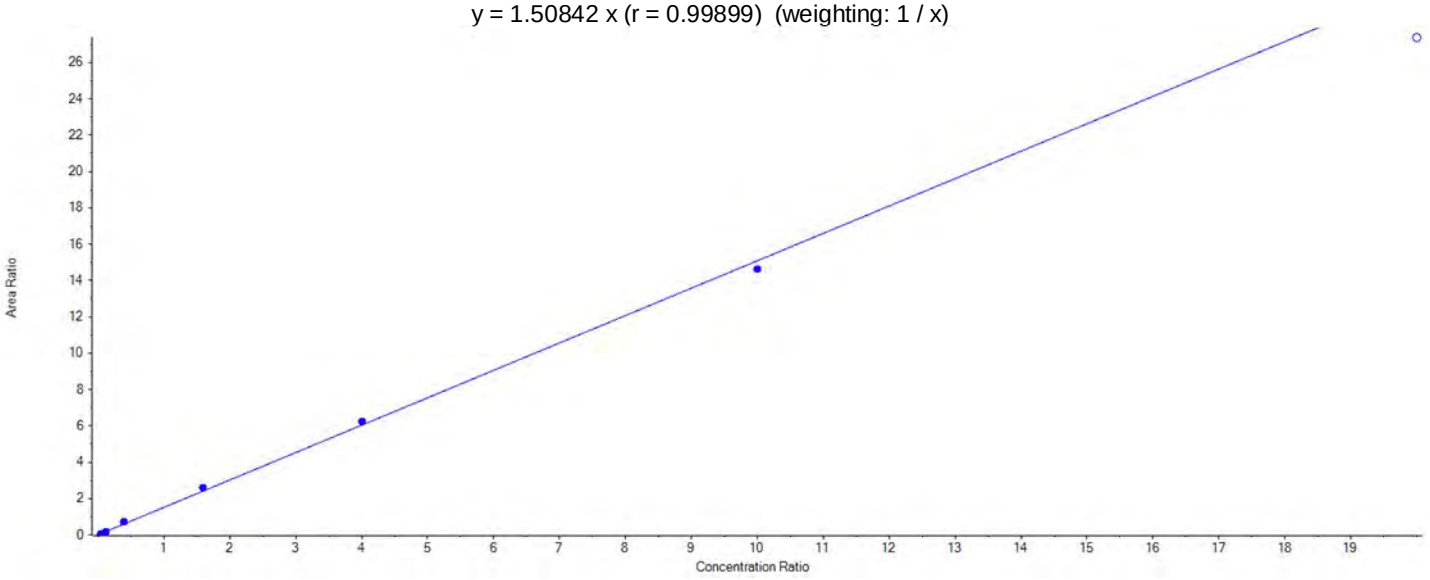
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFHpA

y = 1.50842 x (r = 0.99899) (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 | 37545.4 | 111.6 | 528473.493 | True | 5.00 | 0.071 | 4.55 | 1.000 | 0.200 | 0.235 | 18 | 30 | |
| CAL2 | 95048.3 | 255.2 | 532987.486 | True | 5.00 | 0.178 | 4.55 | 1.000 | 0.600 | 0.591 | -1 | 30 | |
| CAL3 | 355834.2 | 621.3 | 503681.029 | True | 5.00 | 0.706 | 4.56 | 1.000 | 2.000 | 2.342 | 17 | 30 | |
| CAL4 | 1318774.5 | 846.6 | 509151.776 | True | 5.00 | 2.590 | 4.55 | 1.000 | 8.000 | 8.586 | 7 | 30 | |
| CAL5 | 3269561.0 | 1266.8 | 525802.046 | True | 5.00 | 6.218 | 4.54 | 1.000 | 20.000 | 20.612 | 3 | 30 | |
| CAL6 | 6648455.3 | 1607.4 | 455005.812 | True | 5.00 | 14.612 | 4.55 | 1.000 | 50.000 | 48.434 | -3 | 30 | |
| CAL7 | 10981922.8 | 1824.2 | 401203.881 | False | 5.00 | 27.372 | 4.54 | 1.000 | 100.000 | 90.732 | -9 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



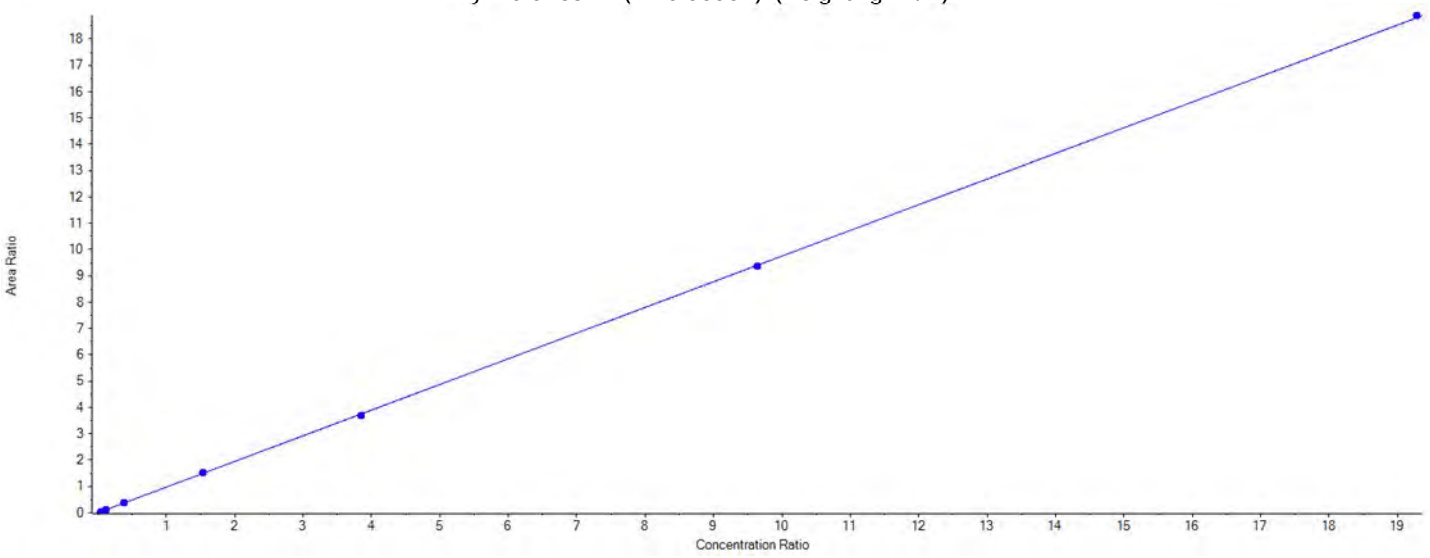
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFHxS

y = 0.97552 x (r = 0.99992) (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 | 12858.1 | 420.7 | 327944.533 | True | 4.73 | 0.039 | 4.55 | 1.000 | 0.182 | 0.190 | 4 | 30 | |
| CAL2 | 31064.7 | 21916.1 | 320400.366 | True | 4.73 | 0.097 | 4.56 | 1.000 | 0.547 | 0.470 | -14 | 30 | |
| CAL3 | 125622.0 | 1397.4 | 317243.200 | True | 4.73 | 0.396 | 4.56 | 1.000 | 1.820 | 1.920 | 5 | 30 | |
| CAL4 | 479291.0 | 1690.0 | 315722.635 | True | 4.73 | 1.518 | 4.55 | 1.000 | 7.300 | 7.361 | 1 | 30 | |
| CAL5 | 1138604.3 | 1511.8 | 309304.485 | True | 4.73 | 3.681 | 4.54 | 1.000 | 18.200 | 17.849 | -2 | 30 | |
| CAL6 | 2662852.0 | 1747.2 | 284116.506 | True | 4.73 | 9.372 | 4.55 | 1.000 | 45.600 | 45.444 | 0 | 30 | |
| CAL7 | 5048349.8 | 1449.1 | 267182.785 | True | 4.73 | 18.895 | 4.54 | 1.000 | 91.200 | 91.615 | 0 | 30 | |

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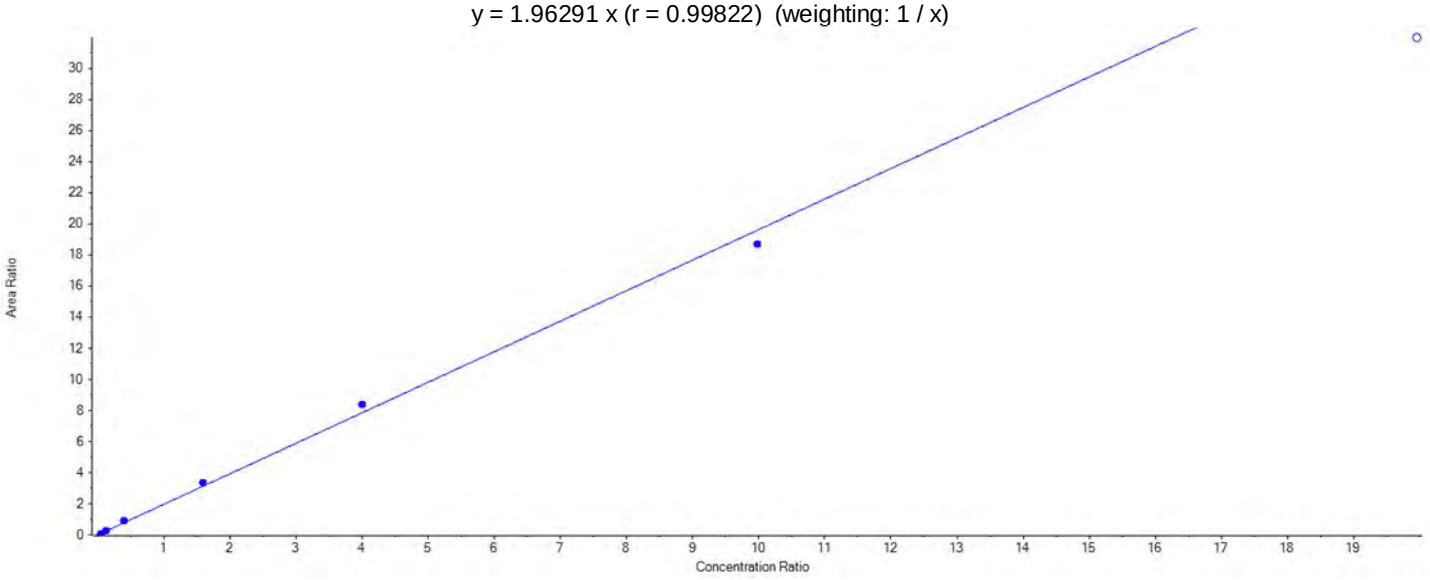
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## 6:2-FTS

y = 1.96291 x (r = 0.99822) (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 | 2683.1 | 289.4 | 35455.215 | True | 4.75 | 0.076 | 4.90 | 1.000 | 0.190 | 0.183 | -4 | 30 | |
| CAL2 | 8048.4 | 680.8 | 35585.691 | True | 4.75 | 0.226 | 4.91 | 1.000 | 0.569 | 0.547 | -4 | 30 | |
| CAL3 | 28084.9 | 4492.0 | 31706.424 | True | 4.75 | 0.886 | 4.91 | 1.000 | 1.900 | 2.143 | 13 | 30 | |
| CAL4 | 107470.6 | 1876.3 | 31883.281 | True | 4.75 | 3.371 | 4.91 | 1.000 | 7.580 | 8.157 | 8 | 30 | |
| CAL5 | 260254.3 | 2335.4 | 31012.005 | True | 4.75 | 8.392 | 4.90 | 1.000 | 19.000 | 20.308 | 7 | 30 | |
| CAL6 | 523949.5 | 2243.2 | 27988.493 | True | 4.75 | 18.720 | 4.91 | 1.000 | 47.400 | 45.301 | -4 | 30 | |
| CAL7 | 869227.2 | 3021.8 | 27180.238 | False | 4.75 | 31.980 | 4.89 | 1.000 | 94.800 | 77.388 | -18 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



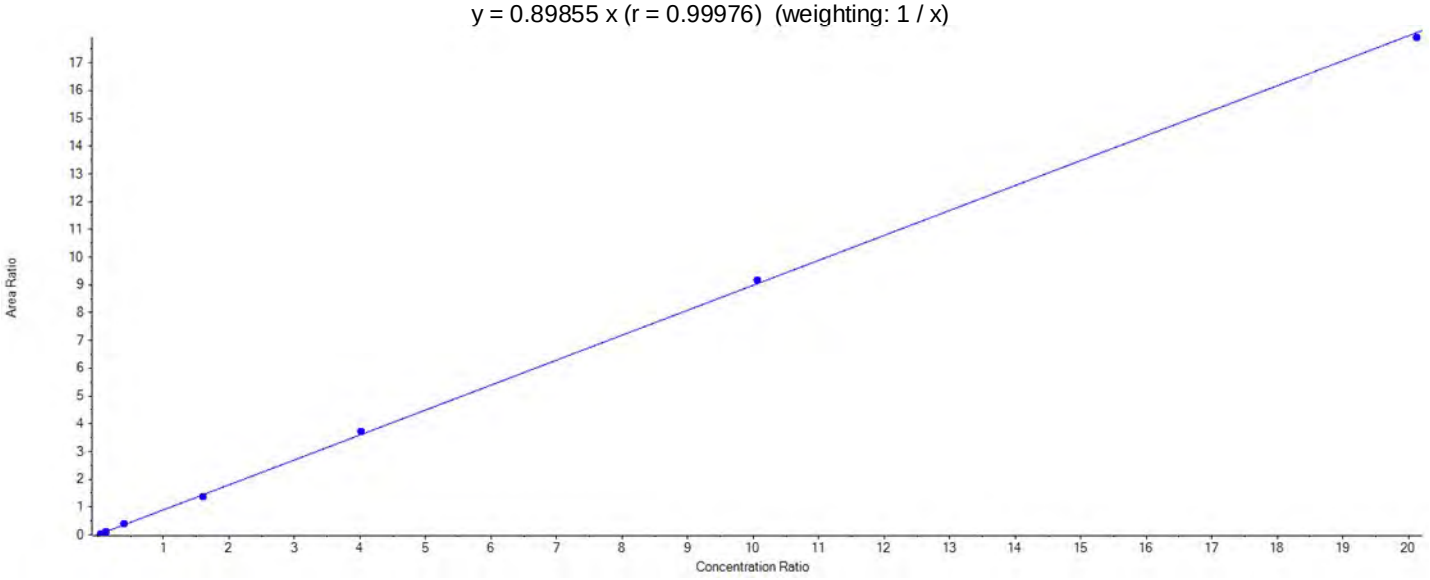
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFHpS

y = 0.89855 x (r = 0.99976) (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 | 13262.8 | 924.7 | 327944.533 | True | 4.73 | 0.040 | 4.91 | 1.080 | 0.190 | 0.213 | 12 | 30 | |
| CAL2 | 29902.3 | 1651.5 | 320400.366 | True | 4.73 | 0.093 | 4.92 | 1.080 | 0.571 | 0.491 | -14 | 30 | |
| CAL3 | 125907.9 | 2910.0 | 317243.200 | True | 4.73 | 0.397 | 4.92 | 1.080 | 1.900 | 2.089 | 10 | 30 | |
| CAL4 | 434949.2 | 2606.3 | 315722.635 | True | 4.73 | 1.378 | 4.91 | 1.080 | 7.610 | 7.252 | -5 | 30 | |
| CAL5 | 1145559.8 | 3668.3 | 309304.485 | True | 4.73 | 3.704 | 4.90 | 1.080 | 19.000 | 19.496 | 3 | 30 | |
| CAL6 | 2604868.6 | 3378.5 | 284116.506 | True | 4.73 | 9.168 | 4.91 | 1.080 | 47.600 | 48.262 | 1 | 30 | |
| CAL7 | 4784682.8 | 2777.4 | 267182.785 | True | 4.73 | 17.908 | 4.90 | 1.080 | 95.200 | 94.267 | -1 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



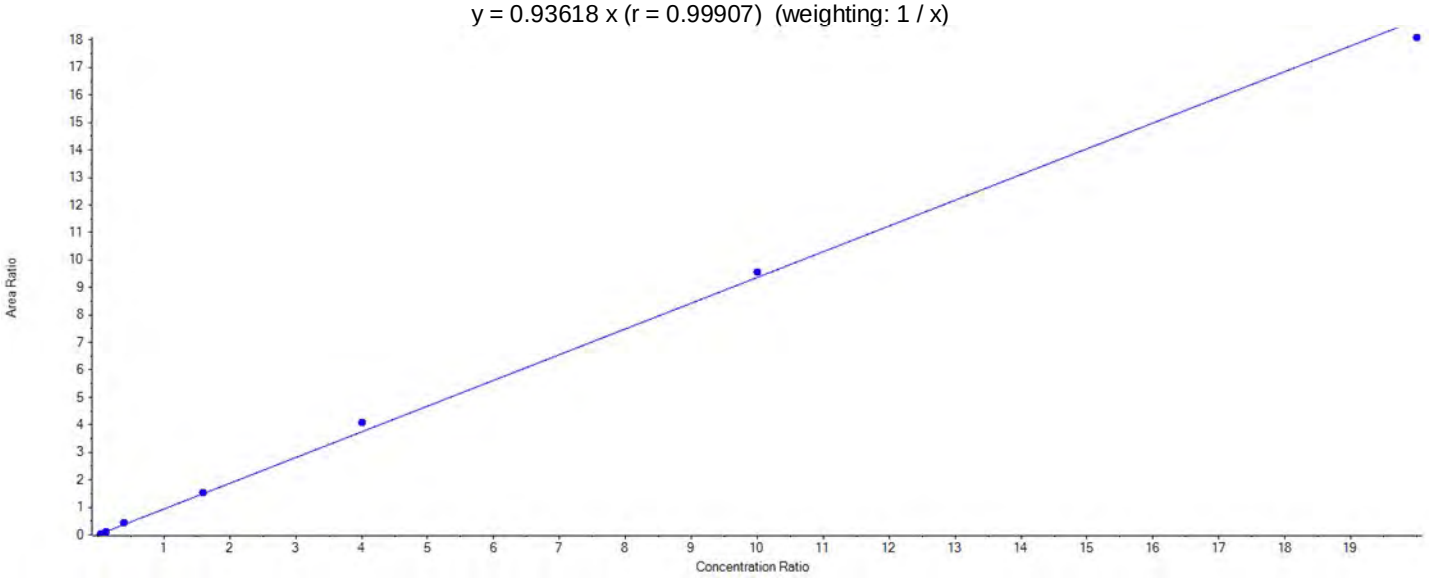
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFOA

y = 0.93618 x (r = 0.99907) (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 | 41468.0 | 187.1 | 912537.715 | True | 5.00 | 0.045 | 4.92 | 1.000 | 0.200 | 0.243 | 21 | 30 | |
| CAL2 | 100710.5 | 331.7 | 892584.211 | True | 5.00 | 0.113 | 4.93 | 1.000 | 0.600 | 0.603 | 0 | 30 | |
| CAL3 | 372258.9 | 744.4 | 878868.476 | True | 5.00 | 0.424 | 4.93 | 1.000 | 2.000 | 2.262 | 13 | 30 | |
| CAL4 | 1327086.1 | 1187.5 | 863597.255 | True | 5.00 | 1.537 | 4.92 | 1.000 | 8.000 | 8.207 | 3 | 30 | |
| CAL5 | 3291549.4 | 1816.2 | 805288.723 | True | 5.00 | 4.087 | 4.91 | 1.000 | 20.000 | 21.830 | 9 | 30 | |
| CAL6 | 6758642.8 | 2708.4 | 707130.314 | True | 5.00 | 9.558 | 4.92 | 1.000 | 50.000 | 51.047 | 2 | 30 | |
| CAL7 | 10991740.1 | 2902.7 | 607669.526 | True | 5.00 | 18.088 | 4.91 | 1.000 | 100.000 | 96.608 | -3 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



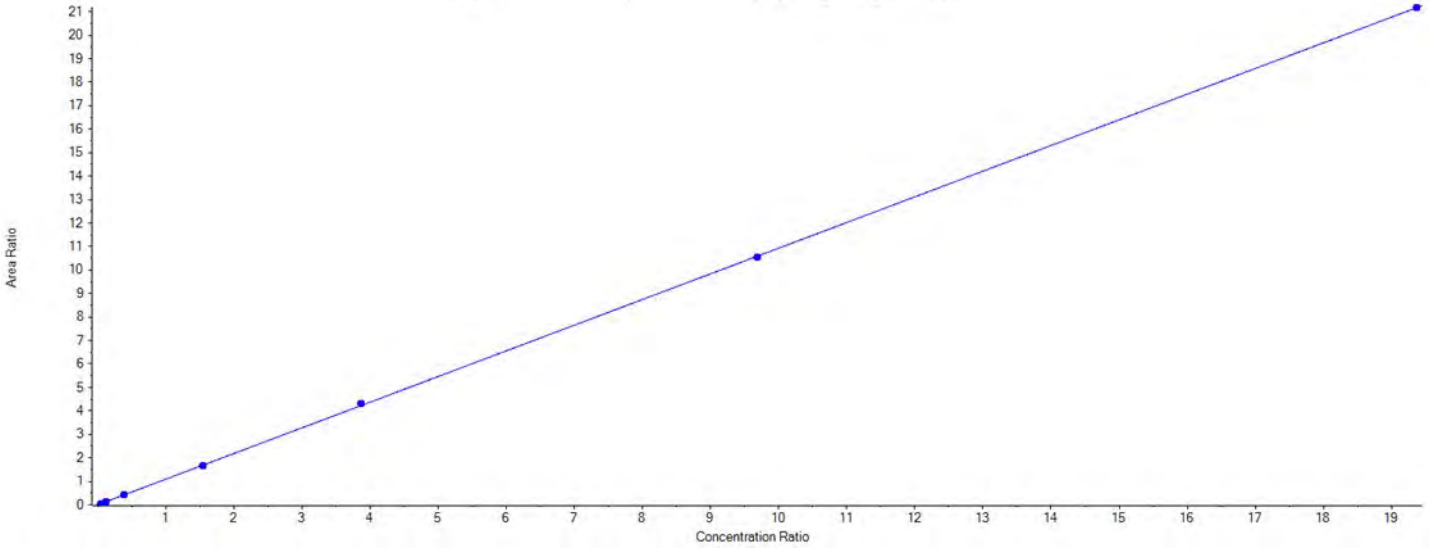
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFOS

y = 1.09305 x (r = 0.99997) (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 | 13088.5 | 581.9 | 283127.433 | True | 4.78 | 0.046 | 5.25 | 1.000 | 0.185 | 0.202 | 9 | 30 | |
| CAL2 | 32301.0 | 342.7 | 271778.843 | True | 4.78 | 0.119 | 5.25 | 1.000 | 0.555 | 0.520 | -6 | 30 | |
| CAL3 | 120897.4 | 739.8 | 281035.504 | True | 4.78 | 0.430 | 5.25 | 1.000 | 1.850 | 1.881 | 2 | 30 | |
| CAL4 | 448833.8 | 1353.6 | 267380.807 | True | 4.78 | 1.679 | 5.25 | 1.000 | 7.400 | 7.341 | -1 | 30 | |
| CAL5 | 1147826.8 | 1190.7 | 267157.611 | True | 4.78 | 4.296 | 5.24 | 1.000 | 18.500 | 18.789 | 2 | 30 | |
| CAL6 | 2664957.2 | 1191.1 | 253129.162 | True | 4.78 | 10.528 | 5.25 | 1.000 | 46.300 | 46.040 | -1 | 30 | |
| CAL7 | 5138367.0 | 1123.0 | 242617.529 | True | 4.78 | 21.179 | 5.24 | 1.000 | 92.600 | 92.617 | 0 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



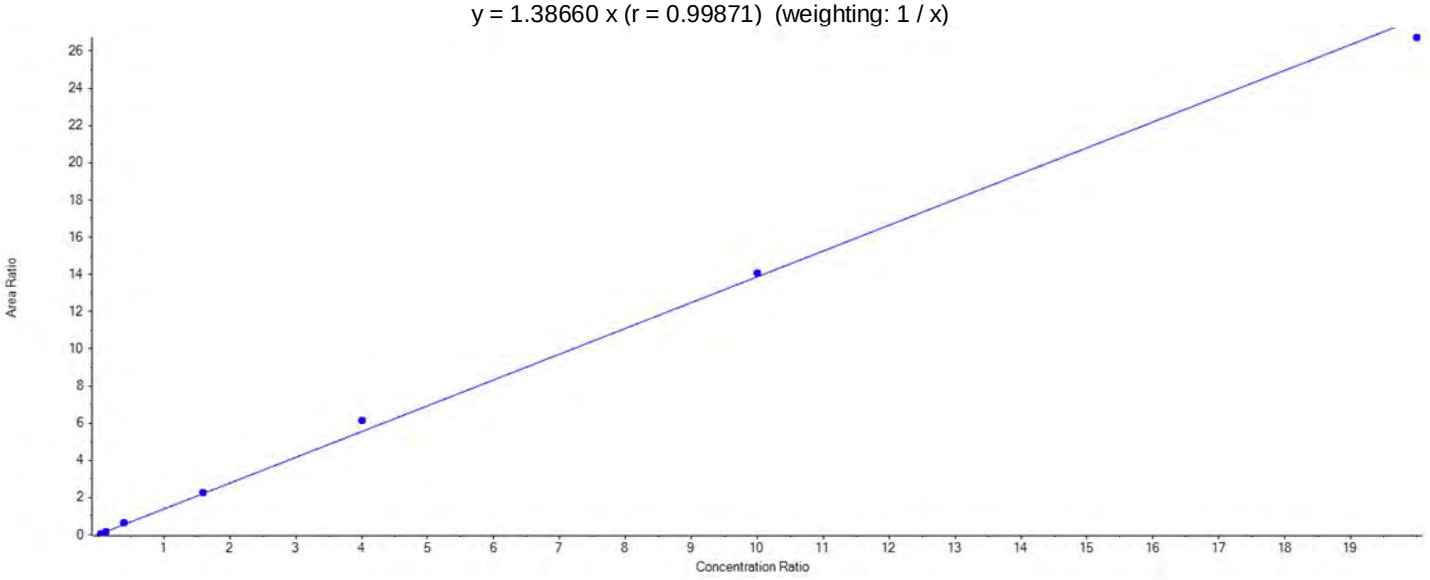
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFNA

y = 1.38660 x (r = 0.99871) (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 | 29660.1 | 270.7 | 479931.430 | True | 5.00 | 0.062 | 5.26 | 1.000 | 0.200 | 0.223 | 11 | 30 | |
| CAL2 | 80724.2 | 537.0 | 451850.144 | True | 5.00 | 0.179 | 5.27 | 1.000 | 0.600 | 0.644 | 7 | 30 | |
| CAL3 | 302323.8 | 1252.4 | 455948.853 | True | 5.00 | 0.663 | 5.27 | 1.000 | 2.000 | 2.391 | 20 | 30 | |
| CAL4 | 1106664.2 | 1697.5 | 485570.409 | True | 5.00 | 2.279 | 5.26 | 1.000 | 8.000 | 8.218 | 3 | 30 | |
| CAL5 | 2725089.7 | 2530.1 | 441776.750 | True | 5.00 | 6.168 | 5.26 | 1.000 | 20.000 | 22.243 | 11 | 30 | |
| CAL6 | 5820576.6 | 3024.4 | 413811.345 | True | 5.00 | 14.066 | 5.27 | 1.000 | 50.000 | 50.720 | 1 | 30 | |
| CAL7 | 10084288.3 | 3917.9 | 377369.763 | True | 5.00 | 26.723 | 5.25 | 1.000 | 100.000 | 96.360 | -4 | 30 | |

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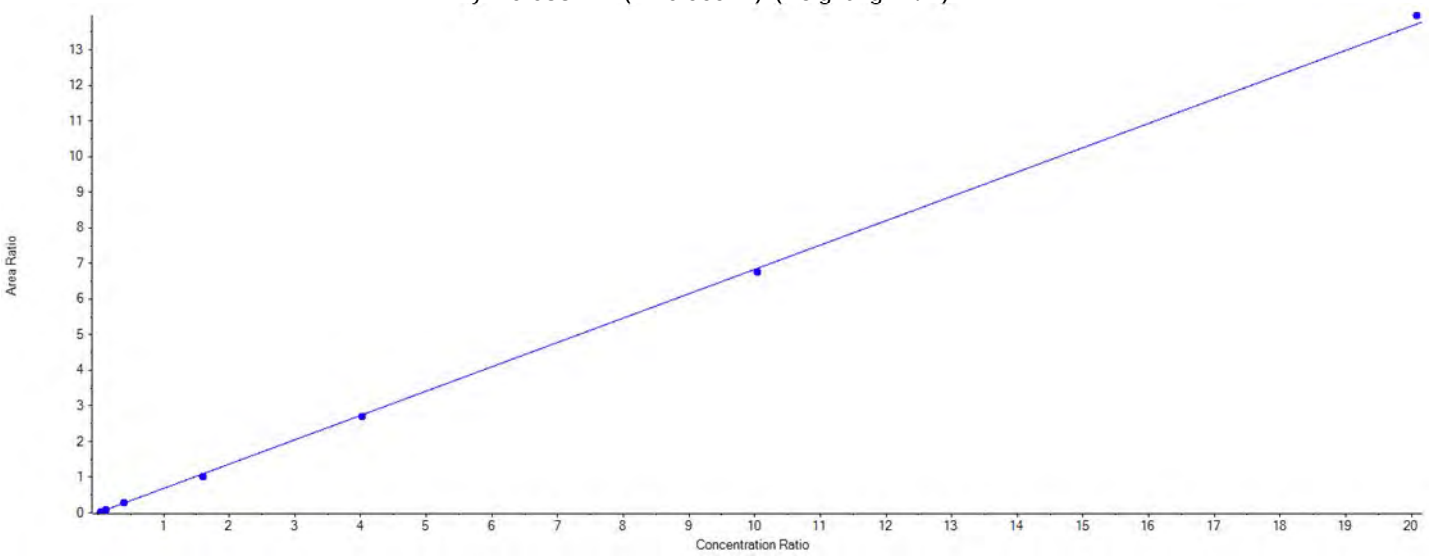
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFNS

y = 0.68322 x (r = 0.99974) (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 | 6846.6 | 64175.9 | 283127.433 | True | 4.78 | 0.024 | 5.54 | 1.060 | 0.192 | 0.169 | -12 | 30 | |
| CAL2 | 20326.1 | 1643.1 | 271778.843 | True | 4.78 | 0.075 | 5.55 | 1.060 | 0.576 | 0.523 | -9 | 30 | |
| CAL3 | 76049.0 | 306613.9 | 281035.504 | True | 4.78 | 0.271 | 5.55 | 1.060 | 1.920 | 1.893 | -1 | 30 | |
| CAL4 | 269712.3 | 3708.3 | 267380.807 | True | 4.78 | 1.009 | 5.54 | 1.060 | 7.680 | 7.057 | -8 | 30 | |
| CAL5 | 725402.0 | 3853.5 | 267157.611 | True | 4.78 | 2.715 | 5.53 | 1.060 | 19.200 | 18.997 | -1 | 30 | |
| CAL6 | 1709959.4 | 3115.5 | 253129.162 | True | 4.78 | 6.755 | 5.55 | 1.060 | 48.000 | 47.262 | -2 | 30 | |
| CAL7 | 3386860.5 | 3789.1 | 242617.529 | True | 4.78 | 13.960 | 5.53 | 1.060 | 96.000 | 97.666 | 2 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



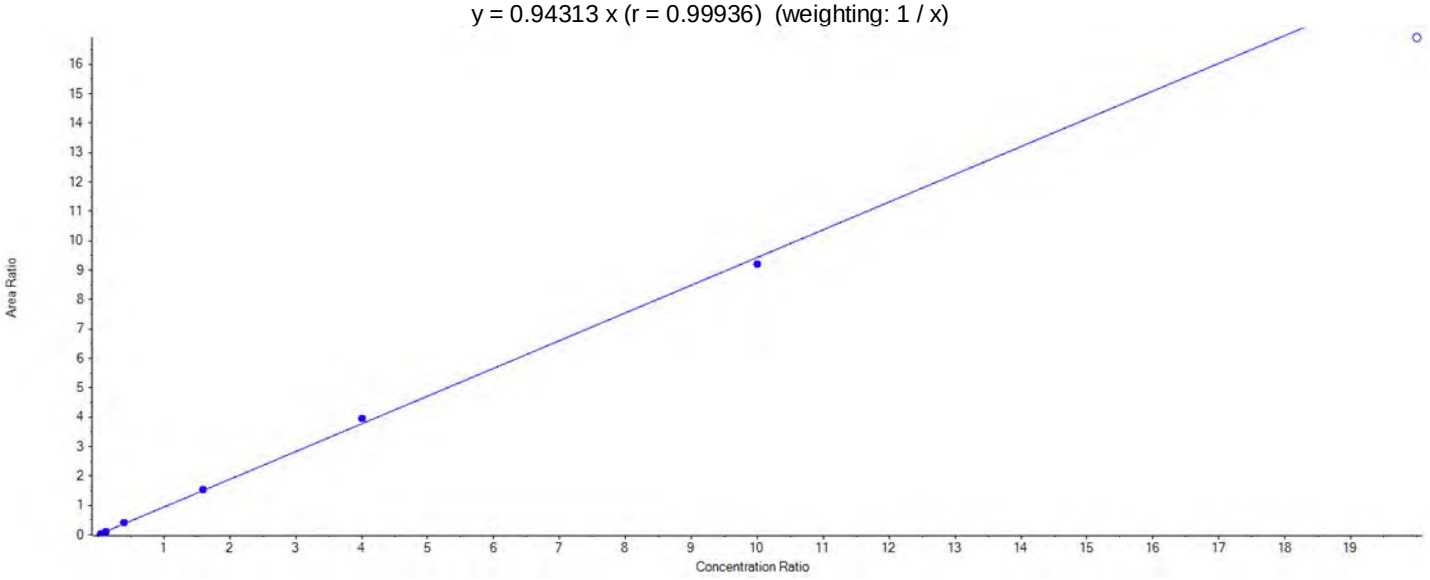
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFDA

y = 0.94313 x (r = 0.99936) (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 | 27488.5 | 91.3 | 612577.429 | True | 5.00 | 0.045 | 5.56 | 1.000 | 0.200 | 0.238 | 19 | 30 | |
| CAL2 | 63802.1 | 156.0 | 601859.800 | True | 5.00 | 0.106 | 5.57 | 1.000 | 0.600 | 0.562 | -6 | 30 | |
| CAL3 | 254047.8 | 380.5 | 612680.786 | True | 5.00 | 0.415 | 5.57 | 1.000 | 2.000 | 2.198 | 10 | 30 | |
| CAL4 | 941985.3 | 720.2 | 612056.466 | True | 5.00 | 1.539 | 5.56 | 1.000 | 8.000 | 8.159 | 2 | 30 | |
| CAL5 | 2309359.5 | 1113.9 | 585231.231 | True | 5.00 | 3.946 | 5.56 | 1.000 | 20.000 | 20.920 | 5 | 30 | |
| CAL6 | 4802967.8 | 1415.3 | 522613.810 | True | 5.00 | 9.190 | 5.57 | 1.000 | 50.000 | 48.722 | -3 | 30 | |
| CAL7 | 8104726.6 | 2024.7 | 479333.064 | False | 5.00 | 16.908 | 5.55 | 1.000 | 100.000 | 89.640 | -10 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



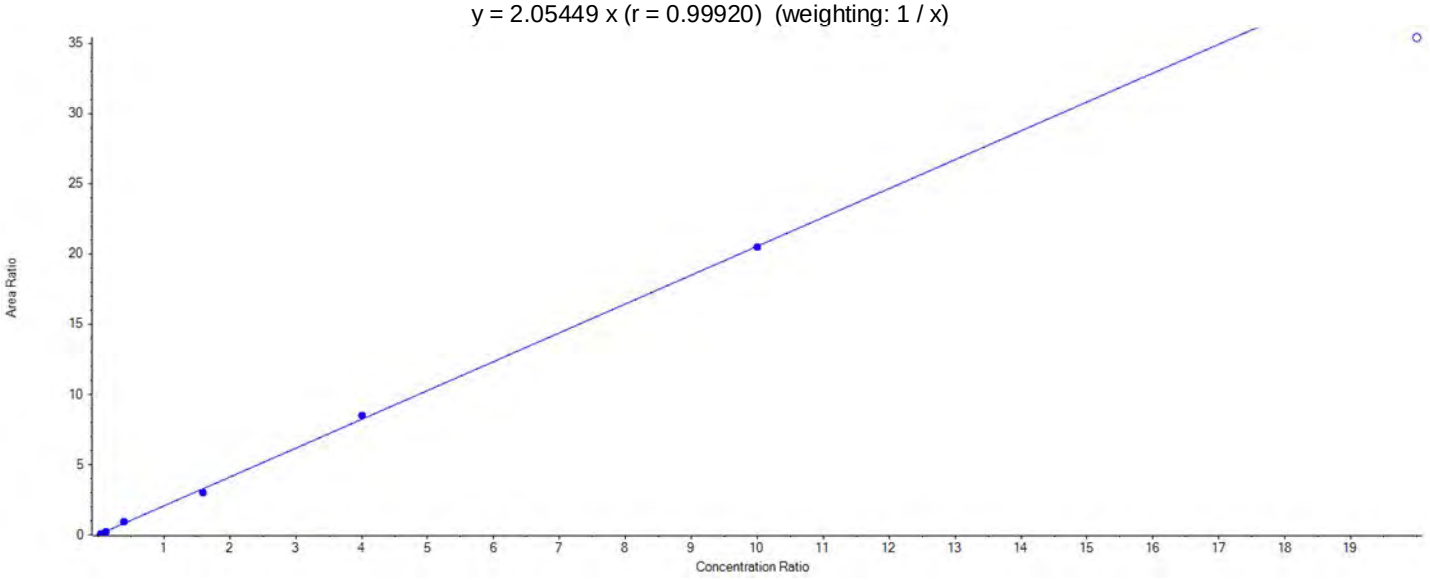
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## 8:2-FTS

y = 2.05449 x (r = 0.99920) (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 | 2333.1 | 294799.1 | 26445.481 | True | 4.79 | 0.088 | 5.57 | 1.000 | 0.192 | 0.206 | 7 | 30 | |
| CAL2 | 6214.2 | 6270.0 | 27639.188 | True | 4.79 | 0.225 | 5.57 | 1.000 | 0.575 | 0.524 | -9 | 30 | |
| CAL3 | 26295.1 | 17693.1 | 29249.839 | True | 4.79 | 0.899 | 5.57 | 1.000 | 1.920 | 2.096 | 9 | 30 | |
| CAL4 | 80922.6 | 6228.9 | 27253.461 | True | 4.79 | 2.969 | 5.57 | 1.000 | 7.660 | 6.923 | -10 | 30 | |
| CAL5 | 206213.1 | 2630.2 | 24192.138 | True | 4.79 | 8.524 | 5.56 | 1.000 | 19.200 | 19.873 | 4 | 30 | |
| CAL6 | 469719.6 | 3836.0 | 22899.000 | True | 4.79 | 20.513 | 5.57 | 1.000 | 47.900 | 47.825 | 0 | 30 | |
| CAL7 | 804019.5 | 2307.7 | 22710.952 | False | 4.79 | 35.402 | 5.56 | 1.000 | 95.800 | 82.540 | -14 | 30 | |

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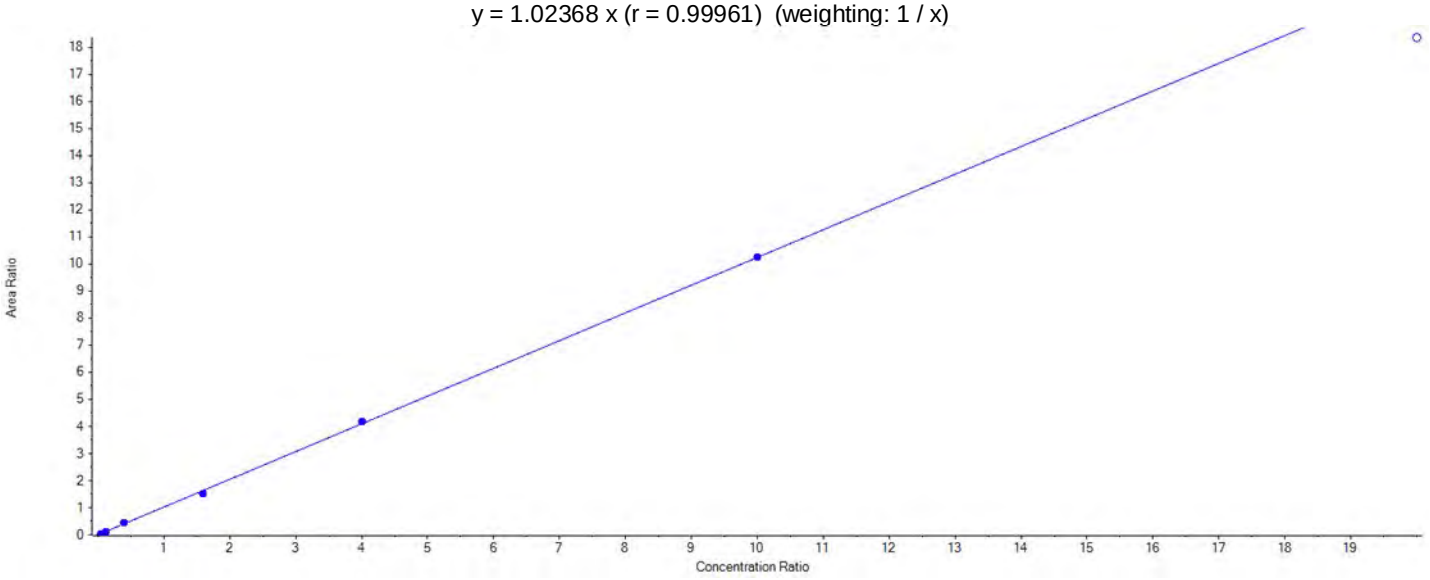
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFOSA

y = 1.02368 x (r = 0.99961) (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 | 29582.8 | 441.0 | 664489.930 | True | 5.00 | 0.045 | 5.64 | 1.000 | 0.200 | 0.217 | 9 | 30 | |
| CAL2 | 71087.0 | 726.6 | 636543.149 | True | 5.00 | 0.112 | 5.65 | 1.000 | 0.600 | 0.545 | -9 | 30 | |
| CAL3 | 270175.4 | 1379.9 | 629109.871 | True | 5.00 | 0.429 | 5.65 | 1.000 | 2.000 | 2.098 | 5 | 30 | |
| CAL4 | 927660.4 | 2034.5 | 607762.027 | True | 5.00 | 1.526 | 5.64 | 1.000 | 8.000 | 7.455 | -7 | 30 | |
| CAL5 | 2498877.9 | 2082.0 | 596544.134 | True | 5.00 | 4.189 | 5.64 | 1.000 | 20.000 | 20.460 | 2 | 30 | |
| CAL6 | 5530440.6 | 2331.7 | 539992.495 | True | 5.00 | 10.242 | 5.65 | 1.000 | 50.000 | 50.024 | 0 | 30 | |
| CAL7 | 10169176.9 | 2455.7 | 554092.642 | False | 5.00 | 18.353 | 5.63 | 1.000 | 100.000 | 89.642 | -10 | 30 | |

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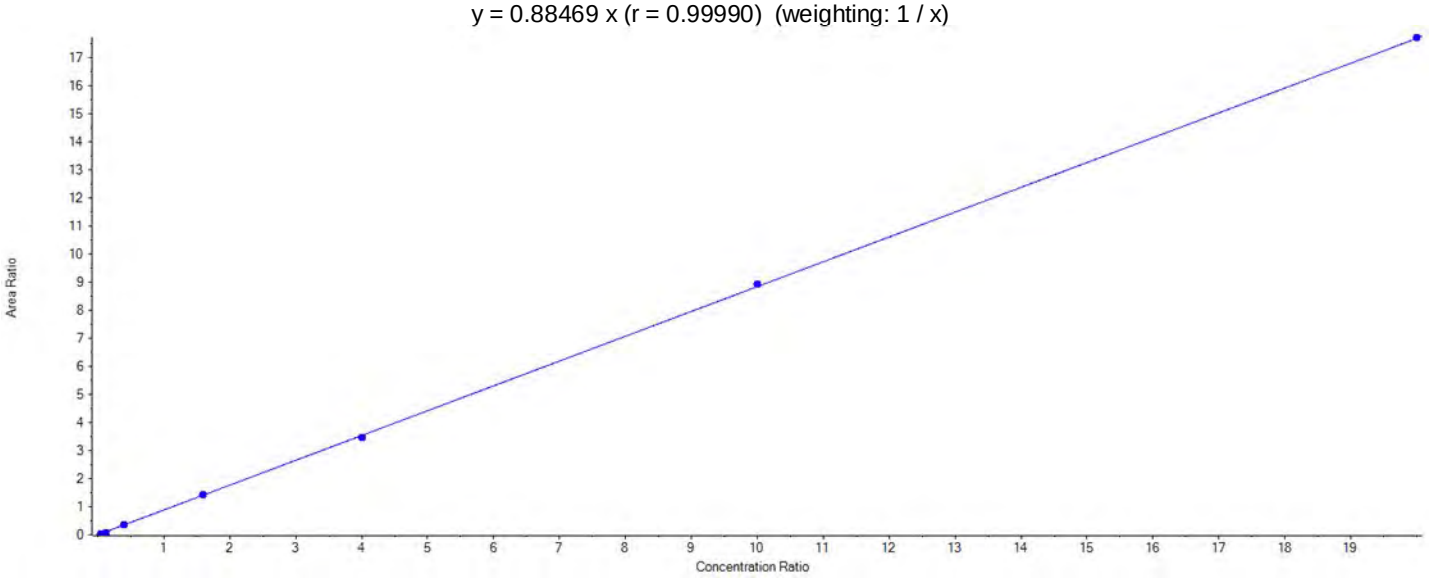
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## NMeFOSAA

y = 0.88469 x (r = 0.99990) (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 | 2306.4 | 597.4 | 86914.510 | True | 5.00 | 0.027 | 5.71 | 1.000 | 0.200 | 0.150 | -25 | 30 | |
| CAL2 | 5759.6 | 226.1 | 77388.613 | True | 5.00 | 0.074 | 5.71 | 1.000 | 0.600 | 0.421 | -30 | 30 | |
| CAL3 | 25147.6 | 632.7 | 71670.262 | True | 5.00 | 0.351 | 5.71 | 1.000 | 2.000 | 1.983 | -1 | 30 | |
| CAL4 | 103649.1 | 37382.5 | 72788.025 | True | 5.00 | 1.424 | 5.70 | 1.000 | 8.000 | 8.048 | 1 | 30 | |
| CAL5 | 250711.5 | 2299.0 | 72424.490 | True | 5.00 | 3.462 | 5.70 | 1.000 | 20.000 | 19.564 | -2 | 30 | |
| CAL6 | 627854.4 | 1632.7 | 70320.259 | True | 5.00 | 8.928 | 5.71 | 1.000 | 50.000 | 50.461 | 1 | 30 | |
| CAL7 | 1191981.7 | 2314.0 | 67250.454 | True | 5.00 | 17.725 | 5.69 | 1.000 | 100.000 | 100.173 | 0 | 30 | |

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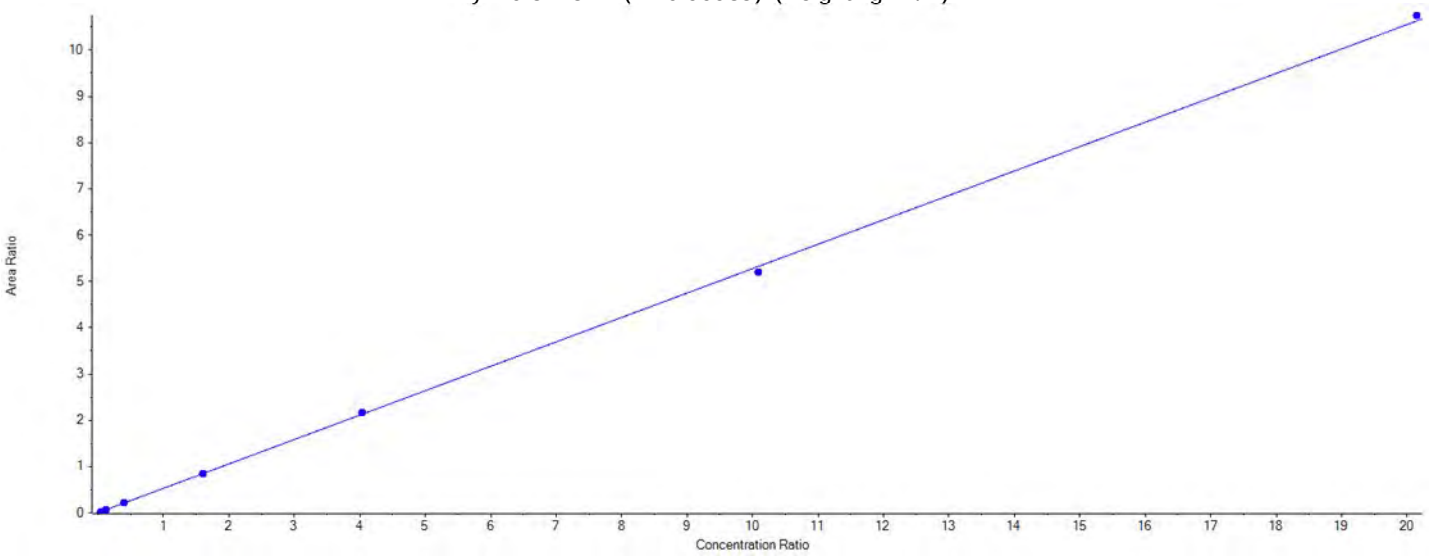
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFDS

y = 0.52754 x (r = 0.99985) (weighting: 1 / x)




## Component Calibration Verification

| Sample Name | PFDS Area | S/N | 13C8-PFOS Area | Used | ES Conc | Area Ratio | RT (min) | RRT | Spec Amount | Calc Amount | %Diff | %D Limit | %D OOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAL1 | 5952.2 | 1142.3 | 283127.433 | True | 4.78 | 0.021 | 5.80 | 1.100 | 0.193 | 0.190 | -1 | 30 | |
| CAL2 | 16291.9 | 12424.6 | 271778.843 | True | 4.78 | 0.060 | 5.80 | 1.100 | 0.578 | 0.543 | -6 | 30 | |
| CAL3 | 57966.9 | 3930335.8 | 281035.504 | True | 4.78 | 0.206 | 5.80 | 1.110 | 1.930 | 1.869 | -3 | 30 | |
| CAL4 | 224031.2 | 2859776.1 | 267380.807 | True | 4.78 | 0.838 | 5.80 | 1.110 | 7.700 | 7.592 | -1 | 30 | |
| CAL5 | 578877.5 | 2392.5 | 267157.611 | True | 4.78 | 2.167 | 5.79 | 1.100 | 19.300 | 19.633 | 2 | 30 | |
| CAL6 | 1313570.3 | 3303.1 | 253129.162 | True | 4.78 | 5.189 | 5.80 | 1.100 | 48.200 | 47.020 | -2 | 30 | |
| CAL7 | 2606720.7 | 3557.3 | 242617.529 | True | 4.78 | 10.744 | 5.79 | 1.110 | 96.300 | 97.353 | 1 | 30 | |

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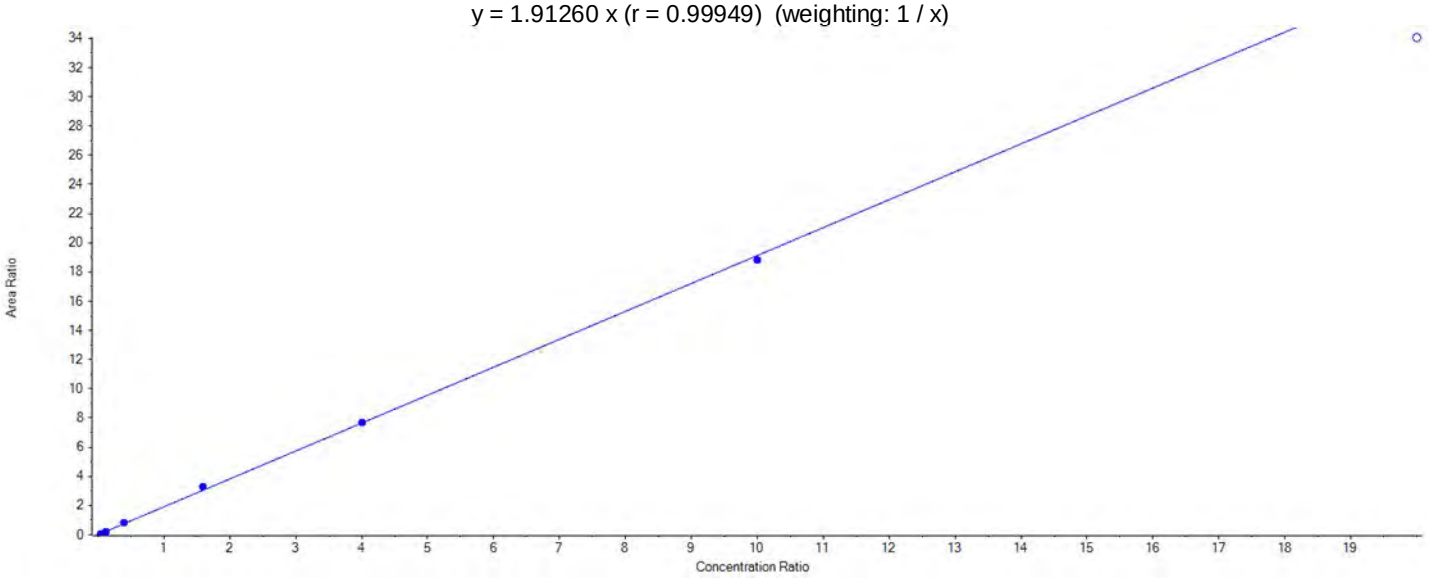
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFUnDA

y = 1.91260 x (r = 0.99949) (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 | 23379.5 | 206.2 | 256401.964 | True | 5.00 | 0.091 | 5.82 | 1.000 | 0.200 | 0.238 | 19 | 30 | |
| CAL2 | 51206.8 | 285.0 | 242881.749 | True | 5.00 | 0.211 | 5.83 | 1.000 | 0.600 | 0.551 | -8 | 30 | |
| CAL3 | 199061.8 | 846.0 | 245605.298 | True | 5.00 | 0.810 | 5.83 | 1.000 | 2.000 | 2.119 | 6 | 30 | |
| CAL4 | 768010.8 | 1510.9 | 232014.103 | True | 5.00 | 3.310 | 5.82 | 1.000 | 8.000 | 8.654 | 8 | 30 | |
| CAL5 | 1773582.6 | 2061.6 | 231187.889 | True | 5.00 | 7.672 | 5.82 | 1.000 | 20.000 | 20.055 | 0 | 30 | |
| CAL6 | 3923979.2 | 2695.3 | 208574.106 | True | 5.00 | 18.813 | 5.83 | 1.000 | 50.000 | 49.183 | -2 | 30 | |
| CAL7 | 6802701.2 | 3209.1 | 199746.834 | False | 5.00 | 34.057 | 5.81 | 1.000 | 100.000 | 89.032 | -11 | 30 | |

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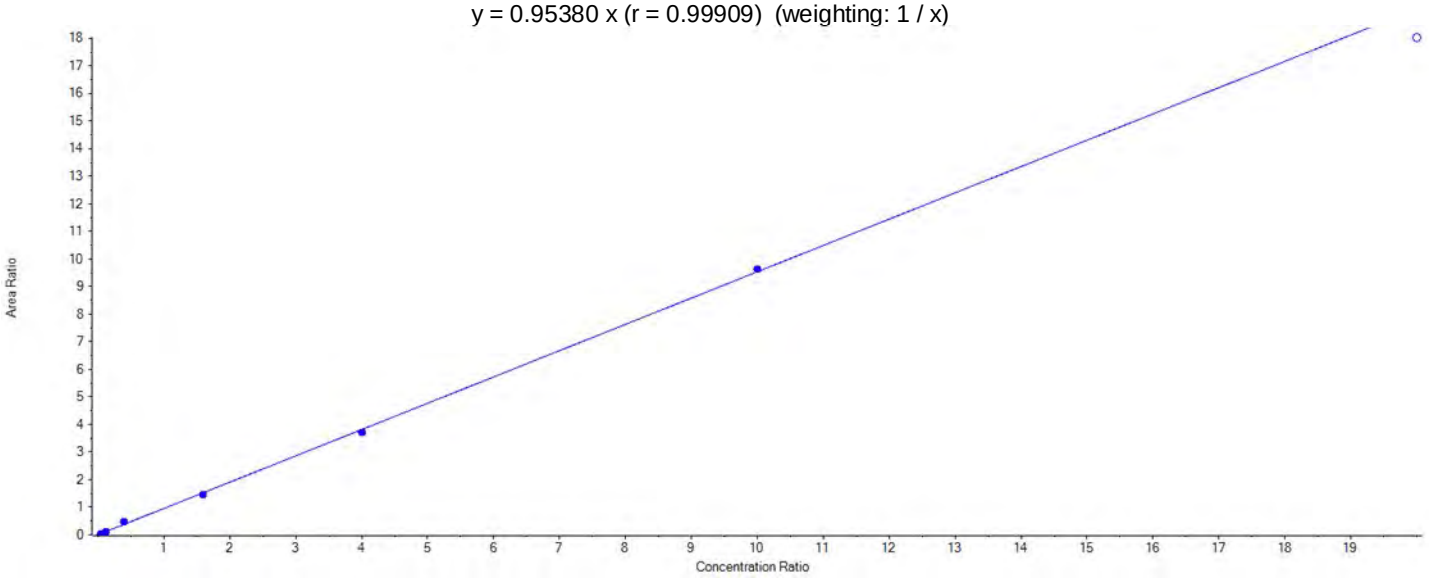
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## NEtFOSAA

y = 0.95380 x (r = 0.99909) (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 | 2284.9 | 20256.7 | 80597.244 | True | 5.00 | 0.028 | 5.85 | 1.000 | 0.200 | 0.149 | -26 | 30 | |
| CAL2 | 7727.1 | 209.6 | 63686.933 | True | 5.00 | 0.121 | 5.85 | 1.000 | 0.600 | 0.636 | 6 | 30 | |
| CAL3 | 25089.0 | 97.0 | 54383.911 | True | 5.00 | 0.461 | 5.84 | 1.000 | 2.000 | 2.418 | 21 | 30 | |
| CAL4 | 94877.8 | 20462.7 | 65477.959 | True | 5.00 | 1.449 | 5.84 | 1.000 | 8.000 | 7.596 | -5 | 30 | |
| CAL5 | 237197.2 | 1311.0 | 63701.688 | True | 5.00 | 3.724 | 5.83 | 1.000 | 20.000 | 19.520 | -2 | 30 | |
| CAL6 | 551865.7 | 1762.3 | 57308.081 | True | 5.00 | 9.630 | 5.84 | 1.000 | 50.000 | 50.481 | 1 | 30 | |
| CAL7 | 1046636.1 | 1311.5 | 58049.489 | False | 5.00 | 18.030 | 5.83 | 1.000 | 100.000 | 94.517 | -5 | 30 | |

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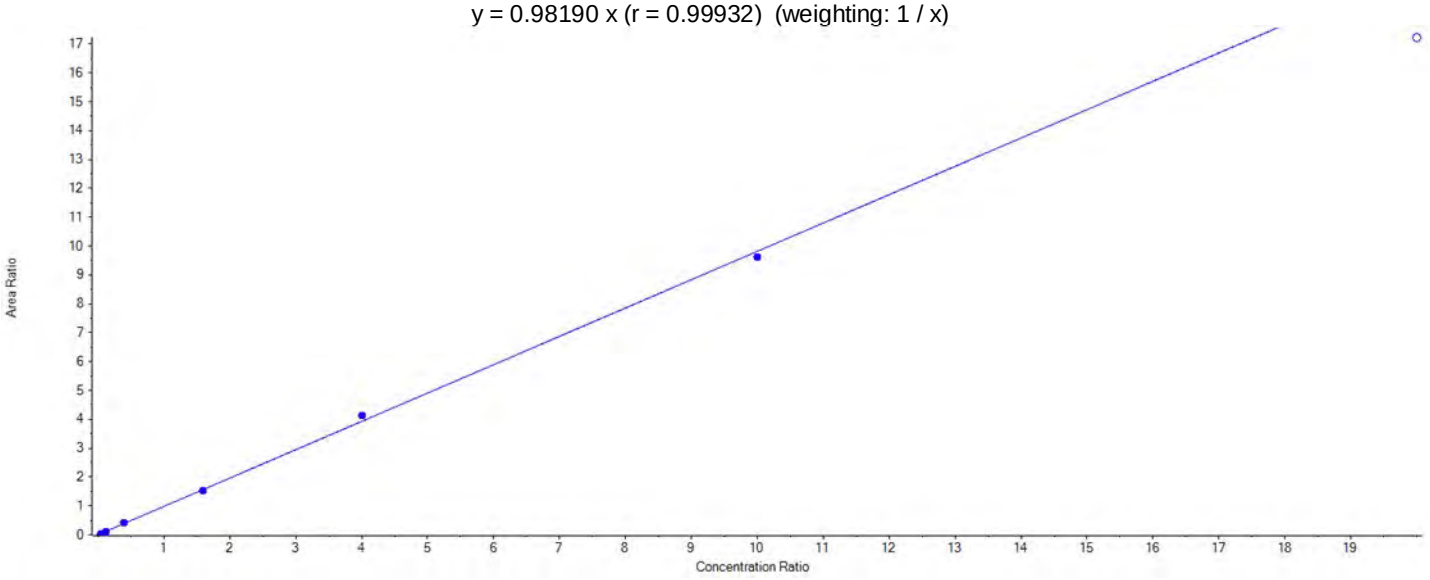
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFDoDA

y = 0.98190 x (r = 0.99932) (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 | 22143.6 | 430.3 | 545413.193 | True | 5.00 | 0.041 | 6.05 | 1.000 | 0.200 | 0.207 | 3 | 30 | |
| CAL2 | 59695.2 | 467.4 | 532175.345 | True | 5.00 | 0.112 | 6.06 | 1.000 | 0.600 | 0.571 | -5 | 30 | |
| CAL3 | 237252.6 | 1192.0 | 549542.276 | True | 5.00 | 0.432 | 6.06 | 1.000 | 2.000 | 2.198 | 10 | 30 | |
| CAL4 | 803646.8 | 1372.0 | 521514.091 | True | 5.00 | 1.541 | 6.05 | 1.000 | 8.000 | 7.847 | -2 | 30 | |
| CAL5 | 2099385.0 | 2645.1 | 507556.819 | True | 5.00 | 4.136 | 6.04 | 1.000 | 20.000 | 21.062 | 5 | 30 | |
| CAL6 | 4582985.5 | 2623.0 | 477105.492 | True | 5.00 | 9.606 | 6.06 | 1.000 | 50.000 | 48.914 | -2 | 30 | |
| CAL7 | 8171355.3 | 3494.7 | 474393.787 | False | 5.00 | 17.225 | 6.04 | 1.000 | 100.000 | 87.711 | -12 | 30 | |

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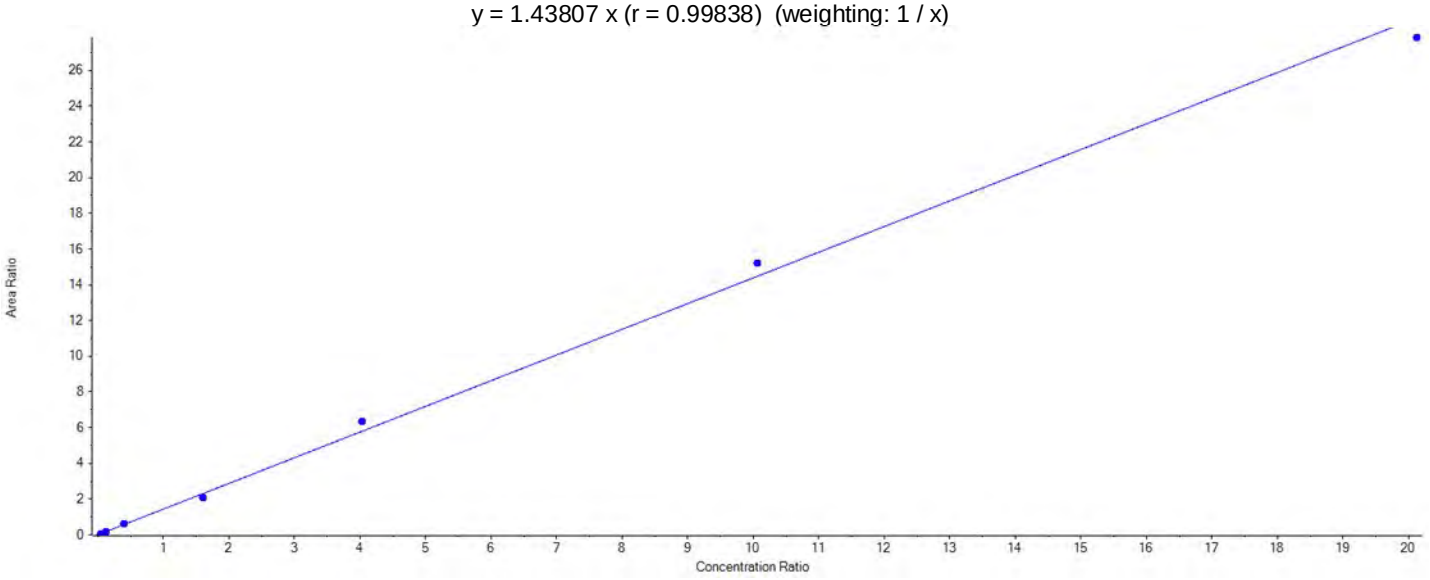
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## 10:2-FTS

y = 1.43807 x (r = 0.99838) (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 | 1814.2 | 3265.8 | 26445.481 | True | 4.79 | 0.069 | 6.07 | 1.090 | 0.193 | 0.229 | 18 | 30 | |
| CAL2 | 5206.5 | 6837.3 | 27639.188 | True | 4.79 | 0.188 | 6.08 | 1.090 | 0.578 | 0.627 | 9 | 30 | |
| CAL3 | 18541.7 | 12580.7 | 29249.839 | True | 4.79 | 0.634 | 6.07 | 1.090 | 1.930 | 2.111 | 9 | 30 | |
| CAL4 | 56040.8 | 5520.1 | 27253.461 | True | 4.79 | 2.056 | 6.07 | 1.090 | 7.710 | 6.849 | -11 | 30 | |
| CAL5 | 153343.6 | 2460.5 | 24192.138 | True | 4.79 | 6.339 | 6.06 | 1.090 | 19.300 | 21.113 | 9 | 30 | |
| CAL6 | 348263.2 | 3159.4 | 22899.000 | True | 4.79 | 15.209 | 6.07 | 1.090 | 48.200 | 50.658 | 5 | 30 | |
| CAL7 | 632223.7 | 3215.8 | 22710.952 | True | 4.79 | 27.838 | 6.06 | 1.090 | 96.400 | 92.724 | -4 | 30 | |

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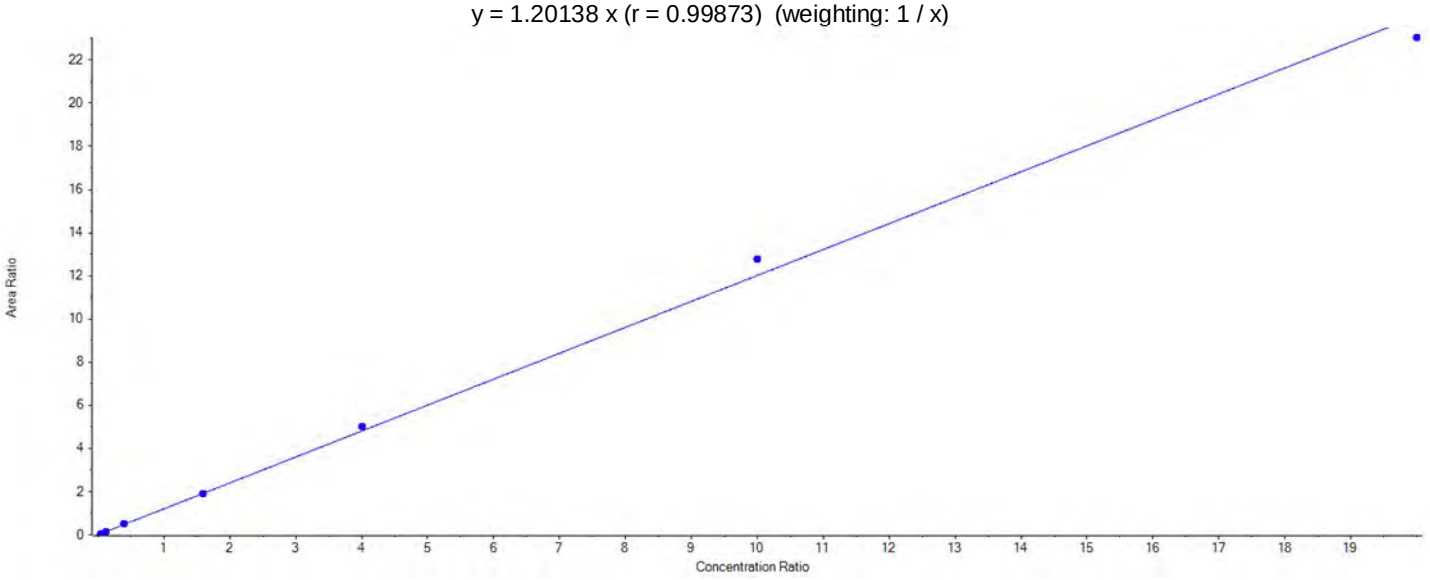
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## NMePFOSAE

y = 1.20138 x (r = 0.99873) (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 | 18013.9 | 109.4 | 349854.469 | True | 5.00 | 0.051 | 6.10 | 1.000 | 0.200 | 0.214 | 7 | 30 | |
| CAL2 | 43085.1 | 193.1 | 323456.508 | True | 5.00 | 0.133 | 6.10 | 1.000 | 0.600 | 0.554 | -8 | 30 | |
| CAL3 | 163668.7 | 409.2 | 307355.434 | True | 5.00 | 0.533 | 6.10 | 1.000 | 2.000 | 2.216 | 11 | 30 | |
| CAL4 | 618314.4 | 740.2 | 327796.394 | True | 5.00 | 1.886 | 6.10 | 1.000 | 8.000 | 7.850 | -2 | 30 | |
| CAL5 | 1590507.1 | 975.1 | 316777.819 | True | 5.00 | 5.021 | 6.09 | 1.000 | 20.000 | 20.896 | 4 | 30 | |
| CAL6 | 3484588.8 | 1388.9 | 272638.968 | True | 5.00 | 12.781 | 6.10 | 1.000 | 50.000 | 53.193 | 6 | 30 | |
| CAL7 | 6272486.3 | 1388.0 | 272283.142 | True | 5.00 | 23.037 | 6.09 | 1.000 | 100.000 | 95.876 | -4 | 30 | |

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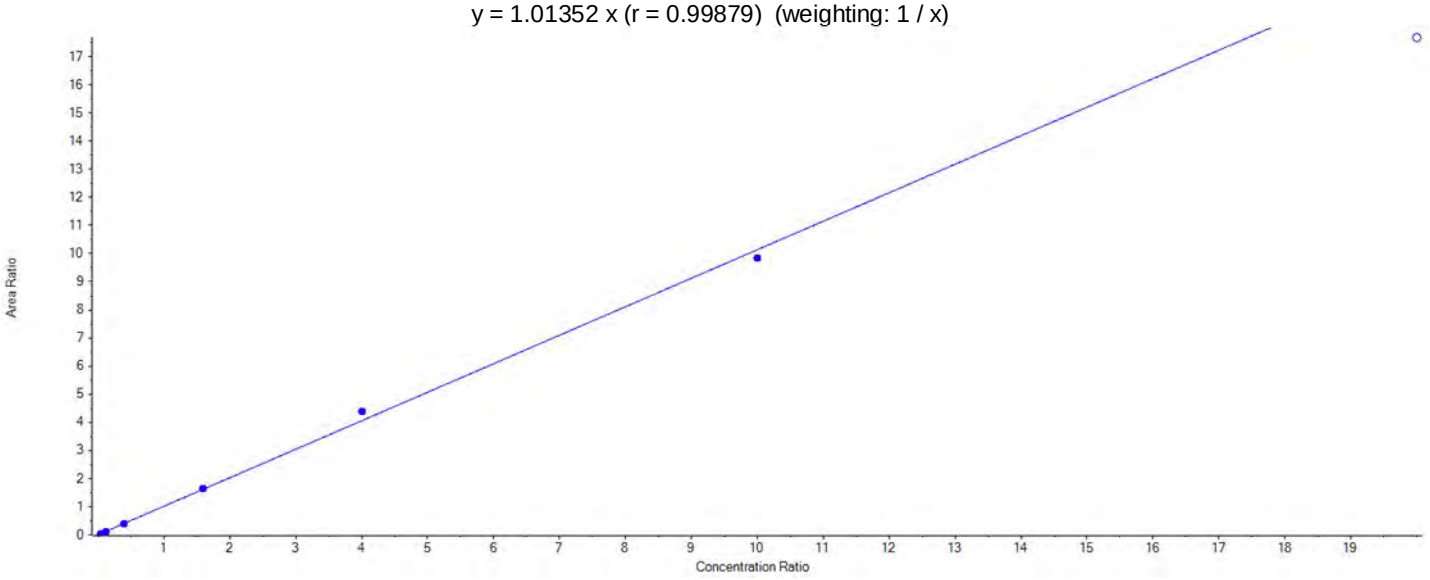
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## NMePFOSA

y = 1.01352 x (r = 0.99879) (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 | 2376.3 | 153.9 | 78396.495 | True | 5.00 | 0.030 | 6.11 | 1.000 | 0.200 | 0.150 | -25 | 30 | |
| CAL2 | 8877.7 | 472.1 | 77893.238 | True | 5.00 | 0.114 | 6.11 | 1.000 | 0.600 | 0.562 | -6 | 30 | |
| CAL3 | 29934.3 | 447.4 | 76782.886 | True | 5.00 | 0.390 | 6.11 | 1.000 | 2.000 | 1.923 | -4 | 30 | |
| CAL4 | 114415.9 | 890.1 | 70122.473 | True | 5.00 | 1.632 | 6.10 | 1.000 | 8.000 | 8.049 | 1 | 30 | |
| CAL5 | 300855.7 | 937.9 | 68615.664 | True | 5.00 | 4.385 | 6.10 | 1.000 | 20.000 | 21.631 | 8 | 30 | |
| CAL6 | 670429.6 | 1054.0 | 68215.937 | True | 5.00 | 9.828 | 6.11 | 1.000 | 50.000 | 48.485 | -3 | 30 | |
| CAL7 | 1310162.9 | 1043.5 | 74110.295 | False | 5.00 | 17.679 | 6.09 | 1.000 | 100.000 | 87.214 | -13 | 30 | |

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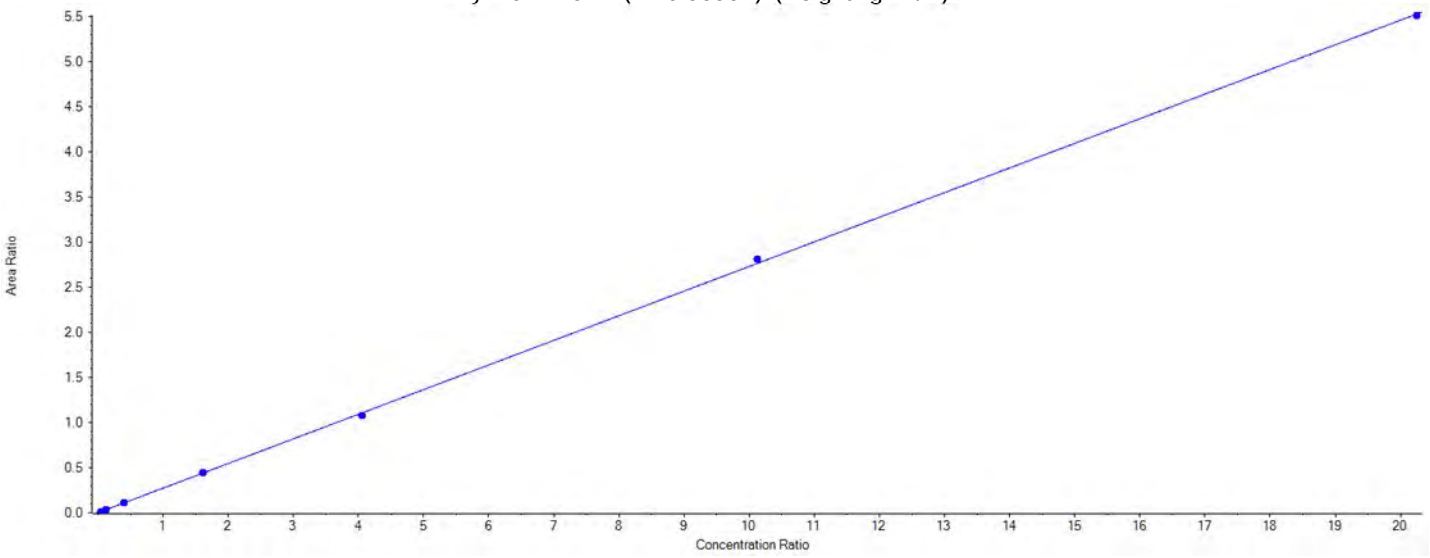
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## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFDoS

y = 0.27292 x (r = 0.99991) (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 | 3520.9 | 58335.2 | 283127.433 | True | 4.78 | 0.012 | 6.22 | 1.190 | 0.194 | 0.218 | 12 | 30 | |
| CAL2 | 8992.5 | 12149.3 | 271778.843 | True | 4.78 | 0.033 | 6.22 | 1.190 | 0.581 | 0.580 | 0 | 30 | |
| CAL3 | 30098.3 | 137145.7 | 281035.504 | True | 4.78 | 0.107 | 6.23 | 1.190 | 1.940 | 1.876 | -3 | 30 | |
| CAL4 | 117663.3 | 1376.2 | 267380.807 | True | 4.78 | 0.440 | 6.22 | 1.190 | 7.740 | 7.707 | 0 | 30 | |
| CAL5 | 288905.1 | 1660.8 | 267157.611 | True | 4.78 | 1.081 | 6.21 | 1.190 | 19.400 | 18.940 | -2 | 30 | |
| CAL6 | 711567.5 | 2275.7 | 253129.162 | True | 4.78 | 2.811 | 6.23 | 1.190 | 48.400 | 49.234 | 2 | 30 | |
| CAL7 | 1336765.3 | 3028.7 | 242617.529 | True | 4.78 | 5.510 | 6.21 | 1.190 | 96.800 | 96.500 | 0 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



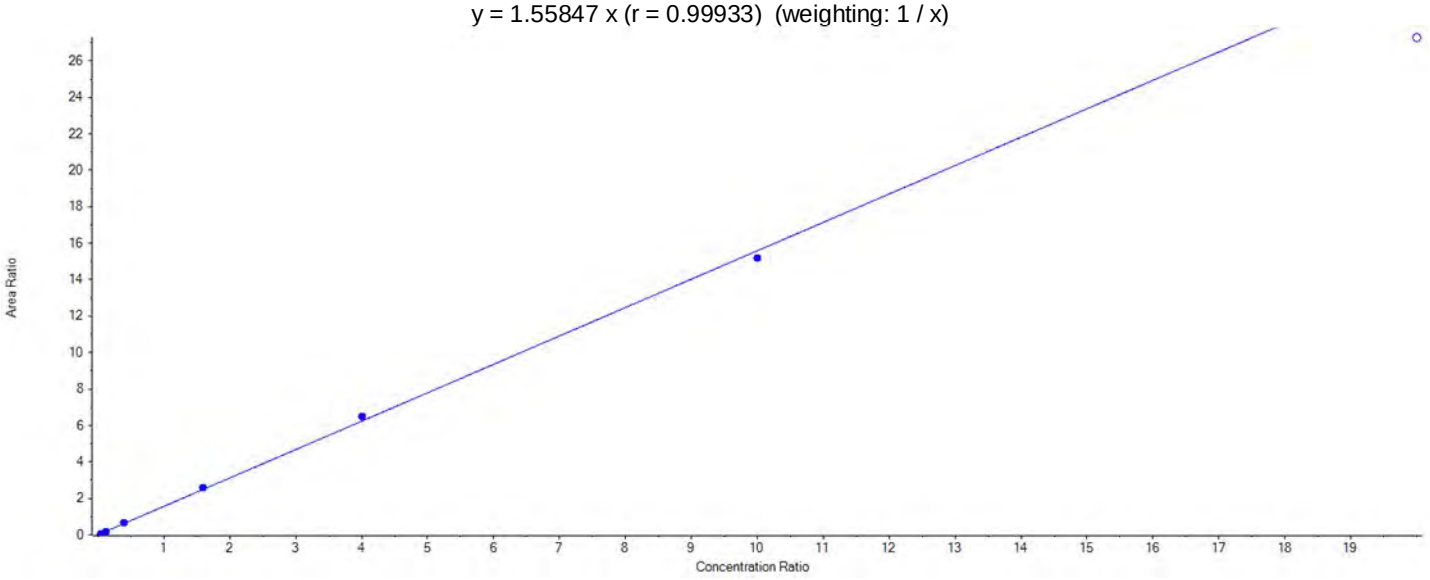
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## NEtPFOSAE

y = 1.55847 x (r = 0.99933) (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 | 21005.9 | 119.5 | 280311.617 | True | 5.00 | 0.075 | 6.26 | 1.000 | 0.200 | 0.240 | 20 | 30 | |
| CAL2 | 46623.3 | 205.6 | 261195.607 | True | 5.00 | 0.178 | 6.26 | 1.000 | 0.600 | 0.573 | -5 | 30 | |
| CAL3 | 178457.8 | 320.7 | 259792.277 | True | 5.00 | 0.687 | 6.26 | 1.000 | 2.000 | 2.204 | 10 | 30 | |
| CAL4 | 673196.1 | 592.1 | 259467.367 | True | 5.00 | 2.595 | 6.25 | 1.000 | 8.000 | 8.324 | 4 | 30 | |
| CAL5 | 1660562.6 | 810.5 | 255767.749 | True | 5.00 | 6.492 | 6.25 | 1.000 | 20.000 | 20.830 | 4 | 30 | |
| CAL6 | 3677006.6 | 1204.8 | 242587.535 | True | 5.00 | 15.157 | 6.26 | 1.000 | 50.000 | 48.629 | -3 | 30 | |
| CAL7 | 6557402.5 | 1093.9 | 240346.474 | False | 5.00 | 27.283 | 6.25 | 1.000 | 100.000 | 87.532 | -12 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*



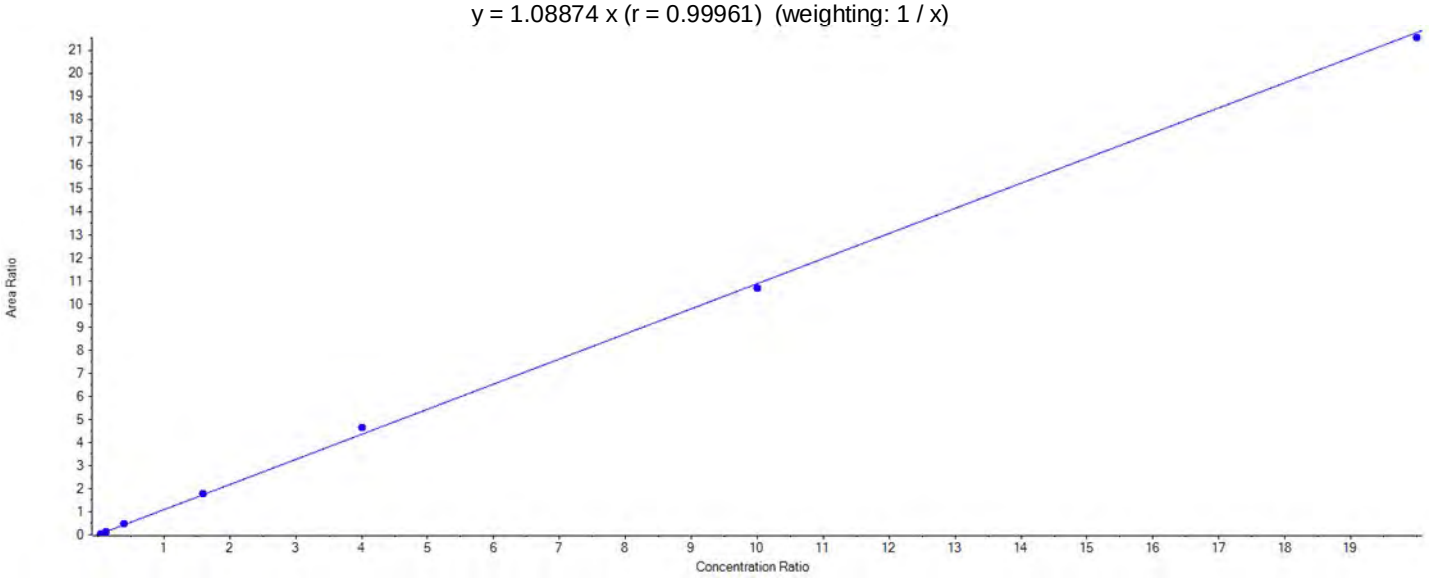
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## NEtPFOSA

y = 1.08874 x (r = 0.99961) (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 | 2846.2 | 154.5 | 63047.063 | True | 5.00 | 0.045 | 6.27 | 1.000 | 0.200 | 0.207 | 4 | 30 | |
| CAL2 | 8053.7 | 439.3 | 58073.450 | True | 5.00 | 0.139 | 6.27 | 1.000 | 0.600 | 0.637 | 6 | 30 | |
| CAL3 | 26590.2 | 407.4 | 57485.886 | True | 5.00 | 0.463 | 6.27 | 1.000 | 2.000 | 2.124 | 6 | 30 | |
| CAL4 | 99354.1 | 862.8 | 55177.273 | True | 5.00 | 1.801 | 6.27 | 1.000 | 8.000 | 8.269 | 3 | 30 | |
| CAL5 | 258300.3 | 1044.0 | 55378.447 | True | 5.00 | 4.664 | 6.26 | 1.000 | 20.000 | 21.421 | 7 | 30 | |
| CAL6 | 599280.4 | 865.2 | 56004.042 | True | 5.00 | 10.701 | 6.27 | 1.000 | 50.000 | 49.142 | -2 | 30 | |
| CAL7 | 1148933.0 | 1266.7 | 53297.846 | True | 5.00 | 21.557 | 6.26 | 1.000 | 100.000 | 98.999 | -1 | 30 | |

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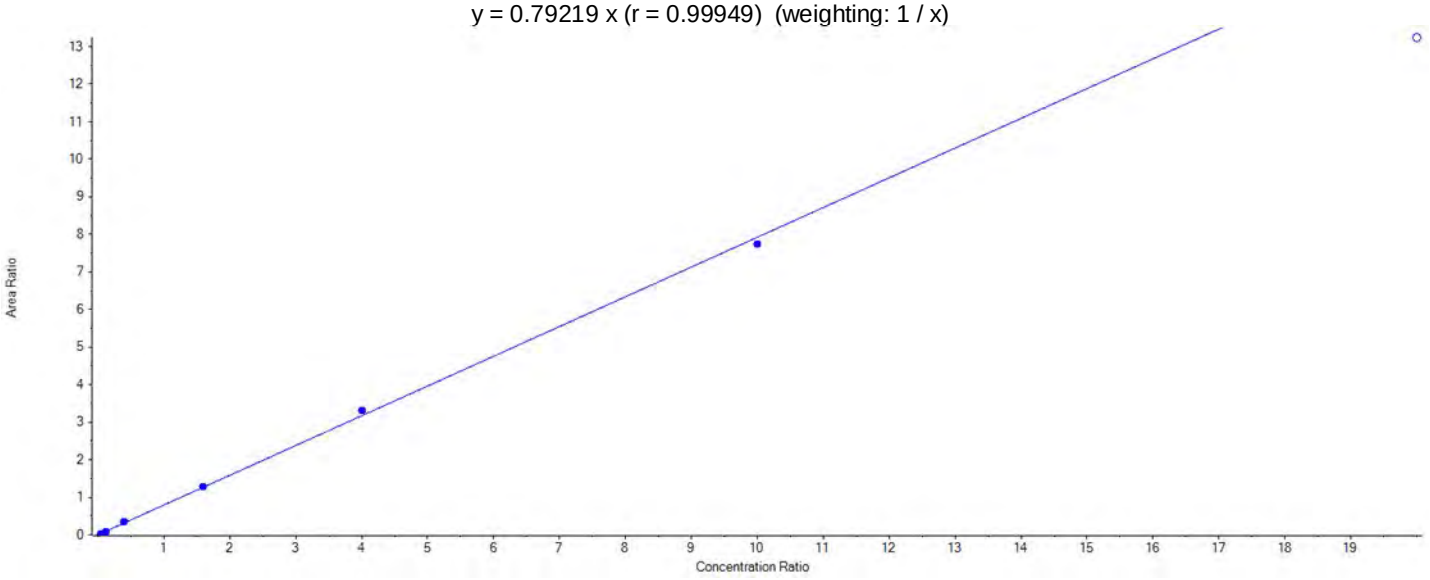
REVIEWED
By ucmr at 3:21 pm, 1/25/19

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFTrDA

y = 0.79219 x (r = 0.99949) (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 | 20185.1 | 68.6 | 545413.193 | True | 5.00 | 0.037 | 6.25 | 1.030 | 0.200 | 0.234 | 17 | 30 | |
| CAL2 | 47991.3 | 109.2 | 532175.345 | True | 5.00 | 0.090 | 6.26 | 1.030 | 0.600 | 0.569 | -5 | 30 | |
| CAL3 | 184322.9 | 257.3 | 549542.276 | True | 5.00 | 0.335 | 6.26 | 1.030 | 2.000 | 2.117 | 6 | 30 | |
| CAL4 | 674140.3 | 350.0 | 521514.091 | True | 5.00 | 1.293 | 6.25 | 1.030 | 8.000 | 8.159 | 2 | 30 | |
| CAL5 | 1679407.2 | 589.3 | 507556.819 | True | 5.00 | 3.309 | 6.24 | 1.030 | 20.000 | 20.884 | 4 | 30 | |
| CAL6 | 3691733.8 | 935.9 | 477105.492 | True | 5.00 | 7.738 | 6.26 | 1.030 | 50.000 | 48.838 | -2 | 30 | |
| CAL7 | 6281239.0 | 1061.9 | 474393.787 | False | 5.00 | 13.241 | 6.24 | 1.030 | 100.000 | 83.569 | -16 | 30 | |

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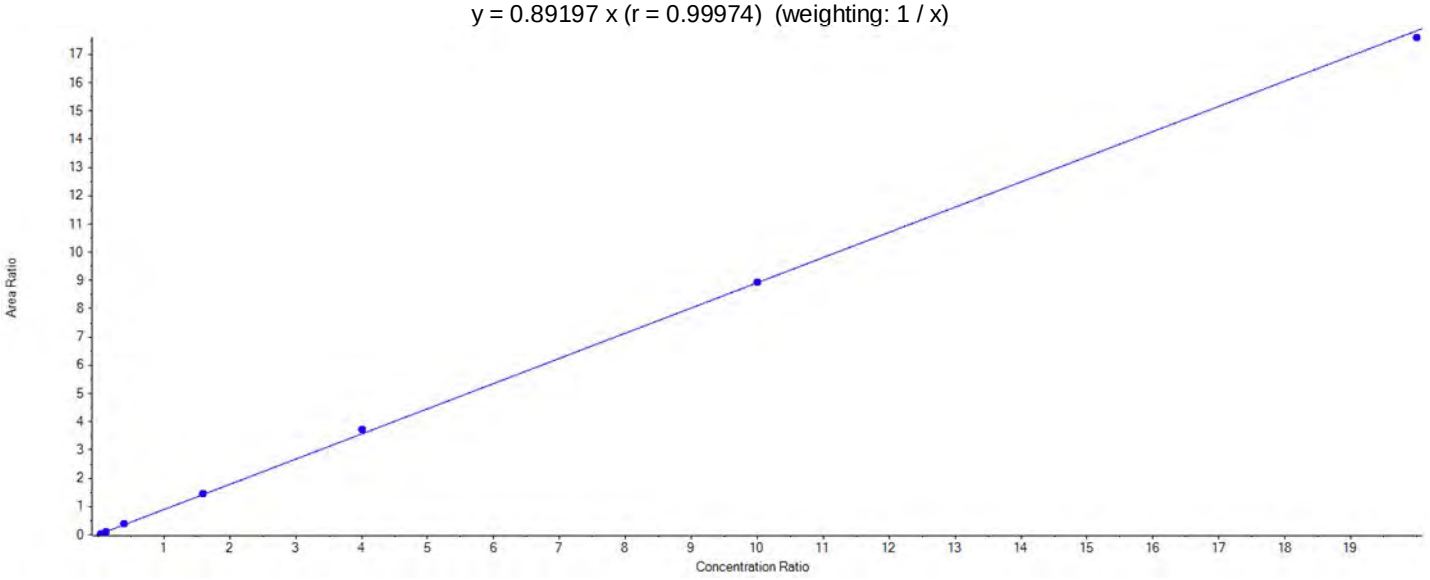
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFTeDA

y = 0.89197 x (r = 0.99974) (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 | 16357.5 | 210.0 | 410633.036 | True | 5.00 | 0.040 | 6.43 | 1.000 | 0.200 | 0.223 | 12 | 30 | |
| CAL2 | 40236.5 | 281.3 | 394146.239 | True | 5.00 | 0.102 | 6.43 | 1.000 | 0.600 | 0.572 | -5 | 30 | |
| CAL3 | 156439.9 | 700.6 | 393544.938 | True | 5.00 | 0.398 | 6.43 | 1.000 | 2.000 | 2.228 | 11 | 30 | |
| CAL4 | 571926.7 | 1105.3 | 392356.634 | True | 5.00 | 1.458 | 6.43 | 1.000 | 8.000 | 8.171 | 2 | 30 | |
| CAL5 | 1418276.7 | 1705.5 | 379571.560 | True | 5.00 | 3.737 | 6.42 | 1.000 | 20.000 | 20.945 | 5 | 30 | |
| CAL6 | 3149020.2 | 2109.2 | 352892.214 | True | 5.00 | 8.923 | 6.43 | 1.000 | 50.000 | 50.021 | 0 | 30 | |
| CAL7 | 6092875.7 | 2023.1 | 346256.589 | True | 5.00 | 17.596 | 6.42 | 1.000 | 100.000 | 98.638 | -1 | 30 | |

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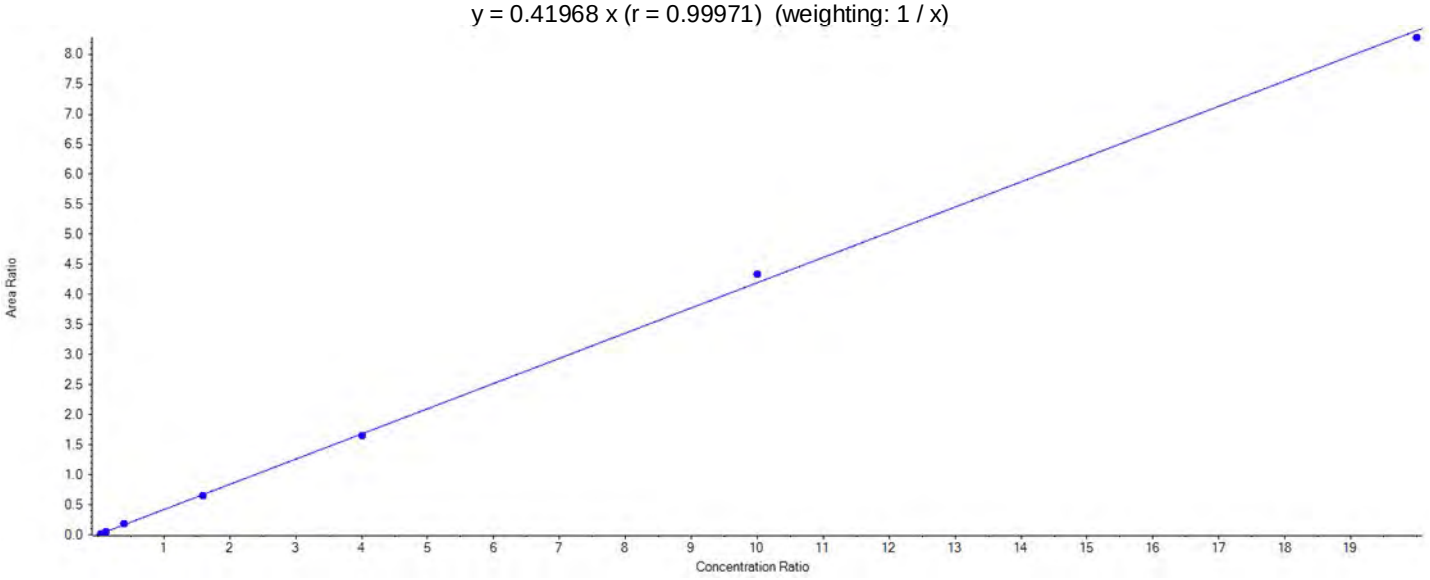
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFHxDA

y = 0.41968 x (r = 0.99971) (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 | 7976.0 | 221.5 | 410633.036 | True | 5.00 | 0.019 | 6.73 | 1.050 | 0.200 | 0.231 | 16 | 30 | |
| CAL2 | 19006.4 | 621.9 | 394146.239 | True | 5.00 | 0.048 | 6.74 | 1.050 | 0.600 | 0.575 | -4 | 30 | |
| CAL3 | 69655.1 | 986.8 | 393544.938 | True | 5.00 | 0.177 | 6.74 | 1.050 | 2.000 | 2.109 | 5 | 30 | |
| CAL4 | 256654.3 | 1362.8 | 392356.634 | True | 5.00 | 0.654 | 6.73 | 1.050 | 8.000 | 7.793 | -3 | 30 | |
| CAL5 | 627350.7 | 1919.3 | 379571.560 | True | 5.00 | 1.653 | 6.72 | 1.050 | 20.000 | 19.691 | -2 | 30 | |
| CAL6 | 1533920.2 | 4020.8 | 352892.214 | True | 5.00 | 4.347 | 6.74 | 1.050 | 50.000 | 51.786 | 4 | 30 | |
| CAL7 | 2866097.3 | 3342.9 | 346256.589 | True | 5.00 | 8.277 | 6.72 | 1.050 | 100.000 | 98.615 | -1 | 30 | |

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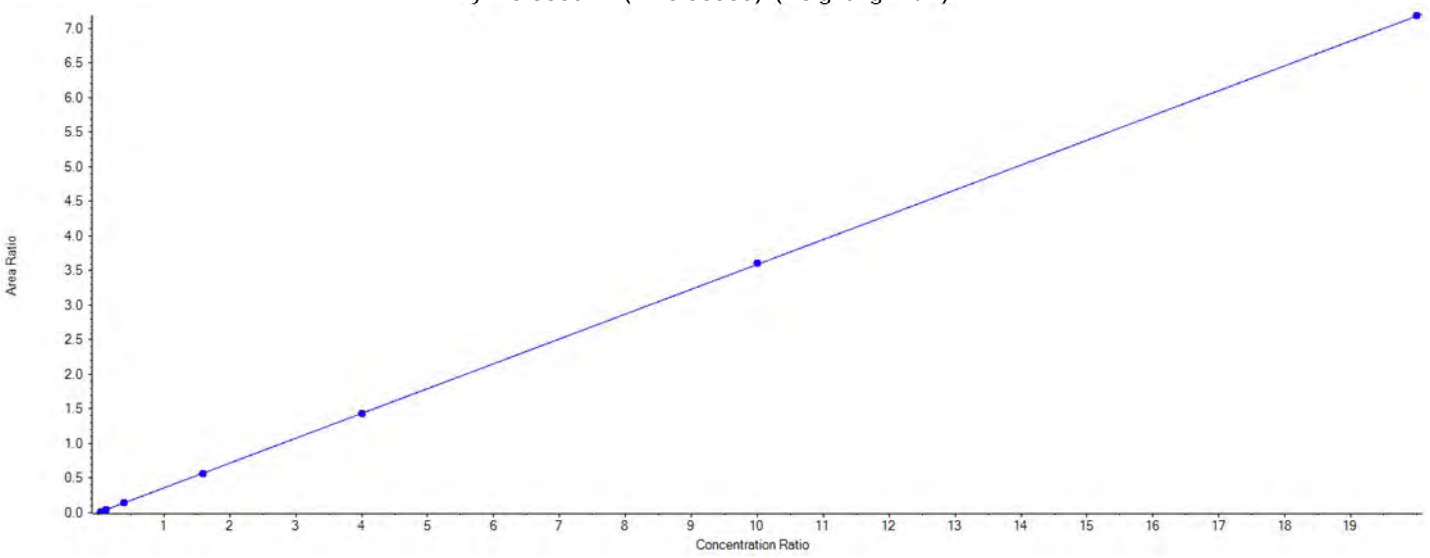
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*By ucmr at 3:21 pm, 1/25/19*

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

## PFODA

y = 0.35901 x (r = 0.99996) (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 | 6020.3 | 470.6 | 410633.036 | True | 5.00 | 0.015 | 7.00 | 1.090 | 0.200 | 0.204 | 2 | 30 | |
| CAL2 | 14955.6 | 635.0 | 394146.239 | True | 5.00 | 0.038 | 7.00 | 1.090 | 0.600 | 0.528 | -12 | 30 | |
| CAL3 | 57796.0 | 1304.8 | 393544.938 | True | 5.00 | 0.147 | 7.00 | 1.090 | 2.000 | 2.045 | 2 | 30 | |
| CAL4 | 219359.6 | 2291.9 | 392356.634 | True | 5.00 | 0.559 | 6.99 | 1.090 | 8.000 | 7.786 | -3 | 30 | |
| CAL5 | 544296.5 | 2946.8 | 379571.560 | True | 5.00 | 1.434 | 6.98 | 1.090 | 20.000 | 19.971 | 0 | 30 | |
| CAL6 | 1270897.6 | 3196.4 | 352892.214 | True | 5.00 | 3.601 | 7.00 | 1.090 | 50.000 | 50.157 | 0 | 30 | |
| CAL7 | 2488863.6 | 3668.3 | 346256.589 | True | 5.00 | 7.188 | 6.98 | 1.090 | 100.000 | 100.107 | 0 | 30 | |

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*By MCD at 3:23 pm, 1/10/19*

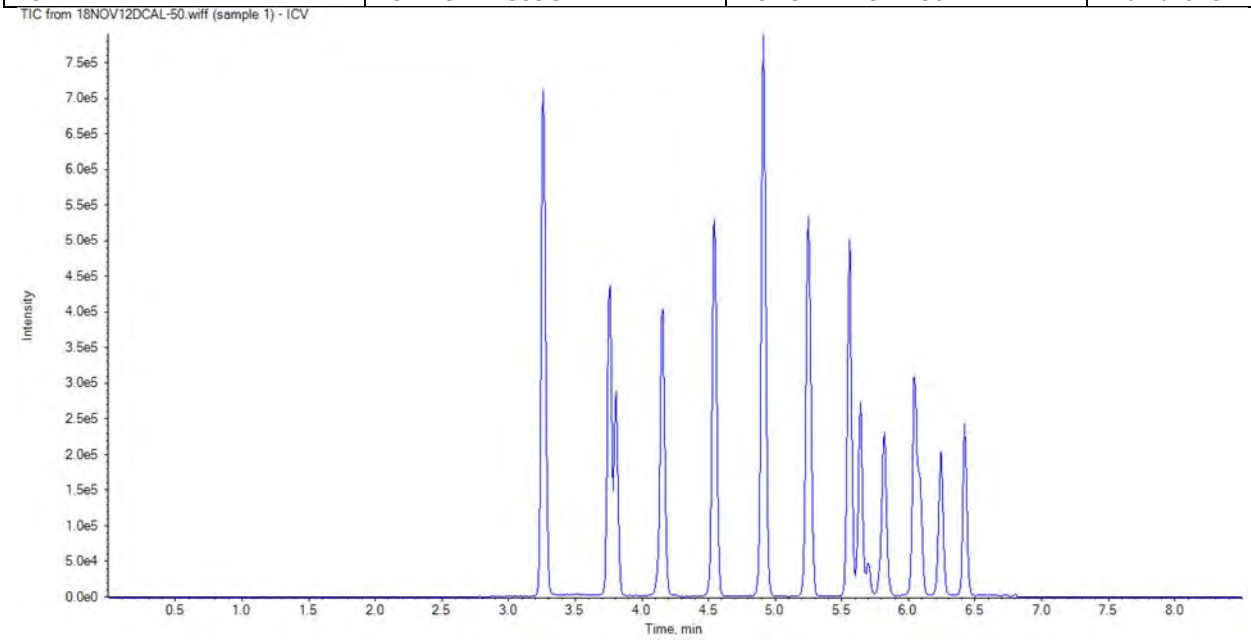


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*By ucmr at 3:21 pm, 1/25/19*

# DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

| Sample Name | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|
| ICV | ICVMODX1833G | 18NOV12DCAL-50.wiff | 11/12/2018 4:18:11 PM |




| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | CAL3 Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.000 | 655209.3 | 659926.2 | -0.7 | 50 | |
| 13C2-PFOA | 5.000 | 452726.2 | 450219.7 | 0.6 | 50 | |
| 13C4-PFOS | 4.780 | 253010.3 | 249205.8 | 1.5 | 50 | |
| 13C2-PFDA | 5.000 | 277002.7 | 278743.9 | -0.6 | 50 | |

APPROVED
By MCD at 3:23 pm, 1/10/19



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By ucmr at 3:21 pm, 1/25/19

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

# DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

| Sample Name | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|
| ICV | ICVMODX1833G | 18NOV12DCAL-50.wiff | 11/12/2018 4:18:11 PM |

| Analyte Name | Analyte Area | Ext Std Name | Ext Std Area | Ext Std Con | Area Ratio | RT (min) | RRT | Spec Amt | Calc Amt | % Diff | % Diff Lim | % Diff OOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PFBA | 270820.6 | 13C4-PFBA | 715834.413 | 5.00 | 0.378 | 3.26 | 1.00 | 2.000 | 2.096 | 5 | 30 | |
| PFPeA | 265646.8 | 13C5-PFPeA | 699482.188 | 5.00 | 0.380 | 3.76 | 1.00 | 2.000 | 2.198 | 10 | 30 | |
| PFBS | 150059.6 | 13C3-PFBS | 394903.376 | 4.65 | 0.380 | 3.80 | 1.00 | 1.769 | 1.808 | 2 | 30 | |
| 4:2-FTS | N/A | 13C2-4:2-FTS | 47297.290 | 4.67 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFHxA | 328694.3 | 13C5-PFHxA | 613579.433 | 5.00 | 0.536 | 4.15 | 1.00 | 2.000 | 2.237 | 12 | 30 | |
| PFPeS | N/A | 13C3-PFBS | 394903.376 | 4.65 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFHpA | 316975.3 | 13C4-PFHpA | 485394.910 | 5.00 | 0.653 | 4.54 | 1.00 | 2.000 | 2.165 | 8 | 30 | |
| PFHxS | 115564.2 | 13C3-PFHxS | 304897.777 | 4.73 | 0.379 | 4.55 | 1.00 | 1.890 | 1.838 | -3 | 30 | |
| 6:2-FTS | N/A | 13C2-6:2-FTS | 31532.780 | 4.75 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFHpS | 118318.7 | 13C3-PFHxS | 304897.777 | 4.73 | 0.388 | 4.91 | 1.08 | 1.900 | 2.043 | 8 | 30 | |
| PFOA | 332094.4 | 13C8-PFOA | 843573.278 | 5.00 | 0.394 | 4.91 | 1.00 | 2.000 | 2.103 | 5 | 30 | |
| PFOS | 100952.5 | 13C8-PFOS | 266211.354 | 4.78 | 0.379 | 5.24 | 1.00 | 1.910 | 1.658 | -13 | 30 | |
| PFNA | 271240.4 | 13C9-PFNA | 458821.538 | 5.00 | 0.591 | 5.26 | 1.00 | 2.000 | 2.132 | 7 | 30 | |
| PFNS | N/A | 13C8-PFOS | 266211.354 | 4.78 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFDA | 224279.7 | 13C6-PFDA | 590290.290 | 5.00 | 0.380 | 5.56 | 1.00 | 2.000 | 2.014 | 1 | 30 | |
| 8:2-FTS | N/A | 13C2-8:2-FTS | 22188.868 | 4.79 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFOSA | N/A | 13C8-PFOSA | 587080.139 | 5.00 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| NMeFOSAA | 30591.9 | d3-NMeFOSAA | 70133.206 | 5.00 | 0.436 | 5.70 | 1.00 | 2.000 | 2.465 | 23 | 30 | |
| PFDS | 52860.9 | 13C8-PFOS | 266211.354 | 4.78 | 0.199 | 5.79 | 1.11 | 1.930 | 1.799 | -7 | 30 | |
| PFUnDA | 183511.3 | 13C7-PFUnDA | 228363.909 | 5.00 | 0.804 | 5.82 | 1.00 | 2.000 | 2.101 | 5 | 30 | |
| NEtFOSAA | 26149.3 | d5-NEtFOSAA | 59551.262 | 5.00 | 0.439 | 5.83 | 1.00 | 2.000 | 2.302 | 15 | 30 | |
| PFDoDA | 185295.0 | 13C2-PFDoDA | 495858.058 | 5.00 | 0.374 | 6.05 | 1.00 | 2.000 | 1.903 | -5 | 30 | |
| 10:2-FTS | N/A | 13C2-8:2-FTS | 22188.868 | 4.79 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| NMePFOSAE | N/A | d7-NMePFOSAE | 299185.381 | 5.00 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| NMePFOSA | N/A | d3-NMePFOSA | 75186.885 | 5.00 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFDoS | N/A | 13C8-PFOS | 266211.354 | 4.78 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| NEtPFOSAE | N/A | d9-NEtPFOSAE | 255149.770 | 5.00 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| NEtPFOSA | N/A | d5-NEtPFOSA | 53596.168 | 5.00 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFTrDA | 165153.1 | 13C2-PFDoDA | 495858.058 | 5.00 | 0.333 | 6.25 | 1.03 | 2.000 | 2.102 | 5 | 30 | |

APPROVED
By MCD at 3:23 pm, 1/10/19



REVIEWED
By ucmr at 3:21 pm, 1/25/19

## DOD Initial Calibration Verification

**Instrument ID:** LM27631 **ICAL Name:** 18NOV12DCAL **QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL_Updated1/10/2019 3:19:00 PM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PFTeDA | 135651.0 | 13C2-PFTeDA | 365300.216 | 5.00 | 0.371 | 6.42 | 1.00 | 2.000 | 2.082 | 4 | 30 | |
| PFHxDA | N/A | 13C2-PFTeDA | 365300.216 | 5.00 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |
| PFODA | N/A | 13C2-PFTeDA | 365300.216 | 5.00 | N/A | N/A | N/A | 0.000 | N/A | | 30 | |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CAL1 | | | **Data File:** | | 18NOV12DCAL-42.wiff |
| **Sample ID:** | CALBRN11833C | | | **Acquis Date:** | | 2018-11-12T15:05:54 |
| **Sample Type:** | Standard | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 3 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 676527.5 | 659926.2 | 3 | 50 | |
| 13C2-PFOA | 5.0 | 474834.9 | 450219.7 | 5 | 50 | |
| 13C4-PFOS | 4.8 | 265369.0 | 249205.8 | 6 | 50 | |
| 13C2-PFDA | 5.0 | 281654.8 | 278743.9 | 1 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 763334.3 | 13C3-PFBA | 676527.5 | 1.128 | 5.000 | 5.059 | 101 | 70-130 | |
| E13C5-PFPeA | 771179.4 | 13C3-PFBA | 676527.5 | 1.140 | 5.000 | 5.113 | 102 | 70-130 | |
| E13C3-PFBS | 445963.4 | 13C3-PFBA | 676527.5 | 0.659 | 4.650 | 4.653 | 100 | 70-130 | |
| E13C2-4:2-FTS | 51494.6 | 13C2-PFOA | 474834.9 | 0.108 | 4.670 | 4.830 | 103 | 70-130 | |
| E13C5-PFHxA | 664975.9 | 13C2-PFOA | 474834.9 | 1.400 | 5.000 | 5.059 | 101 | 70-130 | |
| E13C3-PFHxS | 327944.5 | 13C2-PFOA | 474834.9 | 0.691 | 4.730 | 4.739 | 100 | 70-130 | |
| E13C4-PFHpA | 528473.5 | 13C2-PFOA | 474834.9 | 1.113 | 5.000 | 5.014 | 100 | 70-130 | |
| E13C2-6:2-FTS | 35455.2 | 13C2-PFOA | 474834.9 | 0.075 | 4.750 | 4.996 | 105 | 70-130 | |
| E13C8-PFOA | 912537.7 | 13C2-PFOA | 474834.9 | 1.922 | 5.000 | 5.295 | 106 | 70-130 | |
| E13C8-PFOS | 283127.4 | 13C4-PFOS | 265369.0 | 1.067 | 4.780 | 4.727 | 99 | 70-130 | |
| E13C9-PFNA | 479931.4 | 13C4-PFOS | 265369.0 | 1.809 | 5.000 | 5.042 | 101 | 70-130 | |
| E13C6-PFDA | 612577.4 | 13C2-PFDA | 281654.8 | 2.175 | 5.000 | 5.075 | 102 | 70-130 | |
| E13C2-8:2-FTS | 26445.5 | 13C2-PFDA | 281654.8 | 0.094 | 4.790 | 4.683 | 98 | 70-130 | |
| E13C8-PFOSA | 664489.9 | 13C2-PFDA | 281654.8 | 2.359 | 5.000 | 5.230 | 105 | 70-130 | |
| Ed3-NMeFOSAA | 86914.5 | 13C2-PFDA | 281654.8 | 0.309 | 5.000 | 5.570 | 111 | 70-130 | |
| E13C7-PFUnDA | 256402.0 | 13C2-PFDA | 281654.8 | 0.910 | 5.000 | 5.285 | 106 | 70-130 | |
| Ed5-NEtFOSAA | 80597.2 | 13C2-PFDA | 281654.8 | 0.286 | 5.000 | 6.054 | 121 | 70-130 | |
| E13C2-PFDoDA | 545413.2 | 13C2-PFDA | 281654.8 | 1.936 | 5.000 | 5.028 | 101 | 70-130 | |
| Ed7-NMePFOSAE | 349854.5 | 13C2-PFDA | 281654.8 | 1.242 | 5.000 | 5.375 | 108 | 70-130 | |
| Ed3-NMePFOSA | 78396.5 | 13C2-PFDA | 281654.8 | 0.278 | 5.000 | 5.057 | 101 | 70-130 | |
| Ed9-NEtPFOSAE | 280311.6 | 13C2-PFDA | 281654.8 | 0.995 | 5.000 | 5.176 | 104 | 70-130 | |
| Ed5-NEtPFOSA | 63047.1 | 13C2-PFDA | 281654.8 | 0.224 | 5.000 | 5.251 | 105 | 70-130 | |
| E13C2-PFTeDA | 410633.0 | 13C2-PFDA | 281654.8 | 1.458 | 5.000 | 5.118 | 102 | 70-130 | |

APPROVED
By MCD at 6:33 pm, 11/12/18



REVIEWED
By HMK at 10:53 am, 11/13/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

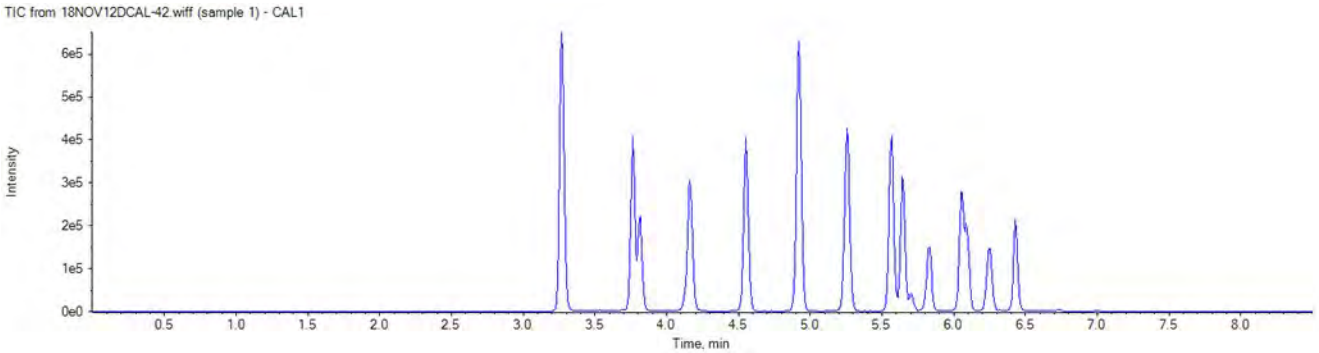
## Analyte Quantitation Peak Table

**Sample Name:** CAL1 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-42.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 | 32322.9 | | A | 13C4-PFBA | 3.27 | 763334.3 | 0.042 | 0.235 |
| PFPeA | 3.77 | 1.000 | 32633.1 | | M | 13C5-PFPeA | 3.76 | 771179.4 | 0.042 | 0.245 |
| PFBS | 3.81 | 1.000 | 18010.0 | | A | 13C3-PFBS | 3.81 | 445963.4 | 0.040 | 0.192 |
| 4:2-FTS | 4.13 | 1.000 | 3636.4 | | A | 13C2-4:2-FTS | 4.13 | 51494.6 | 0.071 | 0.192 |
| PFHxA | 4.16 | 1.000 | 39108.2 | | A | 13C5-PFHxA | 4.16 | 664975.9 | 0.059 | 0.246 |
| PFPeS | 4.18 | 1.100 | 9620.1 | | A | 13C3-PFBS | 3.81 | 445963.4 | 0.022 | 0.209 |
| PFHpA | 4.55 | 1.000 | 37545.4 | | A | 13C4-PFHpA | 4.55 | 528473.5 | 0.071 | 0.235 |
| PFHxS | 4.55 | 1.000 | 12858.1 | | M | 13C3-PFHxS | 4.55 | 327944.5 | 0.039 | 0.190 |
| 6:2-FTS | 4.90 | 1.000 | 2683.1 | | M | 13C2-6:2-FTS | 4.91 | 35455.2 | 0.076 | 0.183 |
| PFHpS | 4.91 | 1.080 | 13262.8 | | A | 13C3-PFHxS | 4.55 | 327944.5 | 0.040 | 0.213 |
| PFOA | 4.92 | 1.000 | 41468.0 | | A | 13C8-PFOA | 4.92 | 912537.7 | 0.045 | 0.243 |
| PFOS | 5.25 | 1.000 | 13088.5 | | M | 13C8-PFOS | 5.25 | 283127.4 | 0.046 | 0.202 |
| PFNA | 5.26 | 1.000 | 29660.1 | | A | 13C9-PFNA | 5.26 | 479931.4 | 0.062 | 0.223 |
| PFNS | 5.54 | 1.060 | 6846.6 | | A | 13C8-PFOS | 5.25 | 283127.4 | 0.024 | 0.169 |
| PFDA | 5.56 | 1.000 | 27488.6 | | A | 13C6-PFDA | 5.57 | 612577.4 | 0.045 | 0.238 |
| 8:2-FTS | 5.57 | 1.000 | 2333.1 | | A | 13C2-8:2-FTS | 5.57 | 26445.5 | 0.088 | 0.206 |
| PFOSA | 5.64 | 1.000 | 29582.8 | | A | 13C8-PFOSA | 5.65 | 664489.9 | 0.045 | 0.217 |
| NMeFOSAA | 5.71 | 1.000 | 2306.4 | | A | d3-NMeFOSAA | 5.70 | 86914.5 | 0.027 | 0.150 |
| PFDS | 5.80 | 1.100 | 5952.2 | | A | 13C8-PFOS | 5.25 | 283127.4 | 0.021 | 0.190 |
| PFUnDA | 5.82 | 1.000 | 23379.5 | | A | 13C7-PFUnDA | 5.83 | 256402.0 | 0.091 | 0.238 |
| NEtFOSAA | 5.85 | 1.000 | 2284.9 | | A | d5-NEtFOSAA | 5.84 | 80597.2 | 0.028 | 0.149 |
| PFDoDA | 6.05 | 1.000 | 22143.6 | | A | 13C2-PFDoDA | 6.05 | 545413.2 | 0.041 | 0.207 |
| 10:2-FTS | 6.07 | 1.090 | 1814.2 | | A | 13C2-8:2-FTS | 5.57 | 26445.5 | 0.069 | 0.229 |
| NMePFOSAE | 6.10 | 1.000 | 18013.9 | | A | d7-NMePFOSAE | 6.09 | 349854.5 | 0.051 | 0.214 |
| NMePFOSA | 6.11 | 1.000 | 2376.3 | | A | d3-NMePFOSA | 6.10 | 78396.5 | 0.030 | 0.150 |
| PFDoS | 6.22 | 1.190 | 3520.9 | | A | 13C8-PFOS | 5.25 | 283127.4 | 0.012 | 0.218 |
| NEtPFOSAE | 6.26 | 1.000 | 21005.9 | | A | d9-NEtPFOSAE | 6.24 | 280311.6 | 0.075 | 0.240 |
| NEtPFOSA | 6.27 | 1.000 | 2846.2 | | M | d5-NEtPFOSA | 6.26 | 63047.1 | 0.045 | 0.207 |
| PFTrDA | 6.25 | 1.030 | 20185.1 | | M | 13C2-PFDoDA | 6.05 | 545413.2 | 0.037 | 0.234 |
| PFTeDA | 6.43 | 1.000 | 16357.5 | | A | 13C2-PFTeDA | 6.43 | 410633.0 | 0.040 | 0.223 |
| PFHxDA | 6.73 | 1.050 | 7976.0 | | M | 13C2-PFTeDA | 6.43 | 410633.0 | 0.019 | 0.231 |
| PFODA | 7.00 | 1.090 | 6020.3 | | A | 13C2-PFTeDA | 6.43 | 410633.0 | 0.015 | 0.204 |

## Total Ion Chromatogram



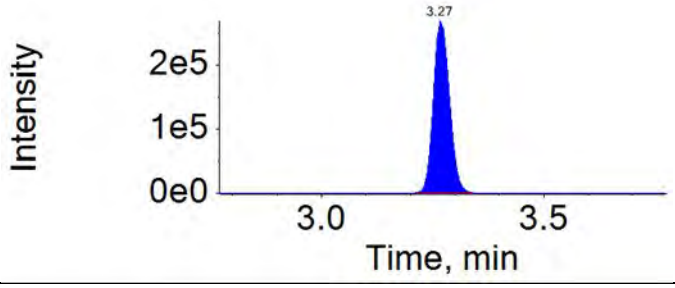

APPROVED
*By MCD at 6:33 pm, 11/12/18*



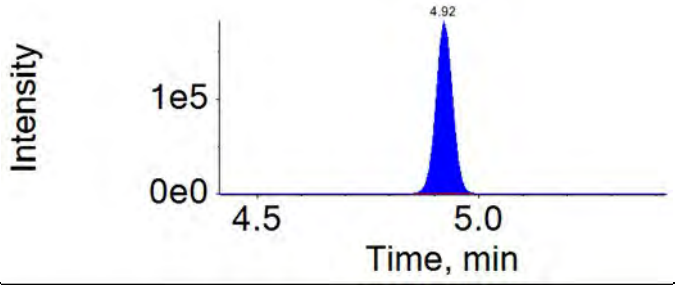
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

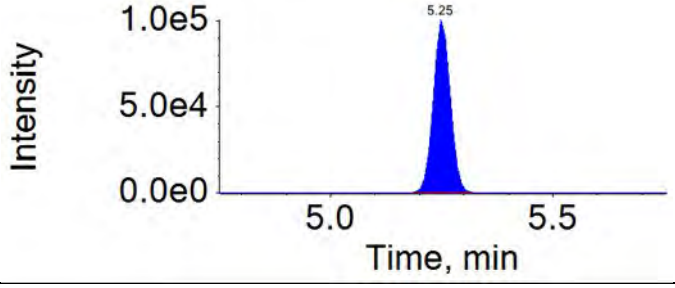
Injection Standard: 13C3-PFBA
216.0 / 172.0



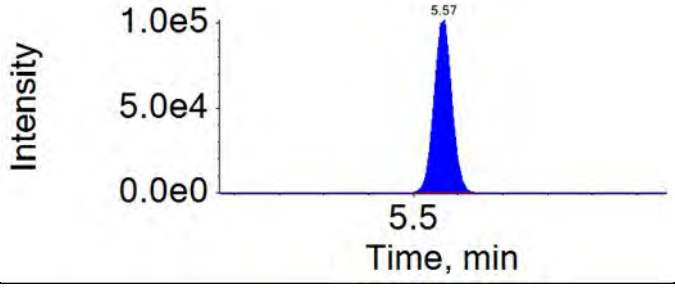

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



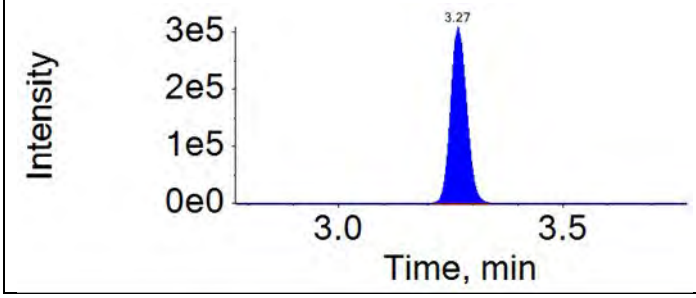

APPROVED
*By MCD at 6:33 pm, 11/12/18*

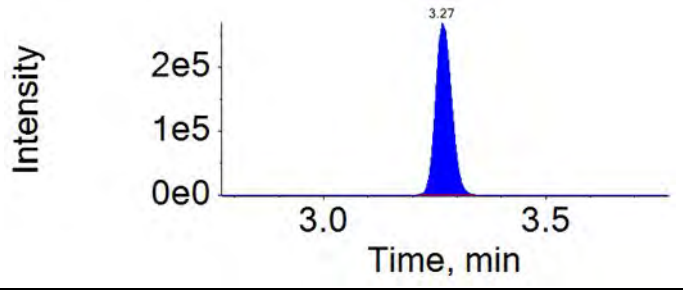


REVIEWED
*By HMK at 10:53 am, 11/13/18*

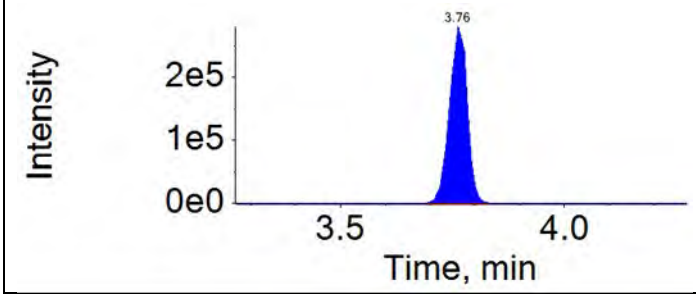
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

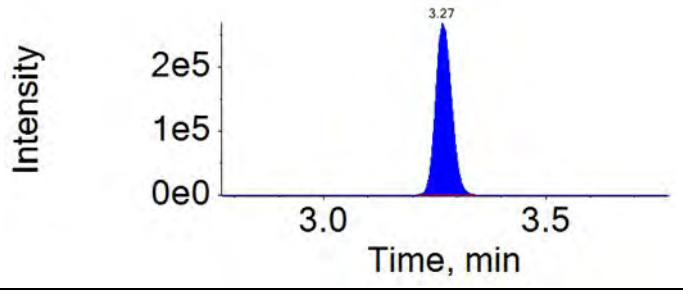
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



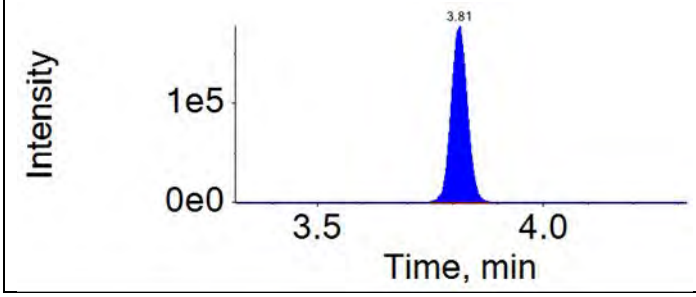



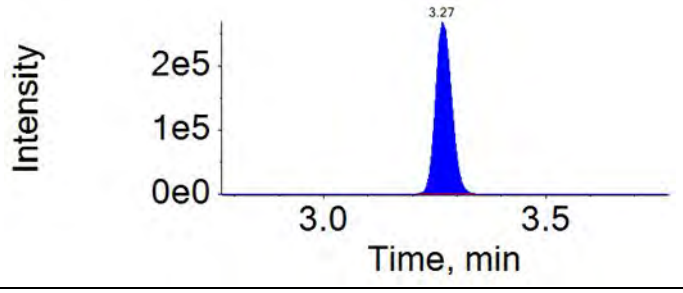

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



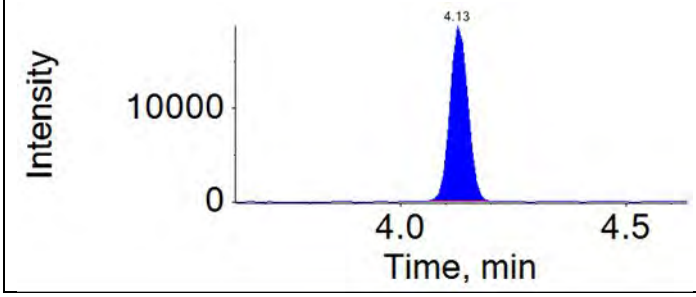



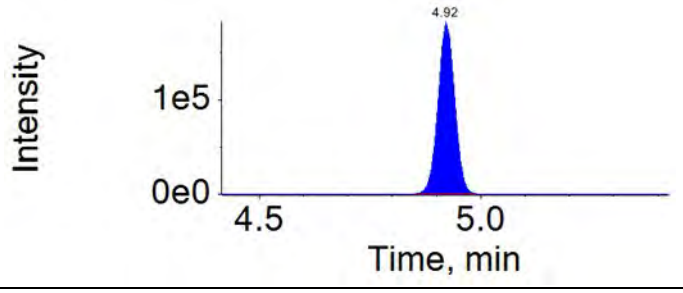

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



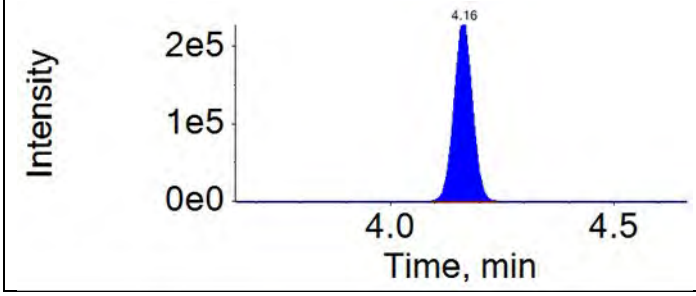

APPROVED
*By MCD at 6:33 pm, 11/12/18*

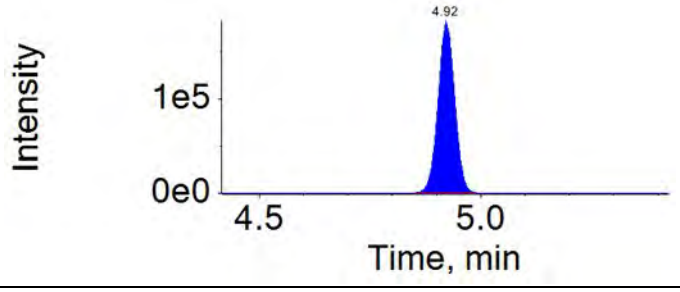


REVIEWED
*By HMK at 10:53 am, 11/13/18*

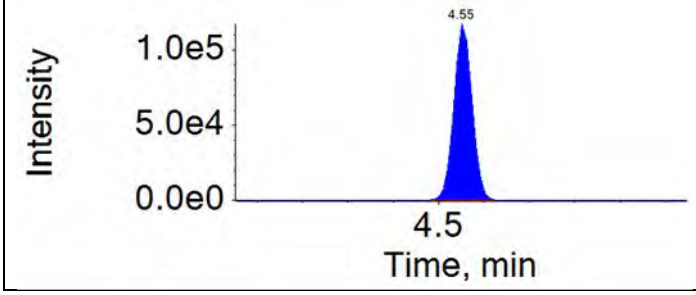
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

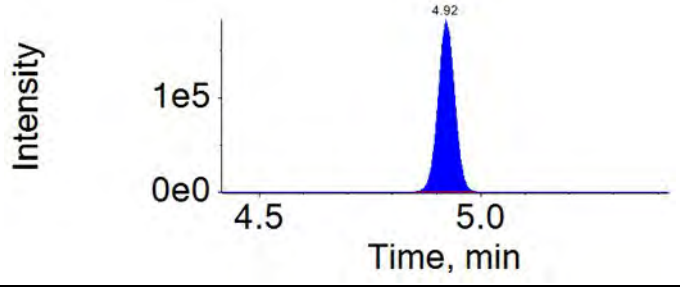
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



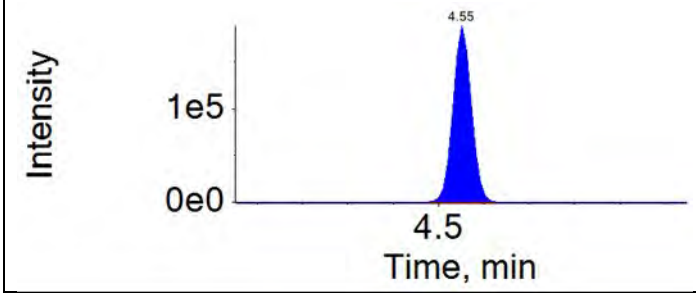



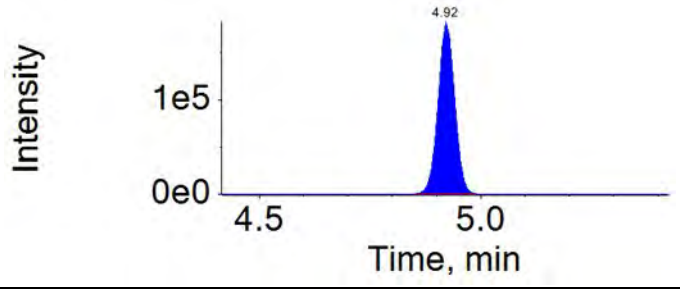

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



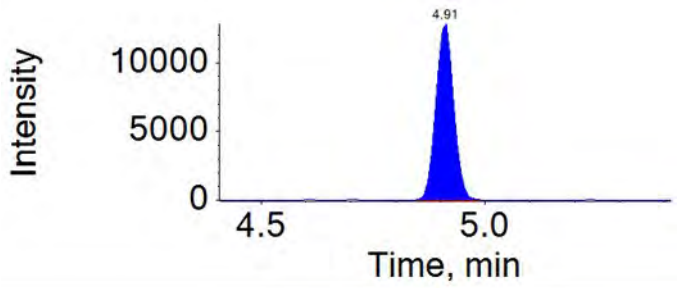



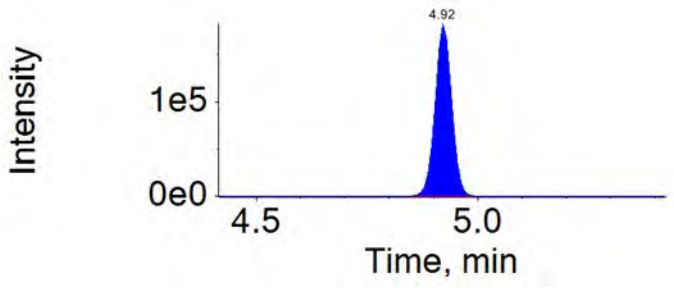

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



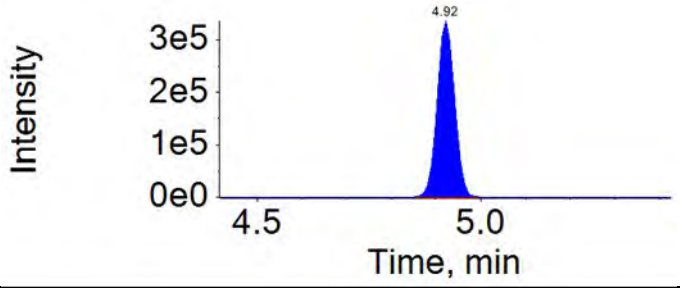
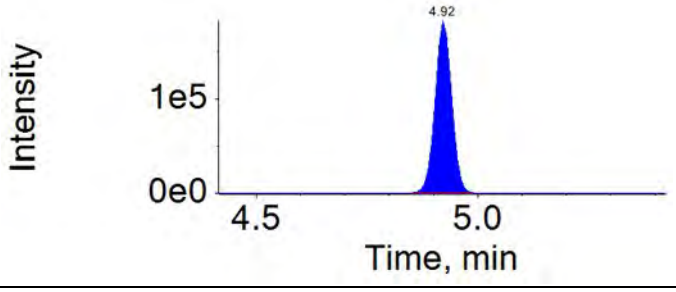




APPROVED
*By MCD at 6:33 pm, 11/12/18*



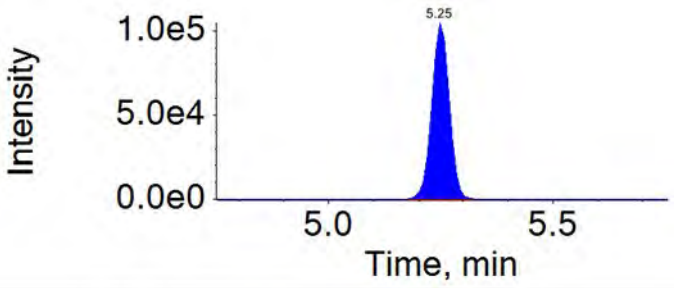
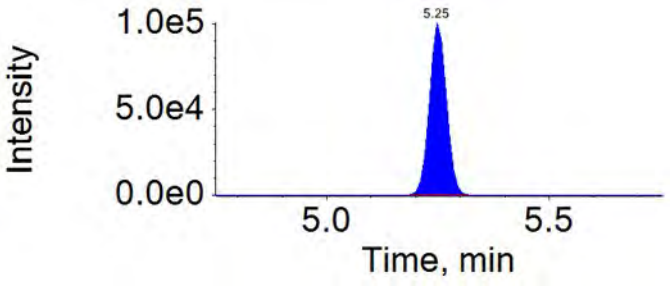
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

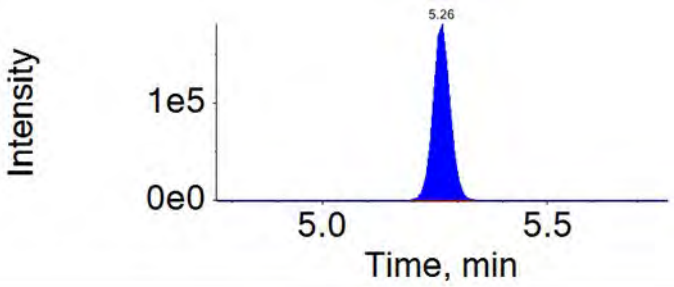
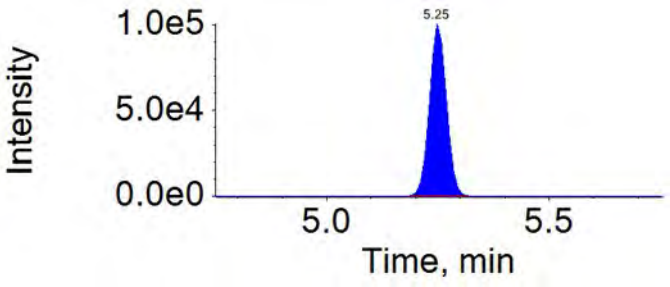




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

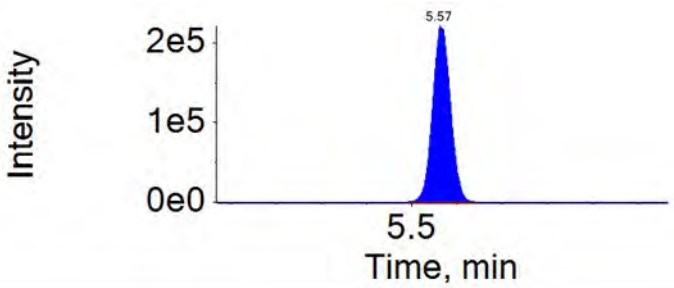
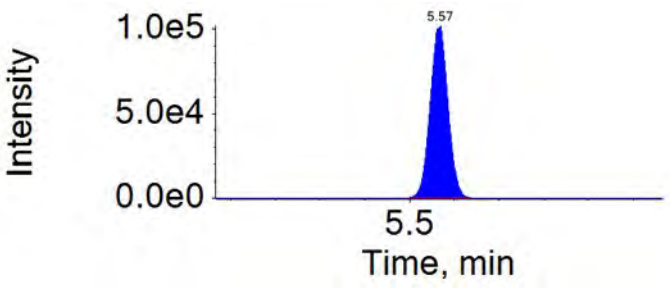




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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



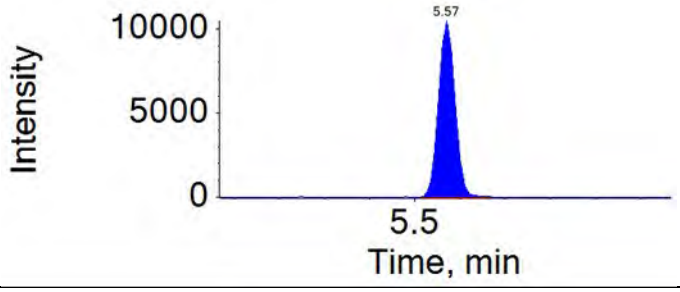
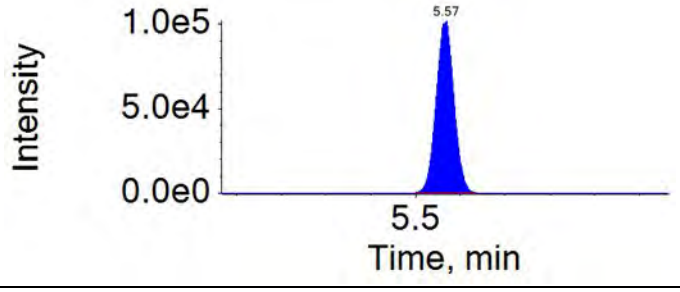


APPROVED
*By MCD at 6:33 pm, 11/12/18*



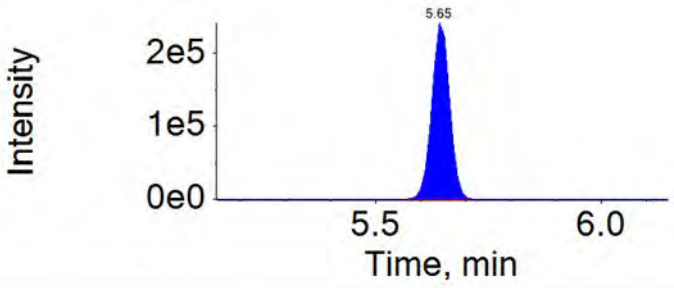
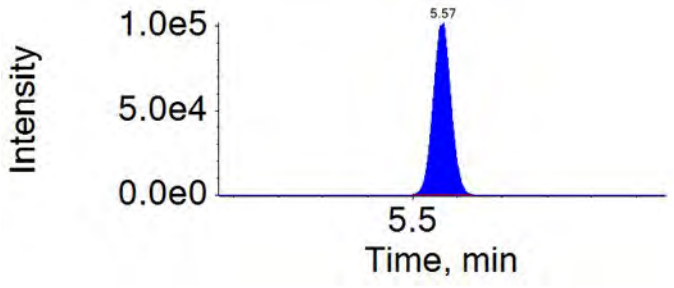
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

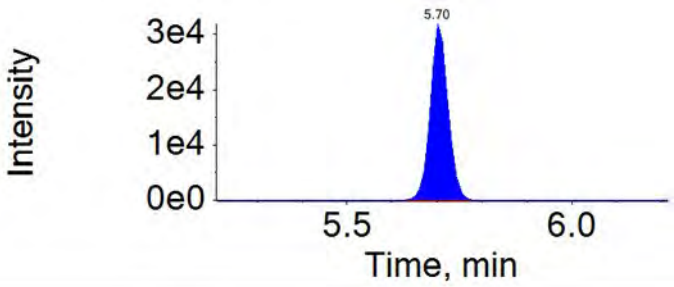
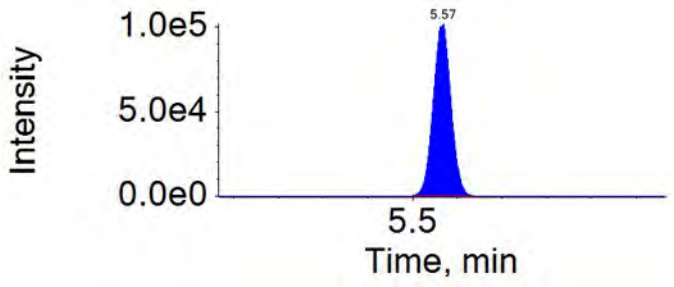




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

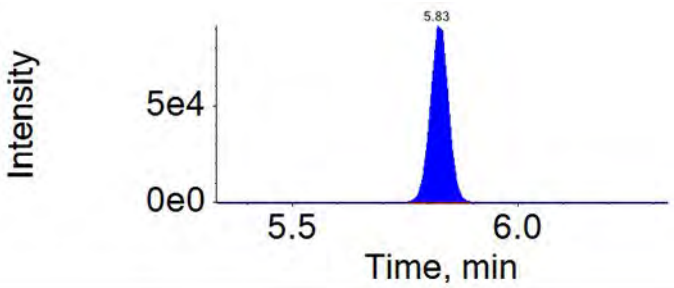
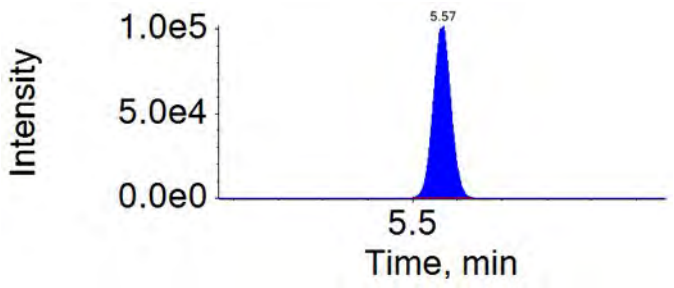




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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



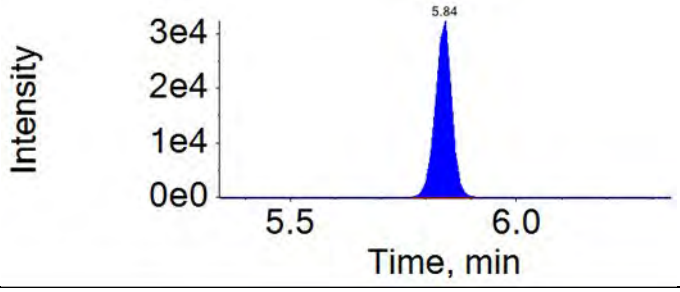
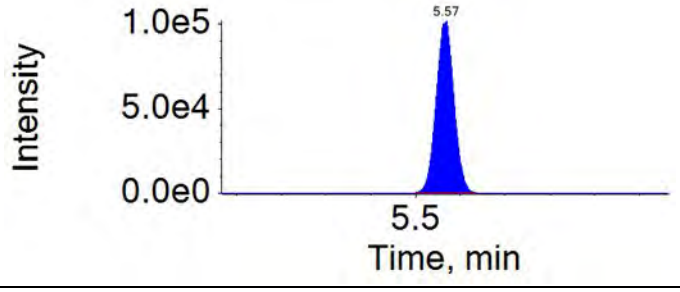


APPROVED
*By MCD at 6:33 pm, 11/12/18*



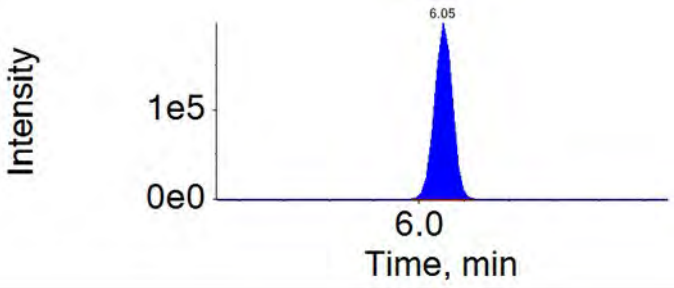
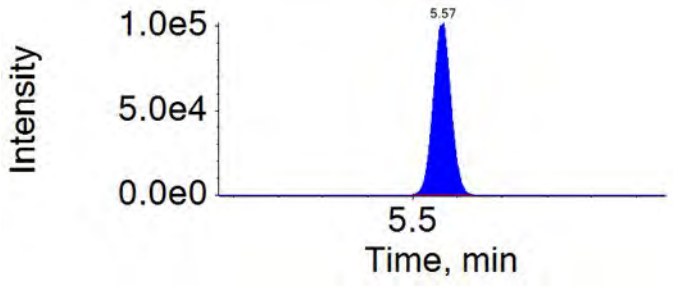
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

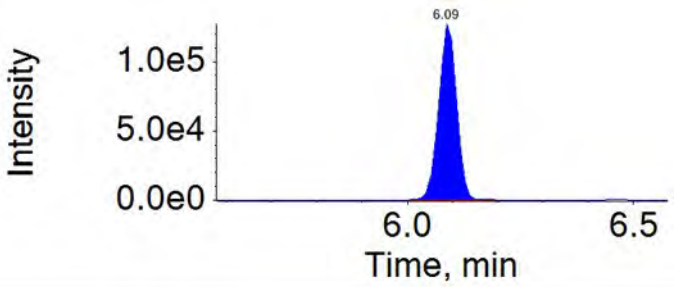
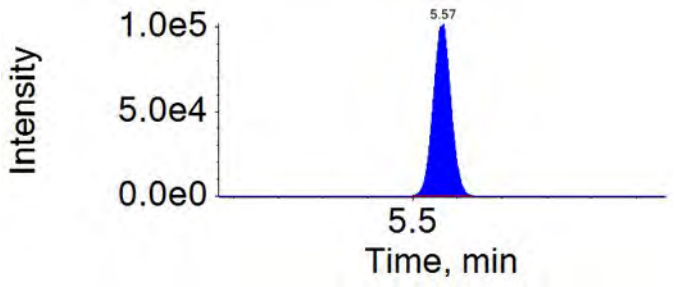




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

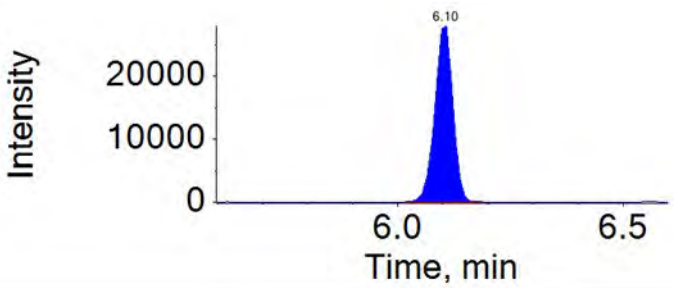
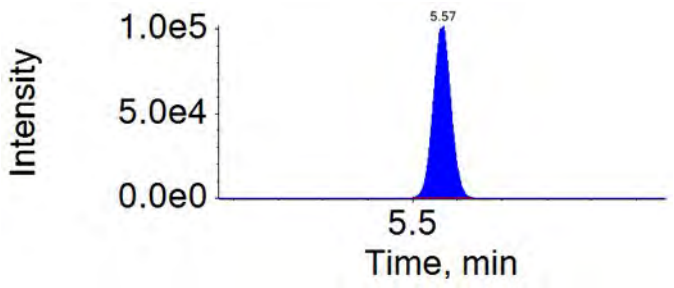




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





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





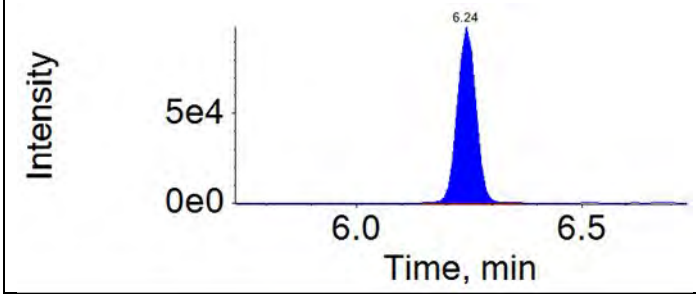
APPROVED
*By MCD at 6:33 pm, 11/12/18*

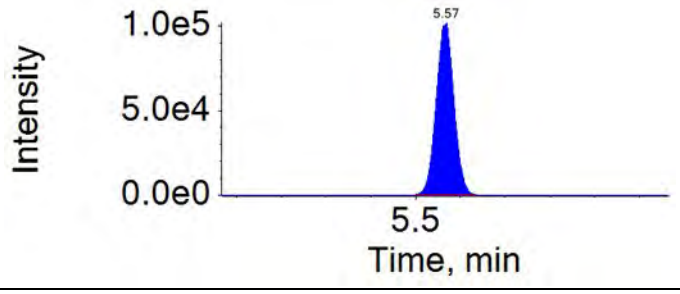


REVIEWED
*By HMK at 10:53 am, 11/13/18*

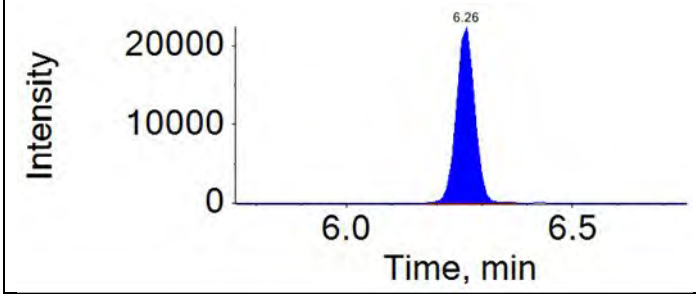
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

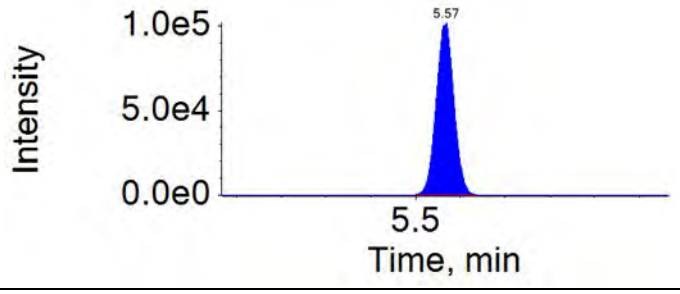
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



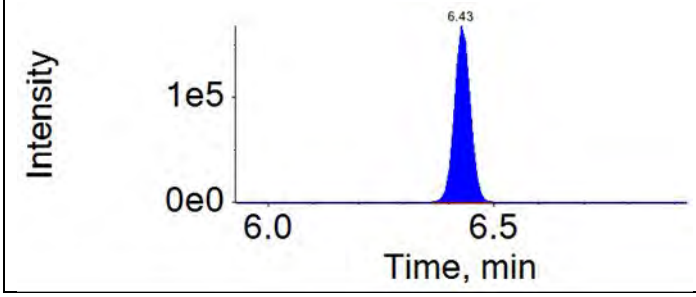



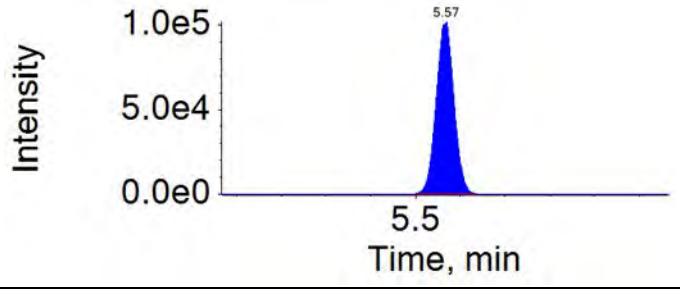

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



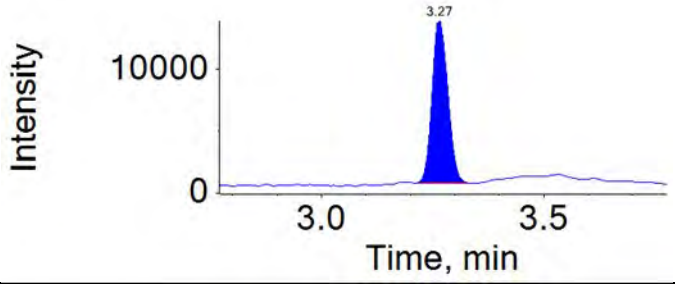

APPROVED
*By MCD at 6:33 pm, 11/12/18*

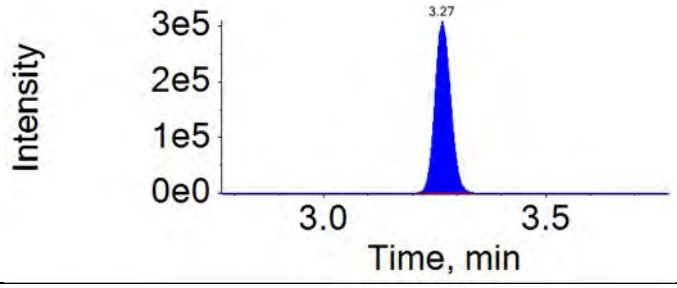


REVIEWED
*By HMK at 10:53 am, 11/13/18*

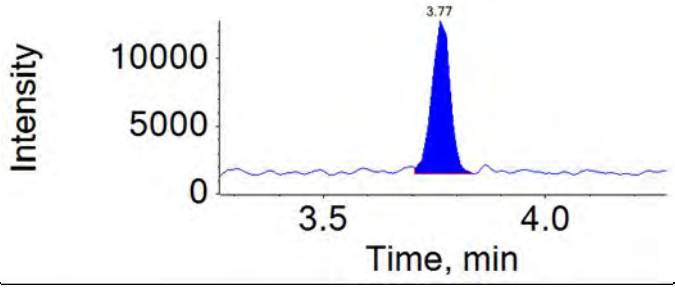
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

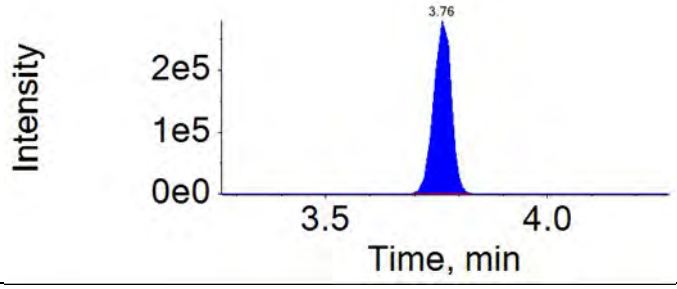
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



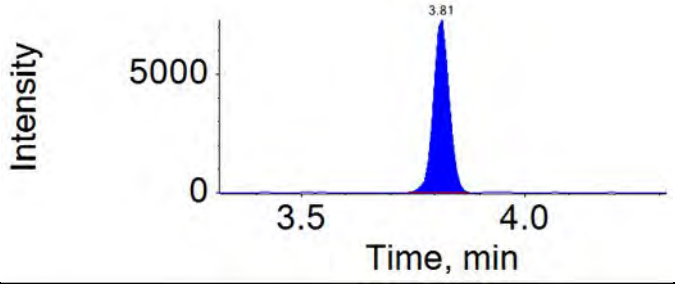



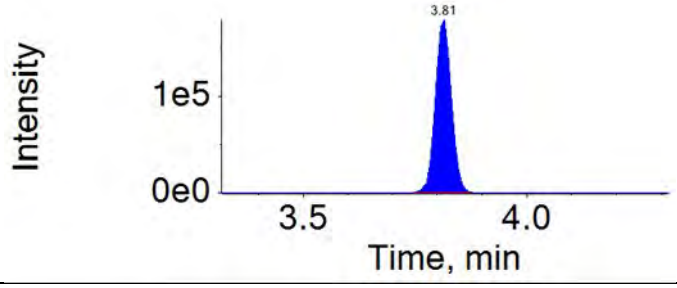

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



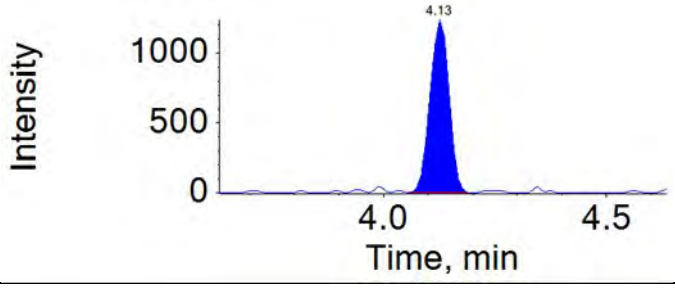



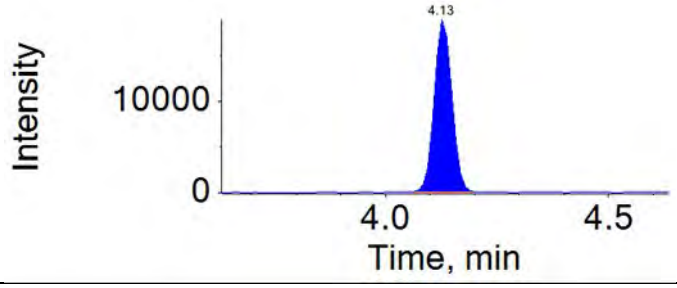

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



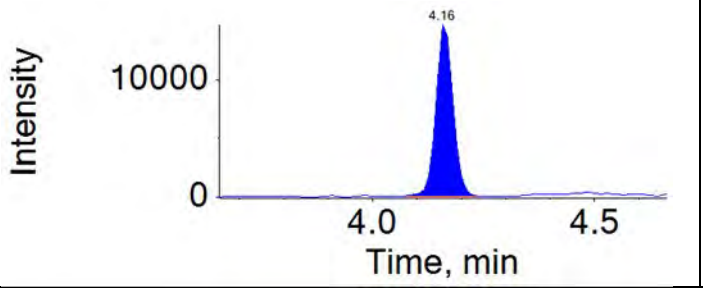

APPROVED
*By MCD at 6:33 pm, 11/12/18*

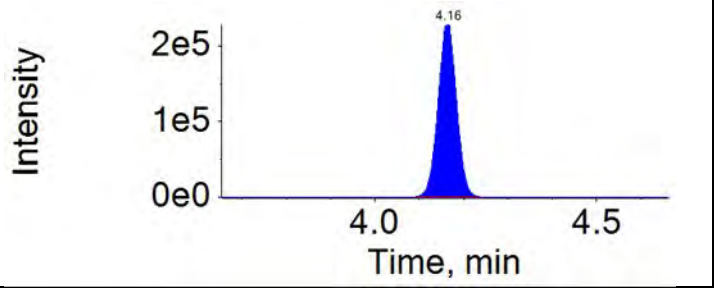


REVIEWED
*By HMK at 10:53 am, 11/13/18*

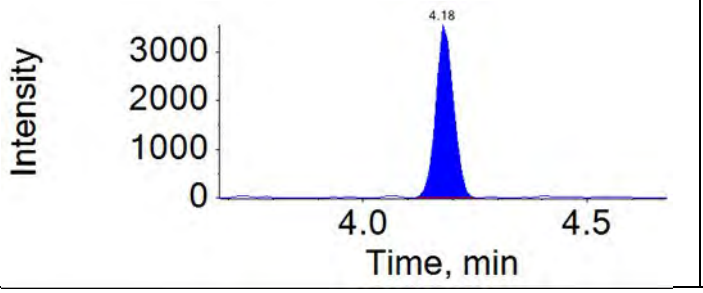
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

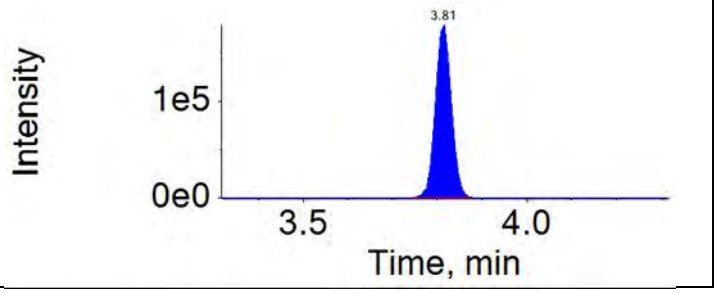
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



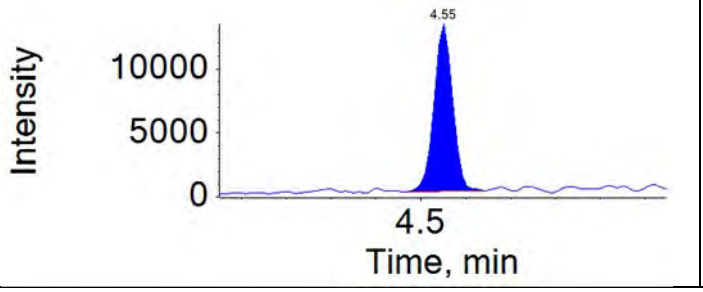



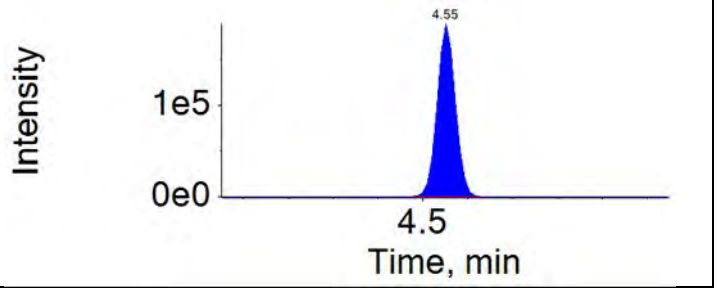

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



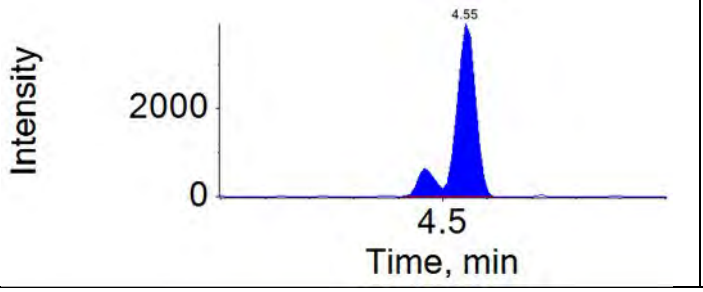



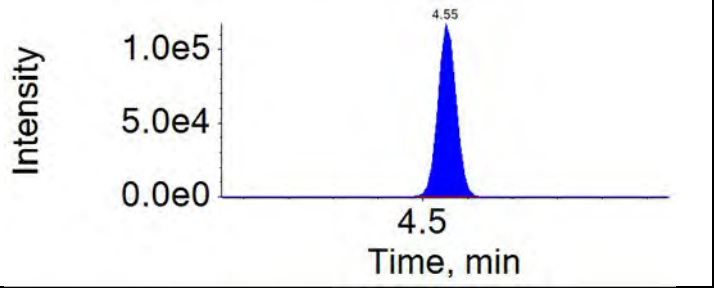

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



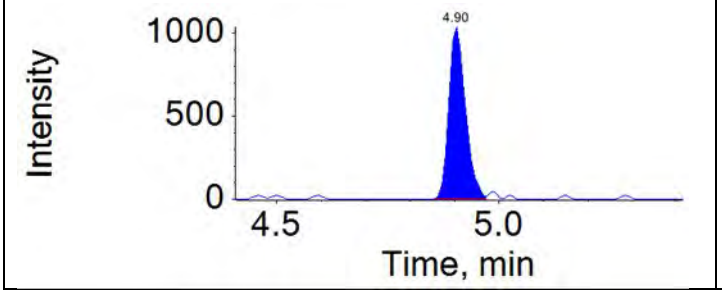

APPROVED
*By MCD at 6:33 pm, 11/12/18*

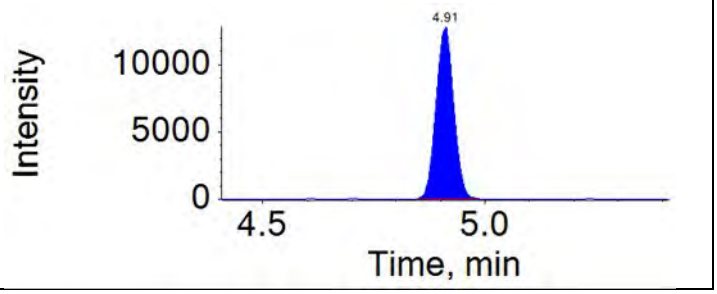


REVIEWED
*By HMK at 10:53 am, 11/13/18*

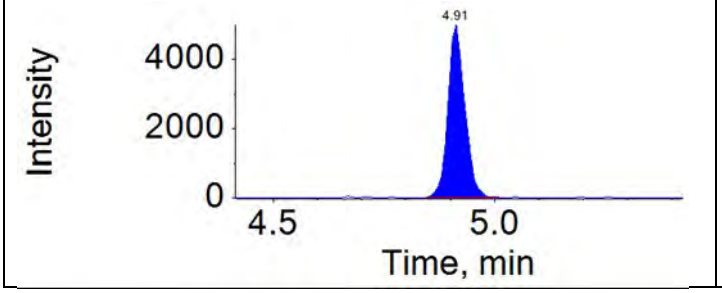
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

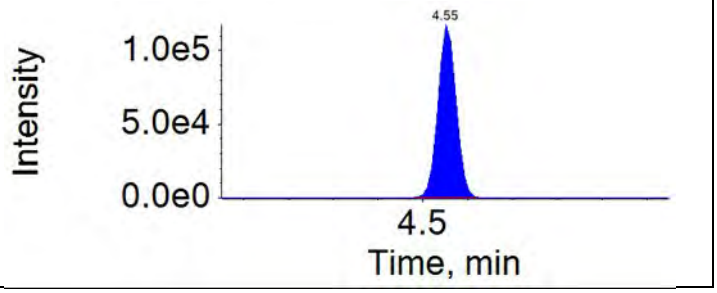
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



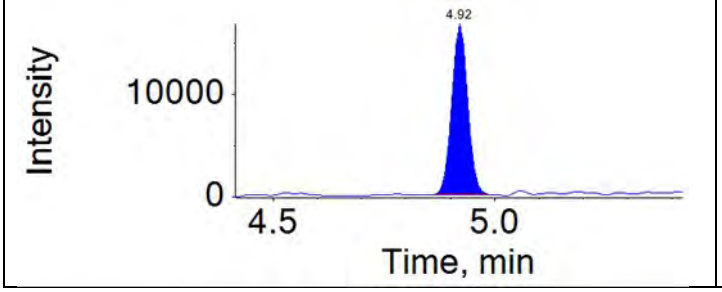



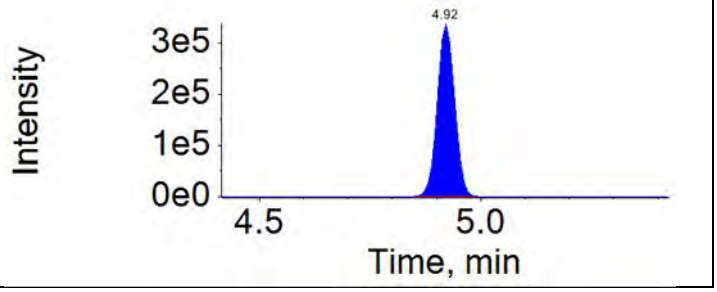

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



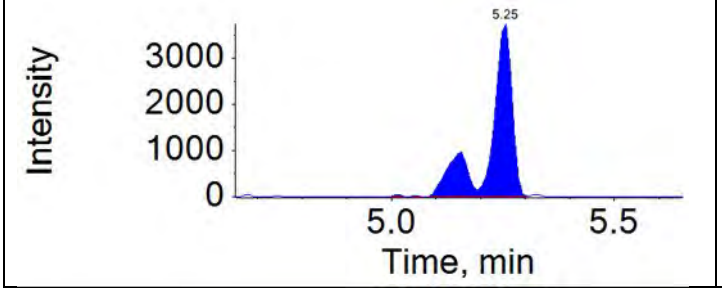



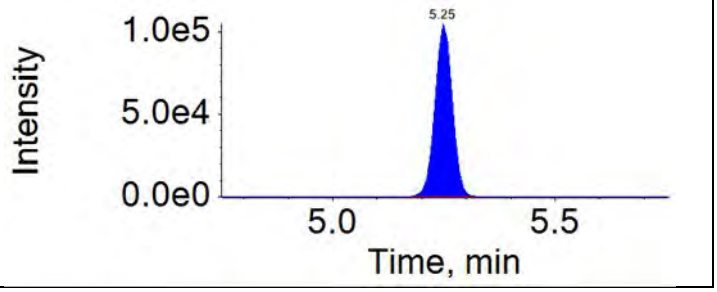

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



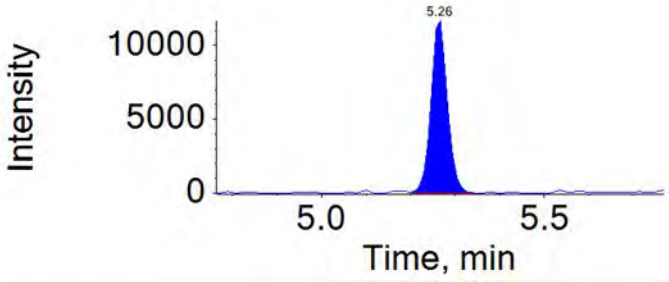

APPROVED
*By MCD at 6:33 pm, 11/12/18*

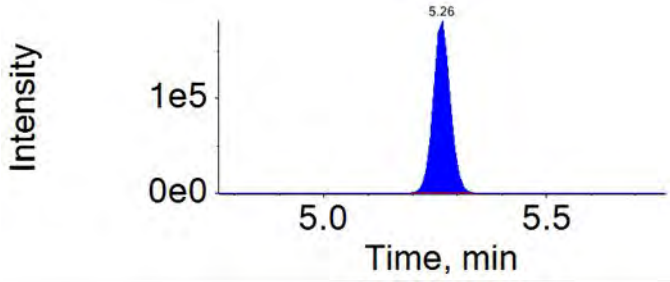


REVIEWED
*By HMK at 10:53 am, 11/13/18*

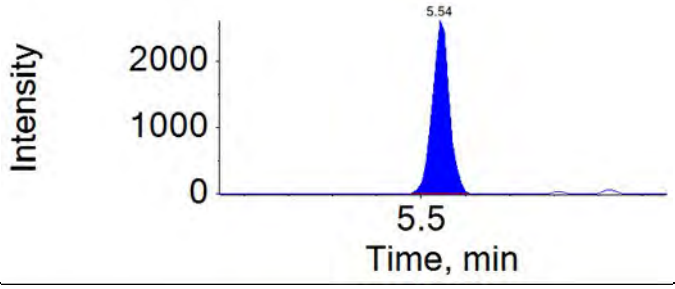
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

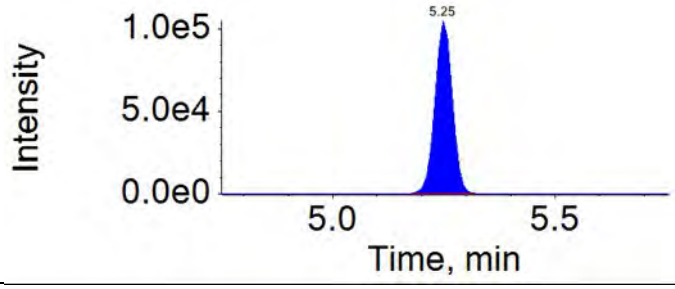
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



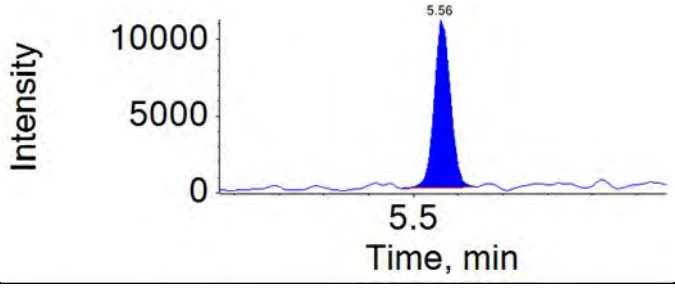



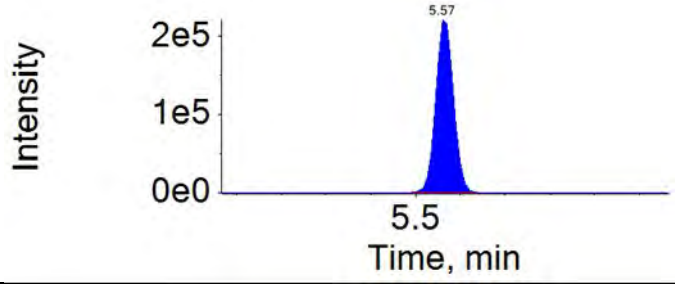

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



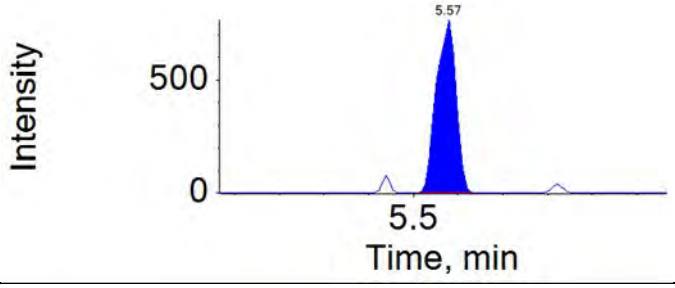



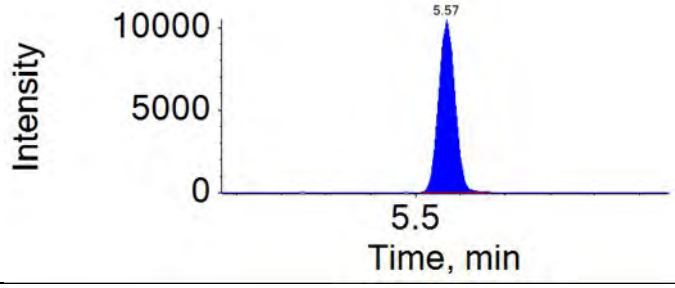

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



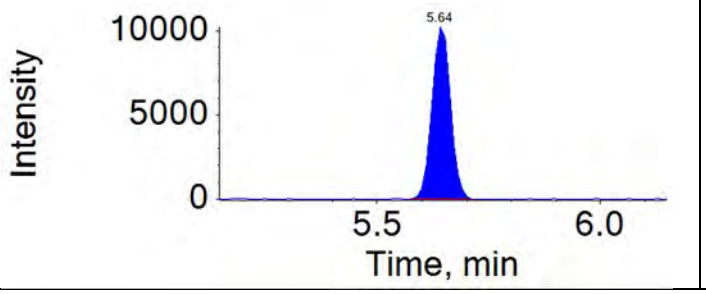

APPROVED
*By MCD at 6:33 pm, 11/12/18*

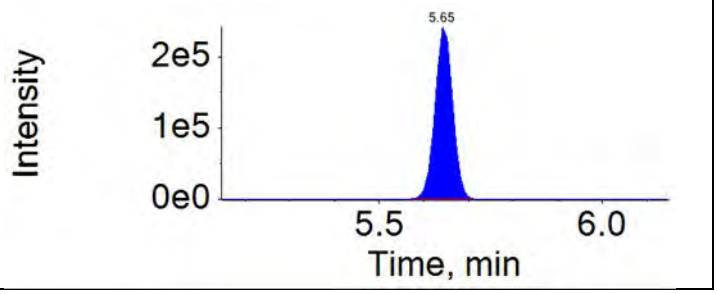


REVIEWED
*By HMK at 10:53 am, 11/13/18*

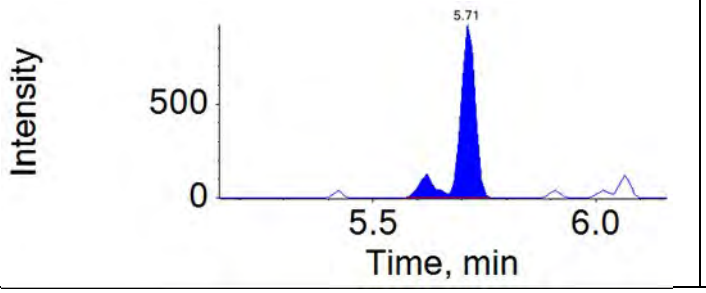
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

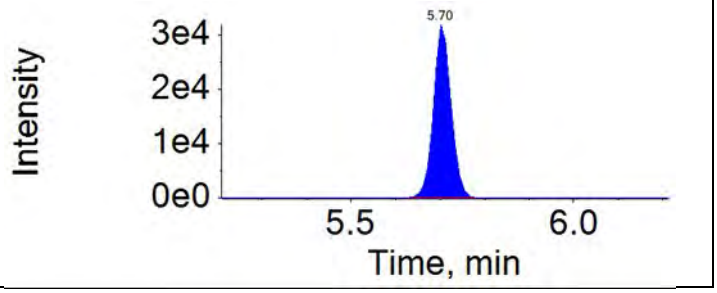
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



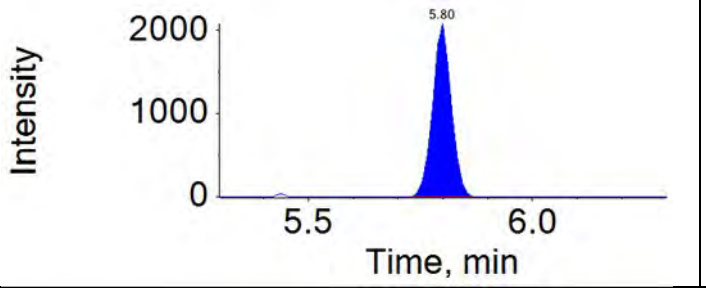



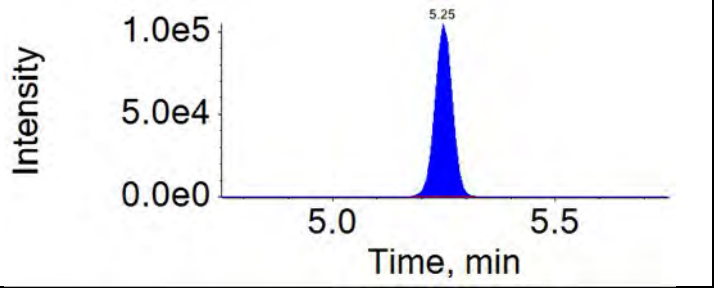

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



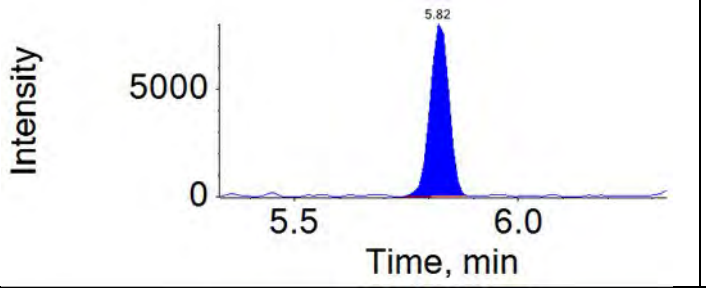



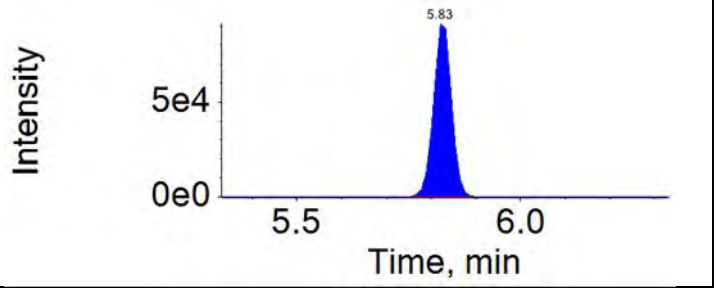

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



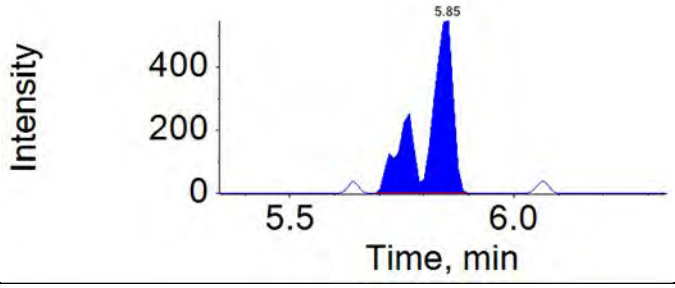
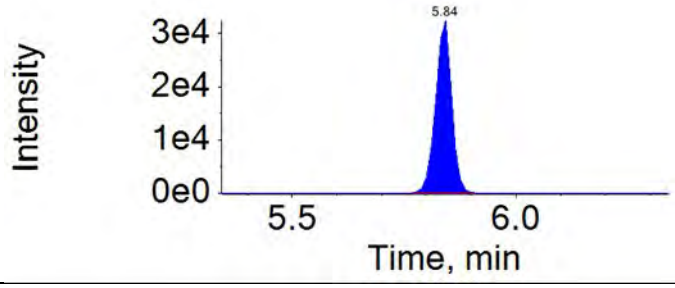




APPROVED
*By MCD at 6:33 pm, 11/12/18*



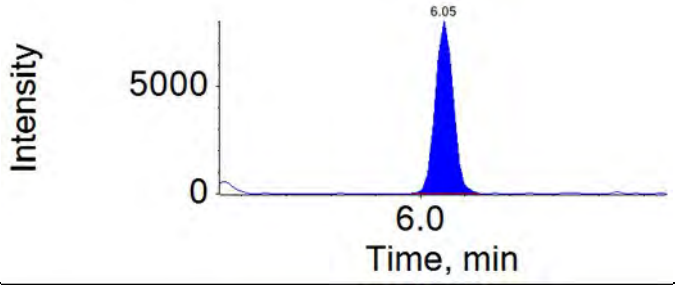
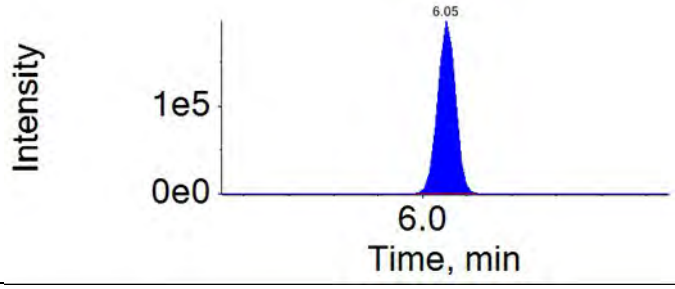
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

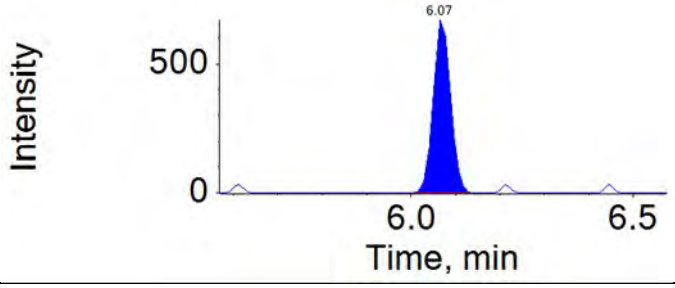
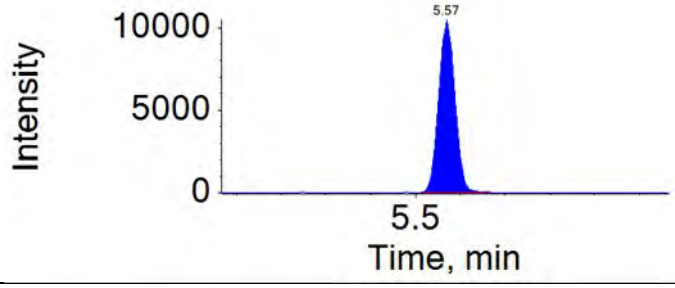




| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |
|  |  |

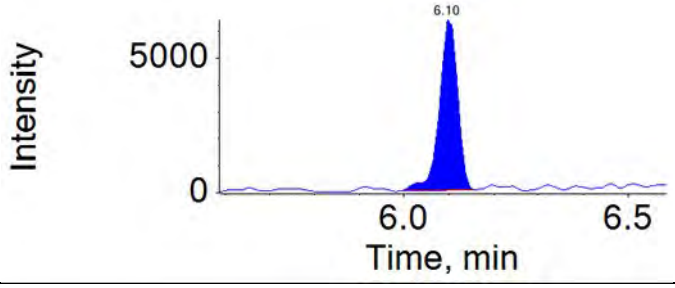
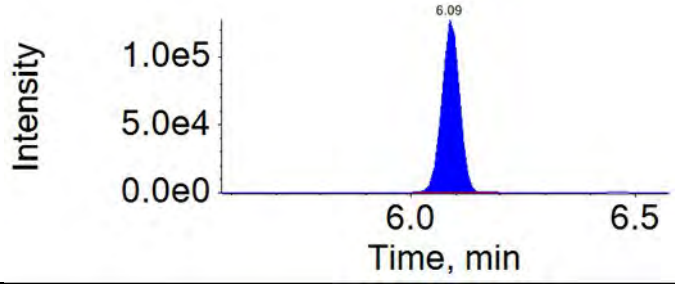




| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |
|  |  |

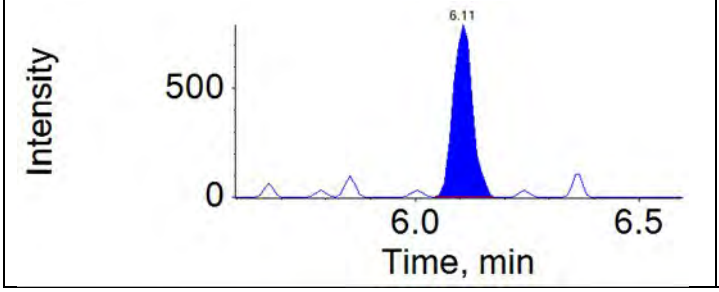


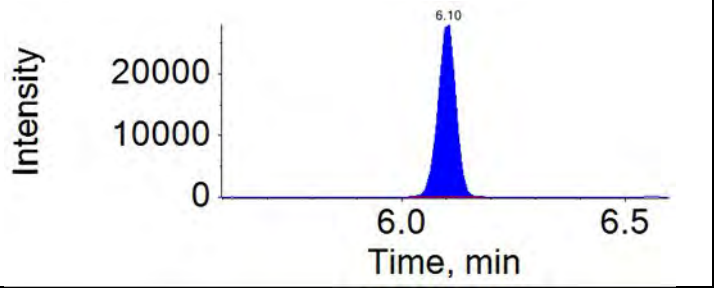


| Analyte: NMePFOSAE | Extraction Standard: d7-NMePFOSAE |
|---|---|
| 616.0 / 59.0 | 623.0 / 59.0 |
|  |  |

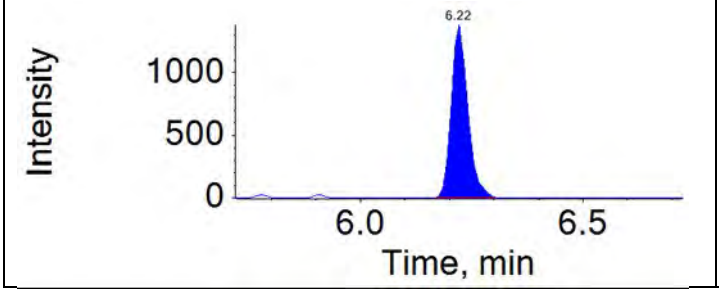
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

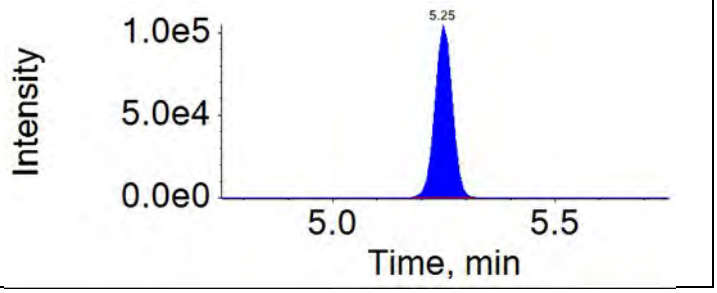
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



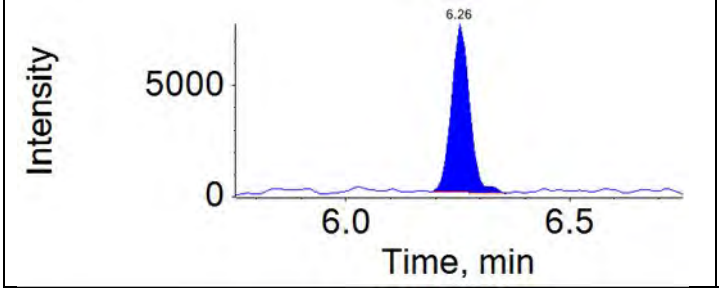



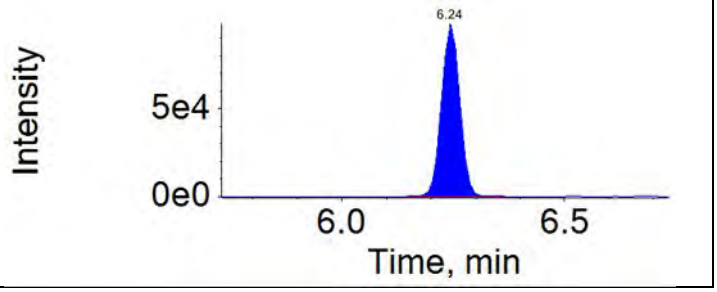

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



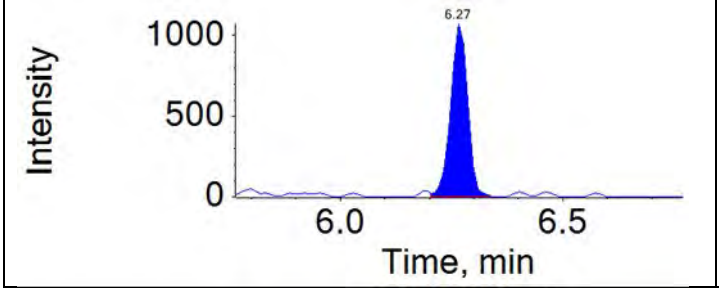



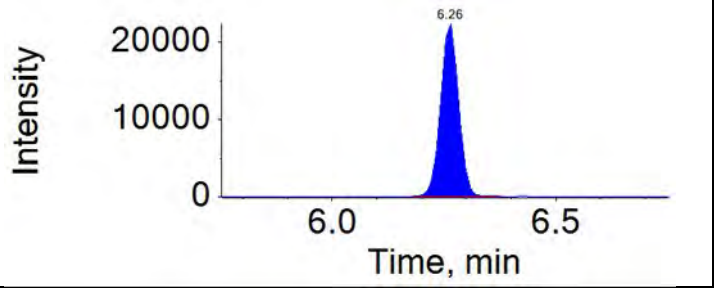

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



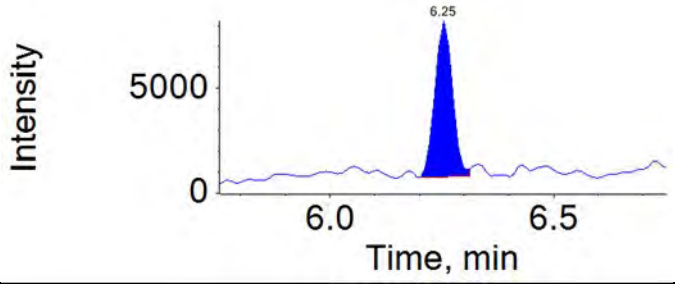
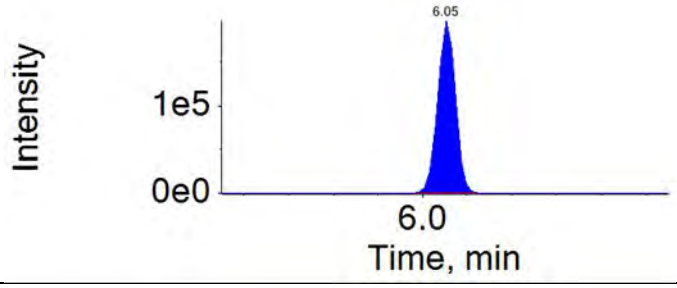




APPROVED
*By MCD at 6:33 pm, 11/12/18*



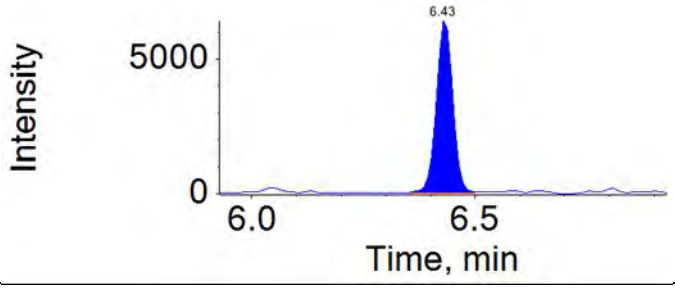
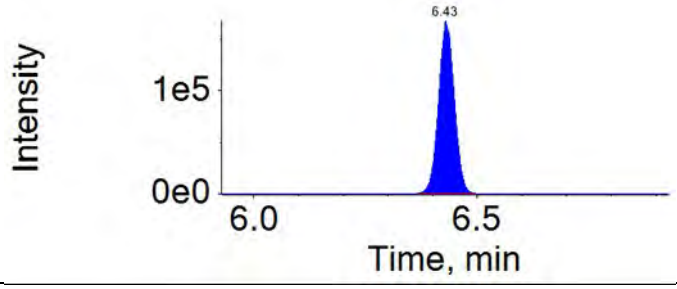
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

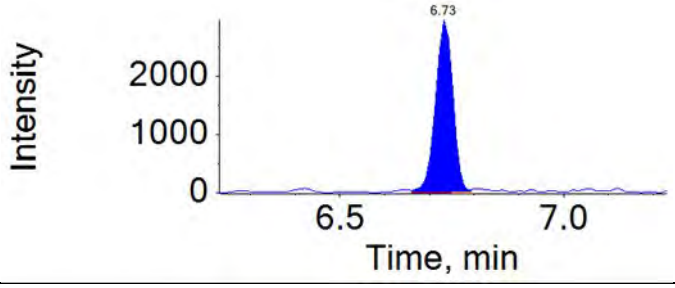
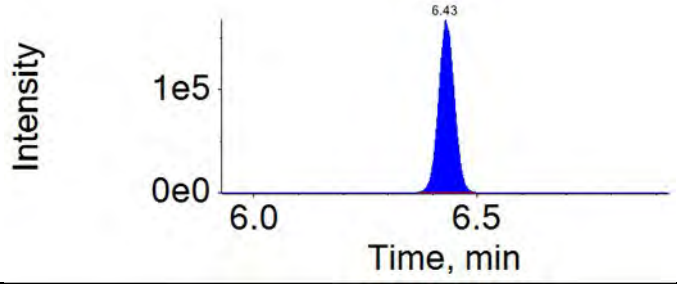




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

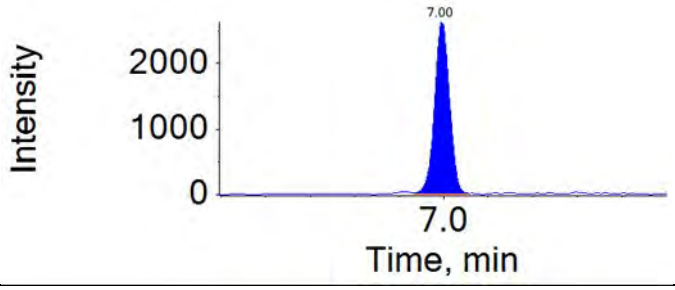
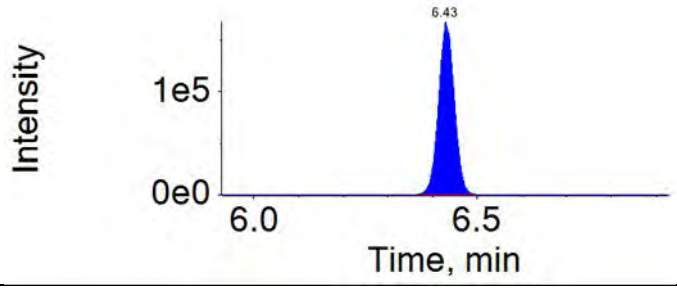




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





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



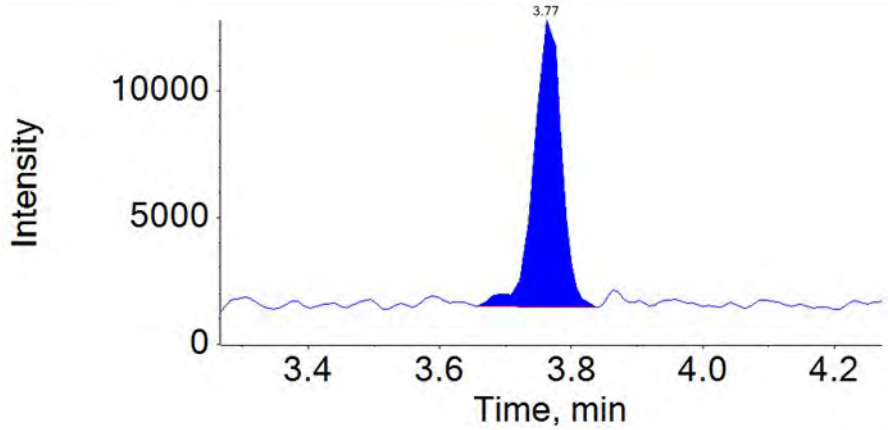


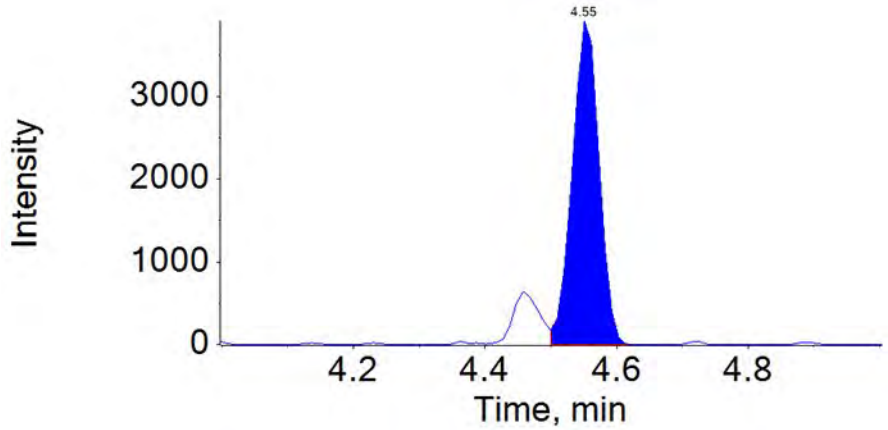
APPROVED
*By MCD at 6:33 pm, 11/12/18*

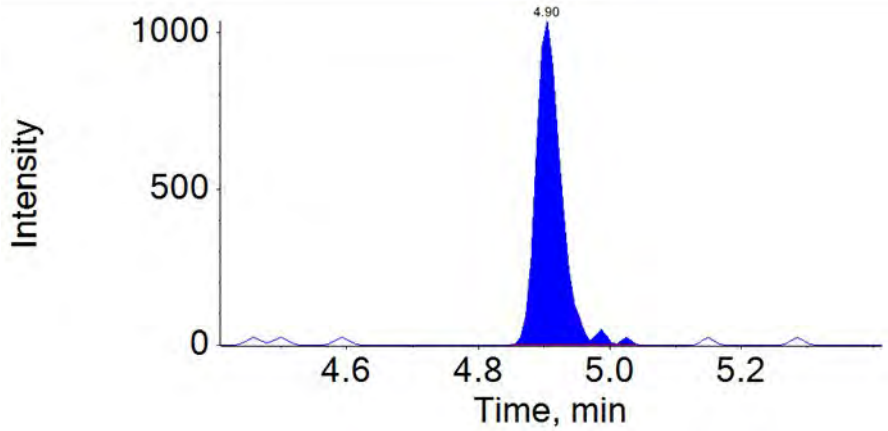


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFPeA<br>**RT (min.):** 3.77<br>**Peak Area:** 33474.86<br>**Mass Range:** 263.0 / 219.0<br>**File Name:** 18NOV12DCAL-42.wiff<br>**Sample Name:** CAL1 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFHxS<br>**RT (min.):** 4.55<br>**Peak Area:** 11101.81<br>**Mass Range:** 399.0 / 80.0<br>**File Name:** 18NOV12DCAL-42.wiff<br>**Sample Name:** CAL1 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** 6:2-FTS<br>**RT (min.):** 4.90<br>**Peak Area:** 2772.78<br>**Mass Range:** 427.0 / 407.0<br>**File Name:** 18NOV12DCAL-42.wiff<br>**Sample Name:** CAL1 | <br>**Integration Comment:** incorrect integration |

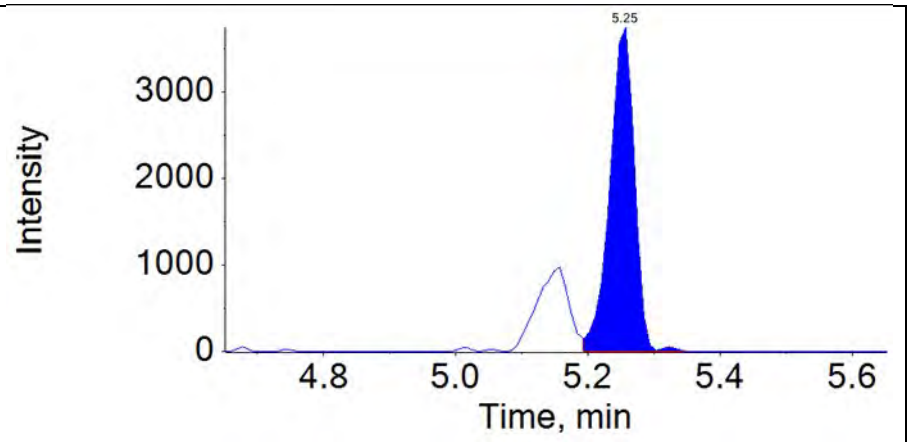
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

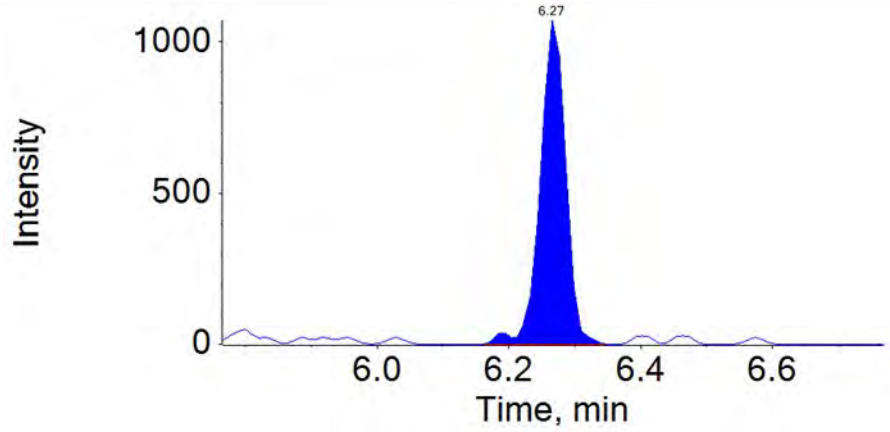
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFOS
**RT (min.):**
5.25
**Peak Area:**
9779.70
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-42.wiff
**Sample Name:**
CAL1



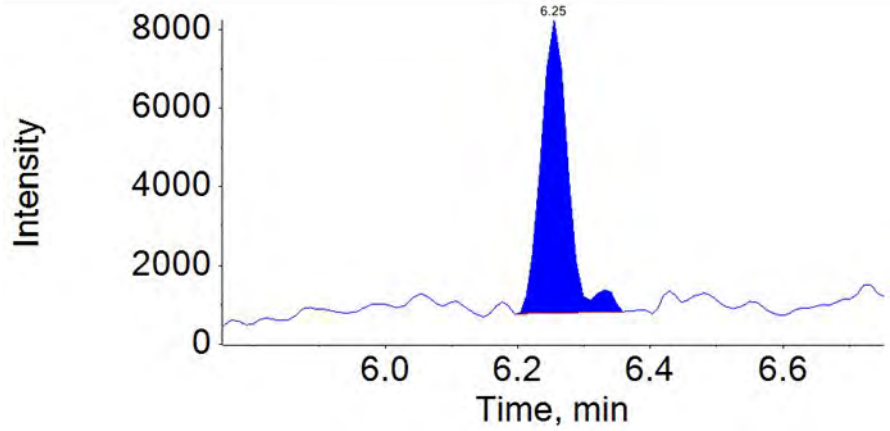

**Integration Comment:** incorrect integration

**Component Name:**
NEtPFOSA
**RT (min.):**
6.27
**Peak Area:**
2904.33
**Mass Range:**
526.0 / 169.0
**File Name:**
18NOV12DCAL-42.wiff
**Sample Name:**
CAL1




**Integration Comment:** incorrect integration

**Component Name:**
PFTrDA
**RT (min.):**
6.25
**Peak Area:**
21221.75
**Mass Range:**
663.0 / 619.0
**File Name:**
18NOV12DCAL-42.wiff
**Sample Name:**
CAL1




**Integration Comment:** incorrect integration

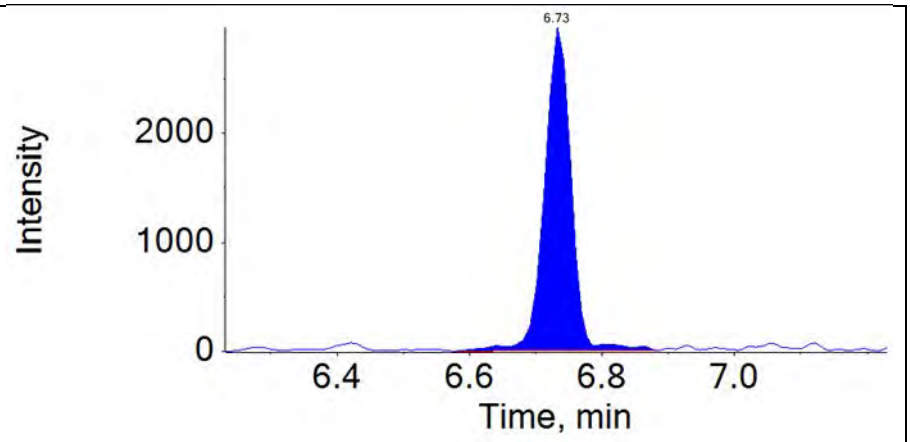
APPROVED
*By MCD at 6:33 pm, 11/12/18*



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*By HMK at 10:53 am, 11/13/18*

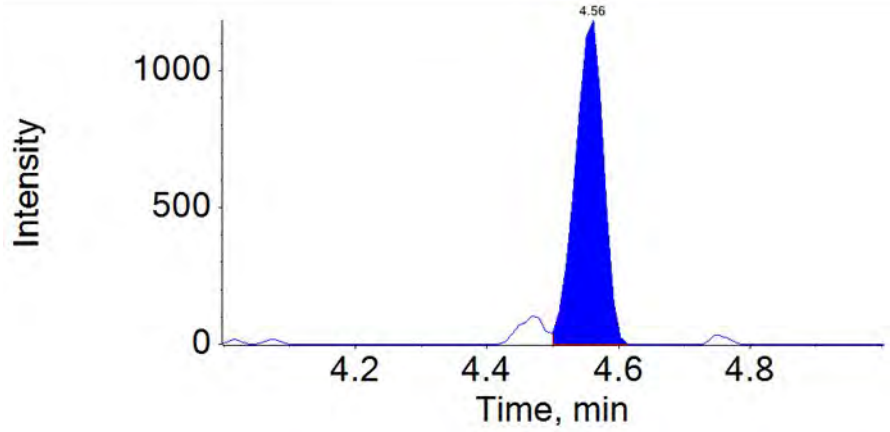
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**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxDA
**RT (min.):**
6.73
**Peak Area:**
8304.86
**Mass Range:**
813.0 / 769.0
**File Name:**
18NOV12DCAL-42.wiff
**Sample Name:**
CAL1



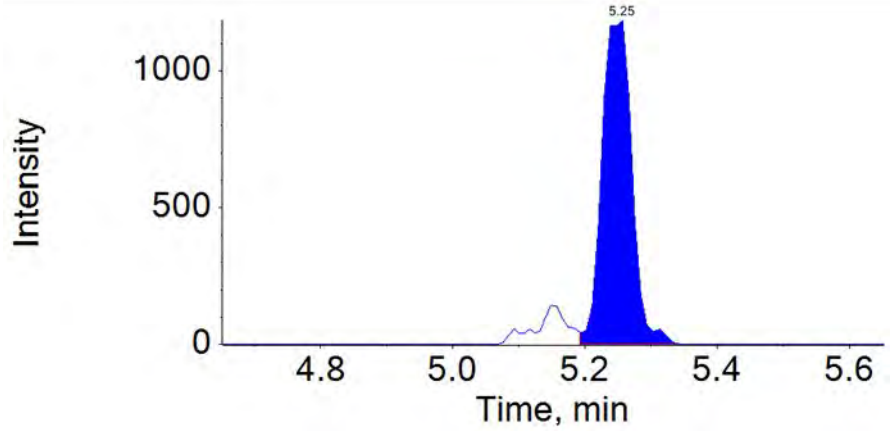

**Integration Comment:** incorrect integration

**Component Name:**
PFHxS_2
**RT (min.):**
4.56
**Peak Area:**
3529.38
**Mass Range:**
399.0 / 99.0
**File Name:**
18NOV12DCAL-42.wiff
**Sample Name:**
CAL1




**Integration Comment:** incorrect integration

**Component Name:**
PFOS_2
**RT (min.):**
5.25
**Peak Area:**
3773.94
**Mass Range:**
499.0 / 99.0
**File Name:**
18NOV12DCAL-42.wiff
**Sample Name:**
CAL1



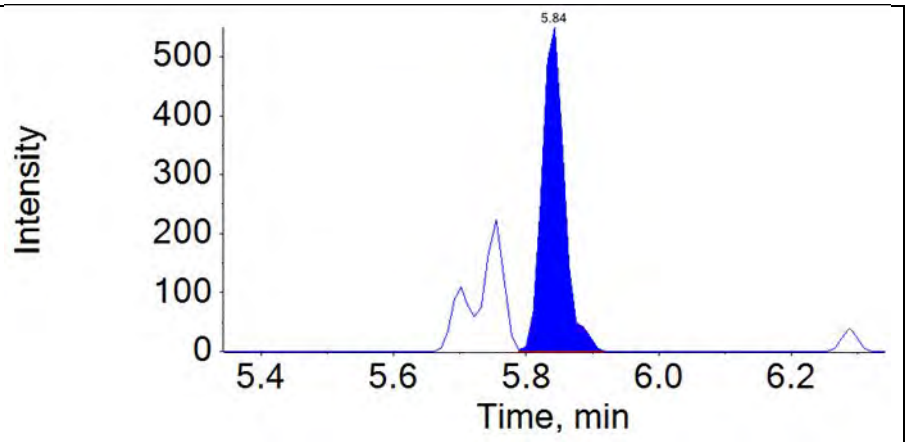

**Integration Comment:** incorrect integration

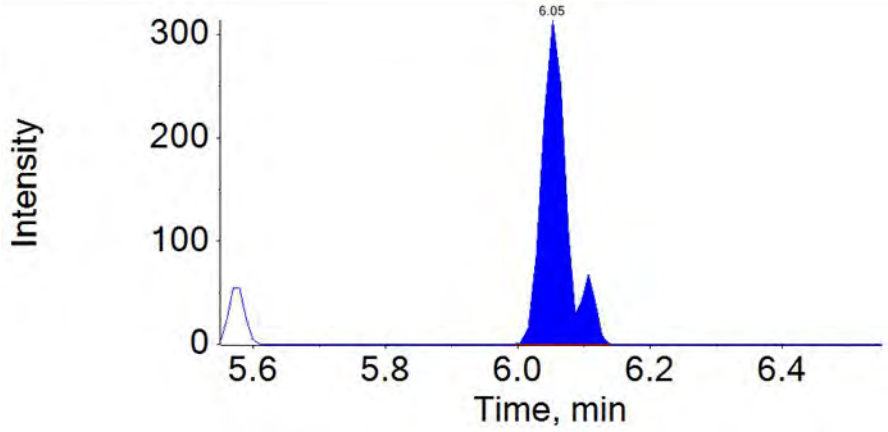
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*By MCD at 6:33 pm, 11/12/18*

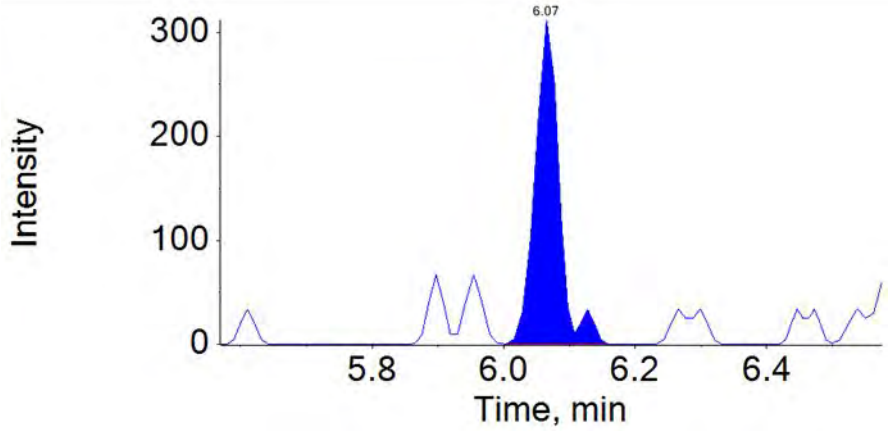


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*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** NEtFOSAA_2<br>**RT (min.):** 5.84<br>**Peak Area:** 1295.22<br>**Mass Range:** 584.0 / 526.0<br>**File Name:** 18NOV12DCAL-42.wiff<br>**Sample Name:** CAL1 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFDoDA_2<br>**RT (min.):** 6.05<br>**Peak Area:** 835.89<br>**Mass Range:** 613.0 / 169.0<br>**File Name:** 18NOV12DCAL-42.wiff<br>**Sample Name:** CAL1 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** 10:2 FTS_2<br>**RT (min.):** 6.07<br>**Peak Area:** 801.59<br>**Mass Range:** 627.0 / 81.0<br>**File Name:** 18NOV12DCAL-42.wiff<br>**Sample Name:** CAL1 | <br>**Integration Comment:** incorrect integration |

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*By MCD at 6:33 pm, 11/12/18*



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*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

## Ion Ratio Report

**Sample Name:** CAL1 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-42.wiff

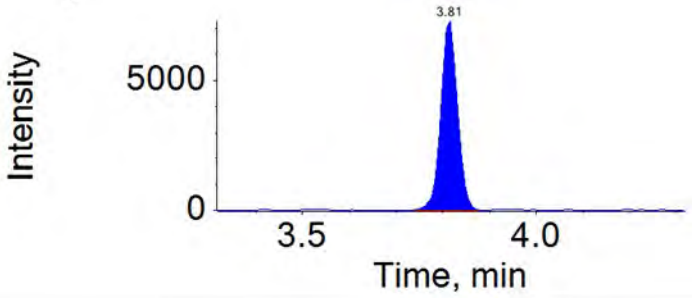
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 18010.03 | A | 0.3619 | 0.3587 | | | |
| PFBS_2 | 3.81 | 1.00 | 6459.67 | A | 0.3619 | 0.3587 | -1 | 50 | |
| 4:2-FTS | 4.13 | 1.00 | 3636.36 | A | 0.6730 | 0.7769 | | | |
| 4:2 FTS_2 | 4.13 | 1.00 | 2825.20 | A | 0.6730 | 0.7769 | | #NA! | |
| PFHxA | 4.16 | 1.00 | 39108.19 | A | 0.0117 | 0.0110 | | | |
| PFHxA_2 | 4.16 | 1.00 | 431.19 | A | 0.0117 | 0.0110 | -5 | 50 | |
| PFPeS | 4.18 | 1.10 | 9620.09 | A | 0.5191 | 0.4377 | | | |
| PFPeS_2 | 4.18 | 1.10 | 4210.95 | A | 0.5191 | 0.4377 | -16 | 50 | |
| PFHpA | 4.55 | 1.00 | 37545.37 | A | 0.0563 | 0.0594 | | | |
| PFHpA_2 | 4.55 | 1.00 | 2229.00 | A | 0.0563 | 0.0594 | 5 | 50 | |
| PFHxS | 4.55 | 1.00 | 12858.11 | M | 0.3428 | 0.2967 | | | |
| PFHxS_2 | 4.56 | 1.00 | 3815.05 | M | 0.3428 | 0.2967 | -13 | 50 | |
| 6:2-FTS | 4.90 | 1.00 | 2683.12 | M | 0.6604 | 0.6208 | | | |
| 6:2 FTS_2 | 4.91 | 1.00 | 1665.70 | A | 0.6604 | 0.6208 | | #NA! | |
| PFHpS | 4.91 | 1.08 | 13262.78 | A | 0.4066 | 0.3857 | | | |
| PFHpS_2 | 4.91 | 1.08 | 5115.91 | A | 0.4066 | 0.3857 | -5 | 50 | |
| PFOA | 4.92 | 1.00 | 41467.99 | A | 0.0562 | 0.0587 | | | |
| PFOA_2 | 4.92 | 1.00 | 2433.19 | A | 0.0562 | 0.0587 | 4 | 50 | |
| PFOS | 5.25 | 1.00 | 13088.49 | M | 0.2968 | 0.3248 | | | |
| PFOS_2 | 5.25 | 1.00 | 4250.80 | M | 0.2968 | 0.3248 | 9 | 50 | |
| PFNA | 5.26 | 1.00 | 29660.05 | A | 0.0229 | 0.0300 | | | |
| PFNA_2 | 5.26 | 1.00 | 890.58 | A | 0.0229 | 0.0300 | 31 | 50 | |
| PFNS | 5.54 | 1.06 | 6846.55 | A | 0.4828 | 0.5747 | | | |
| PFNS_2 | 5.55 | 1.06 | 3934.96 | A | 0.4828 | 0.5747 | 19 | 50 | |
| PFDA | 5.56 | 1.00 | 27488.55 | A | 0.0081 | 0.0185 | | | |
| PFDA_2 | 5.57 | 1.00 | 509.91 | A | 0.0081 | 0.0185 | 130 | 50 | OOS |
| 8:2-FTS | 5.57 | 1.00 | 2333.06 | A | 0.6814 | 0.8052 | | | |
| 8:2 FTS_2 | 5.57 | 1.00 | 1878.62 | A | 0.6814 | 0.8052 | | #NA! | |
| NMeFOSAA | 5.71 | 1.00 | 2306.38 | A | 0.2569 | 0.2416 | | | |
| NMeFOSAA_2 | 5.69 | 1.00 | 557.21 | A | 0.2569 | 0.2416 | -6 | 50 | |
| PFDS | 5.80 | 1.10 | 5952.23 | A | 0.5144 | 0.5857 | | | |
| PFDS_2 | 5.80 | 1.11 | 3486.36 | A | 0.5144 | 0.5857 | 14 | 50 | |
| PFUnDA | 5.82 | 1.00 | 23379.53 | A | 0.0058 | 0.0168 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 393.36 | A | 0.0058 | 0.0168 | 189 | 50 | OOS |
| NEtFOSAA | 5.85 | 1.00 | 2284.89 | A | 0.7253 | 0.8510 | | | |
| NEtFOSAA_2 | 5.84 | 1.00 | 1944.53 | M | 0.7253 | 0.8510 | 17 | 50 | |
| PFDoDA | 6.05 | 1.00 | 22143.56 | A | 0.0157 | 0.0329 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 728.93 | M | 0.0157 | 0.0329 | 110 | 50 | OOS |
| 10:2-FTS | 6.07 | 1.09 | 1814.19 | A | 0.6356 | 0.4140 | | | |
| 10:2 FTS_2 | 6.07 | 1.09 | 751.03 | M | 0.6356 | 0.4140 | | #NA! | |
| PFTrDA | 6.25 | 1.03 | 20185.08 | M | 0.0086 | 0.0098 | | | |
| PFTrDA_2 | 6.24 | 1.03 | 198.77 | A | 0.0086 | 0.0098 | 15 | 50 | |
| PFTeDA | 6.43 | 1.00 | 16357.53 | A | 0.0062 | 0.0036 | | | |
| PFTeDA_2 | 6.46 | 1.01 | 58.89 | A | 0.0062 | 0.0036 | -42 | 50 | |
| PFHxDA | 6.73 | 1.05 | 7976.02 | M | 0.0683 | 0.0708 | | | |
| PFHxDA_2 | 6.73 | 1.05 | 564.53 | A | 0.0683 | 0.0708 | 4 | 50 | |
| PFODA | 7.00 | 1.09 | 6020.31 | A | 0.0277 | 0.0307 | | | |
| PFODA_2 | 6.99 | 1.09 | 185.07 | A | 0.0277 | 0.0307 | 11 | 50 | |

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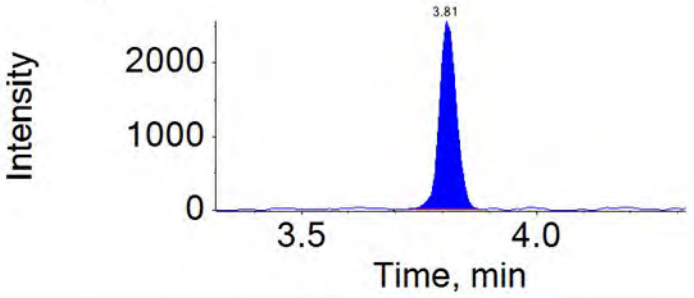


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*By HMK at 10:53 am, 11/13/18*

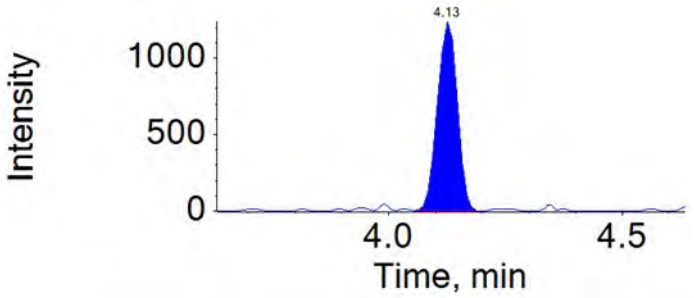
Component: PFBS
Primary Mass: 299.0 / 80.0



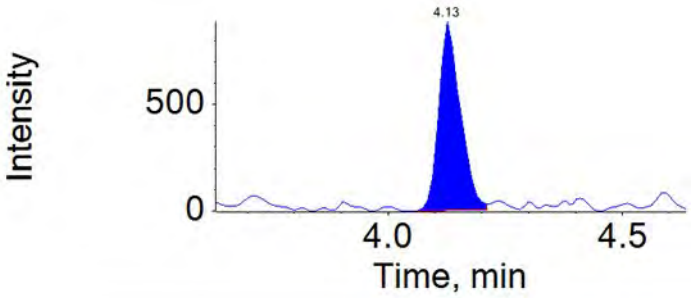

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



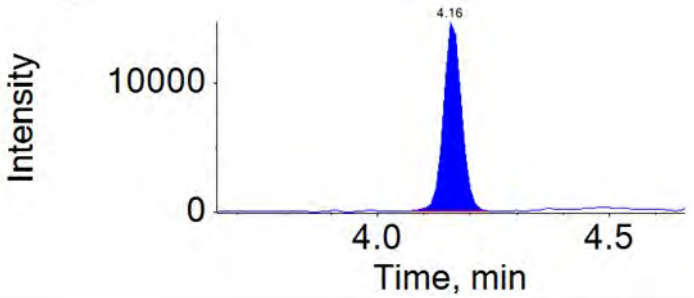

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



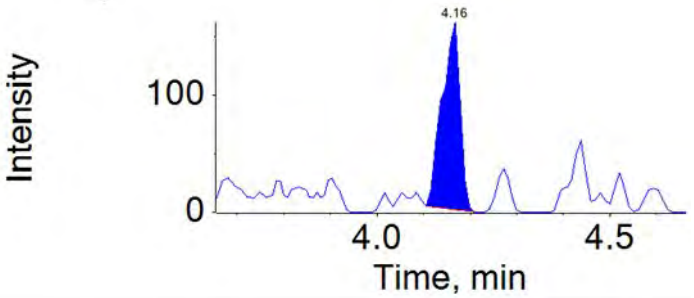

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



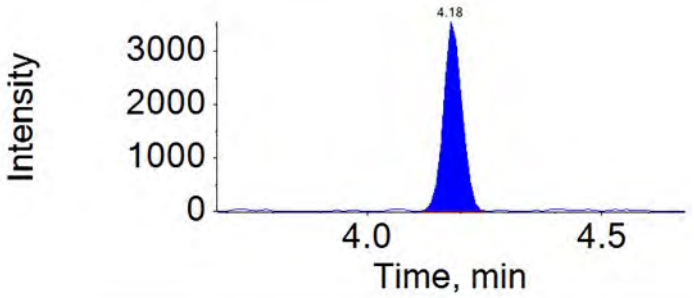

Component: PFHxA
Primary Mass: 313.0 / 269.0



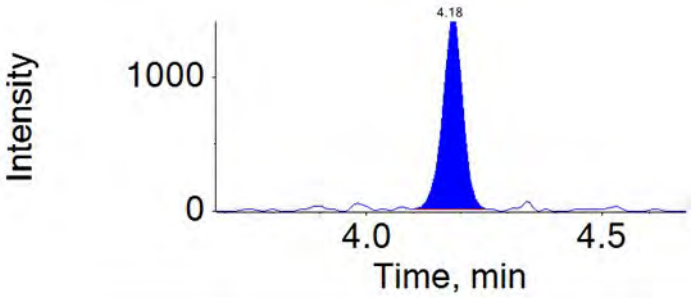

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

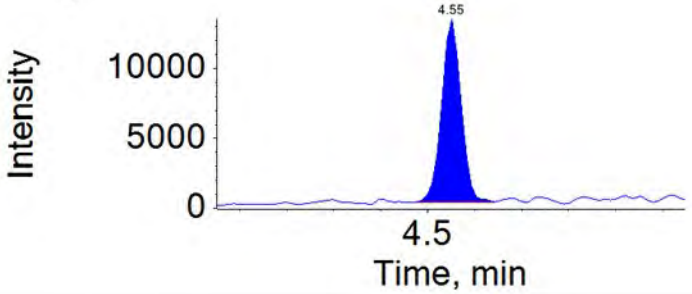



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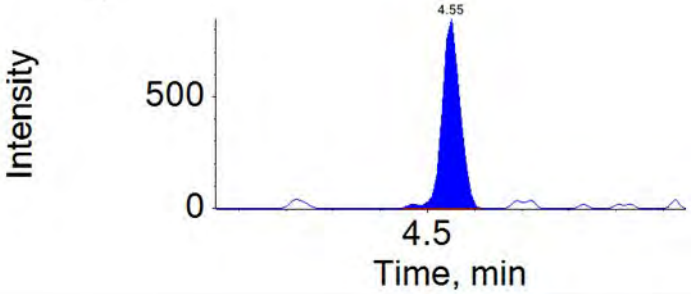


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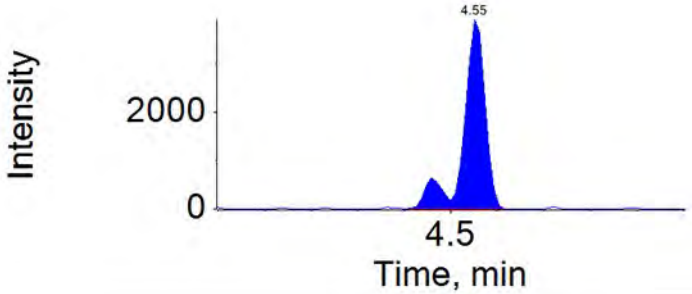
Component: PFHpA
Primary Mass: 363.0 / 319.0



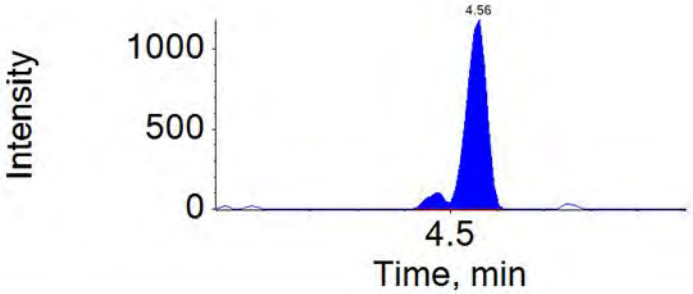

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



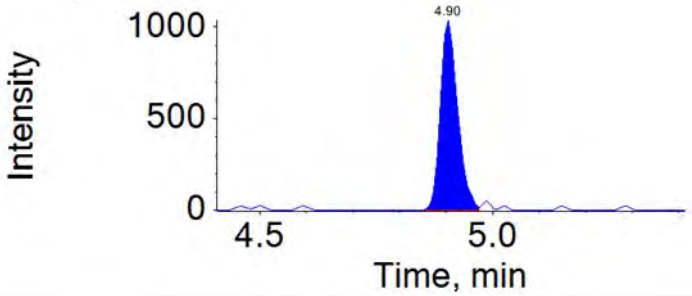

Component: PFHxS
Primary Mass: 399.0 / 80.0



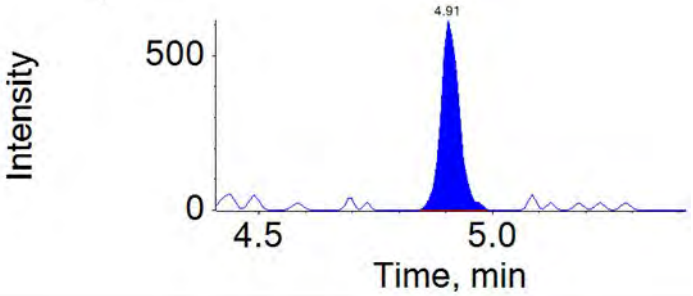

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



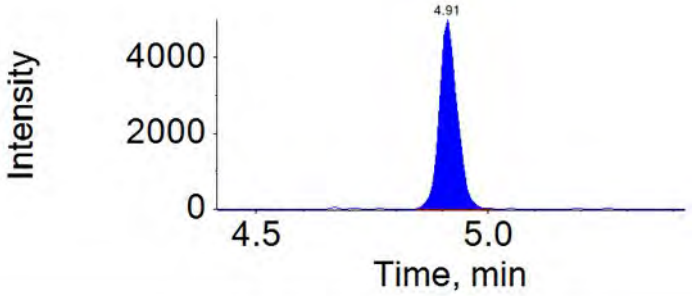

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



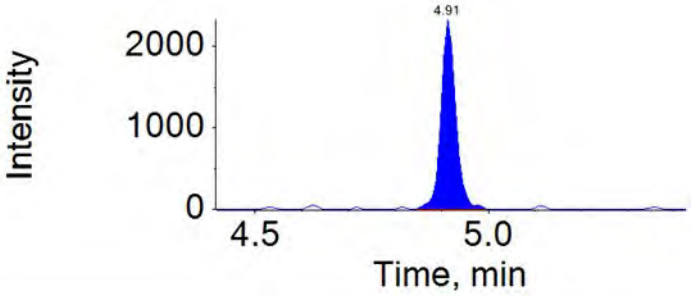

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

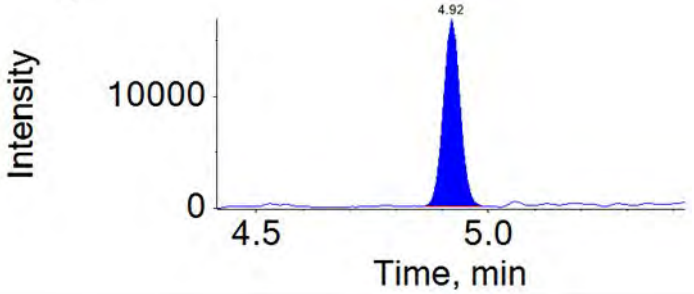



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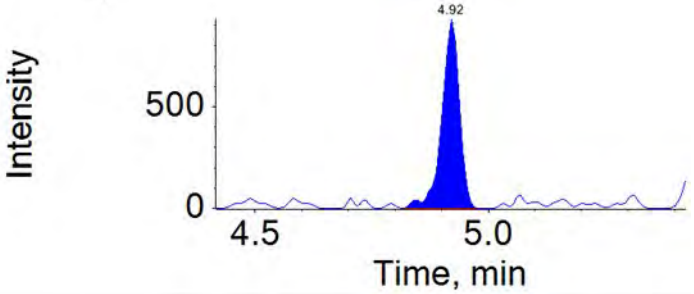


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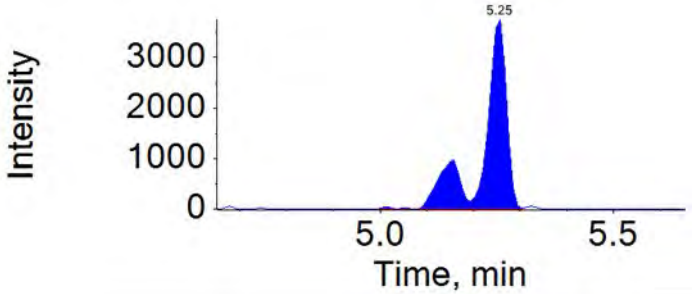
Component: PFOA
Primary Mass: 413.0 / 369.0



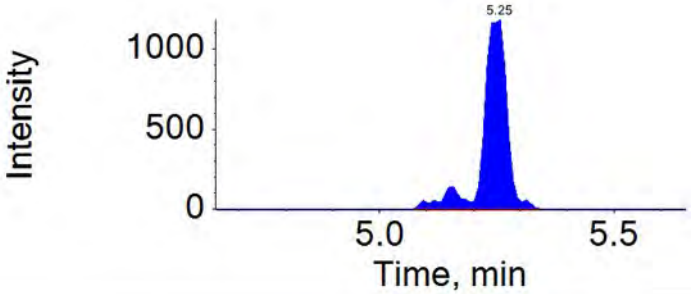

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



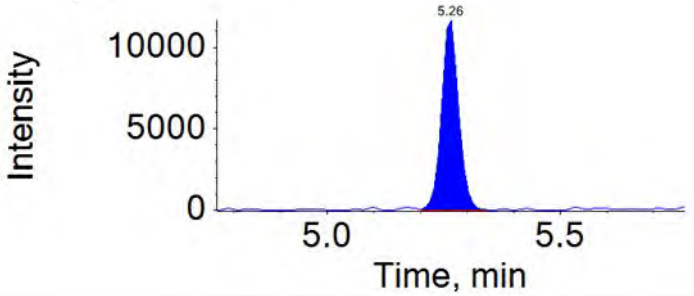

Component: PFOS
Primary Mass: 499.0 / 80.0



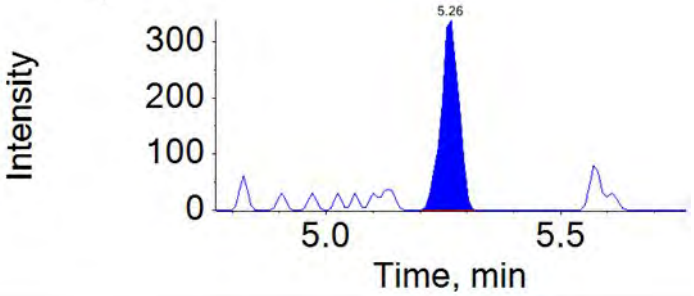

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



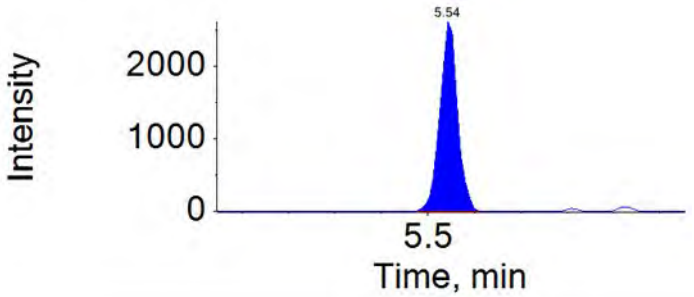

Component: PFNA
Primary Mass: 463.0 / 419.0



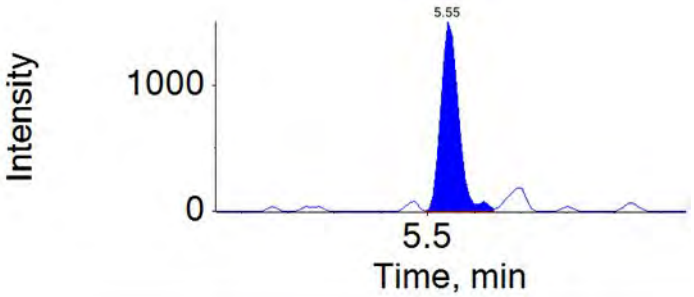

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

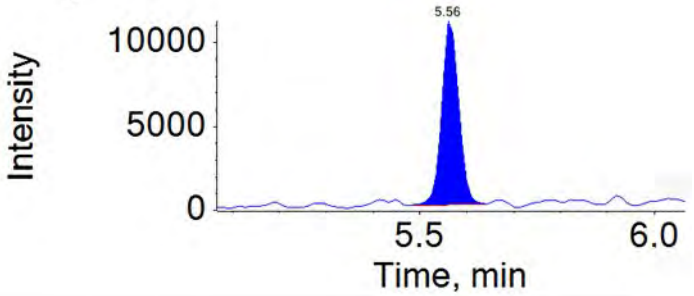



APPROVED
*By MCD at 6:33 pm, 11/12/18*

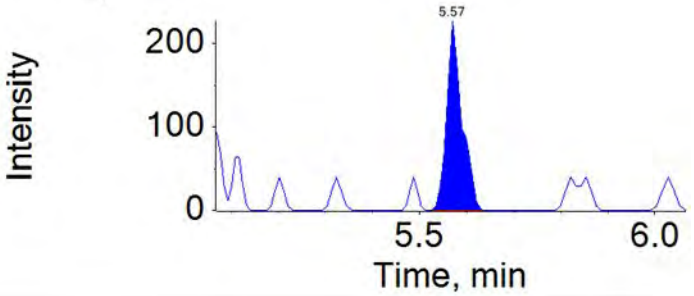


REVIEWED
*By HMK at 10:53 am, 11/13/18*

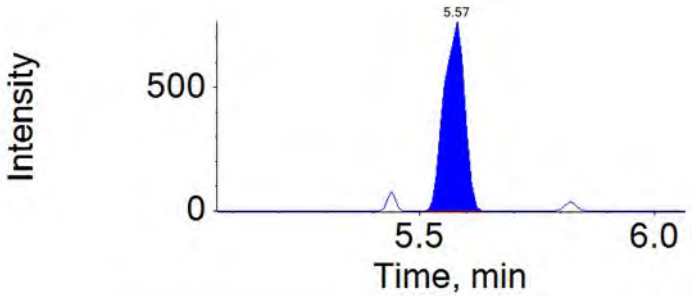
Component: PFDA
Primary Mass: 513.0 / 469.0



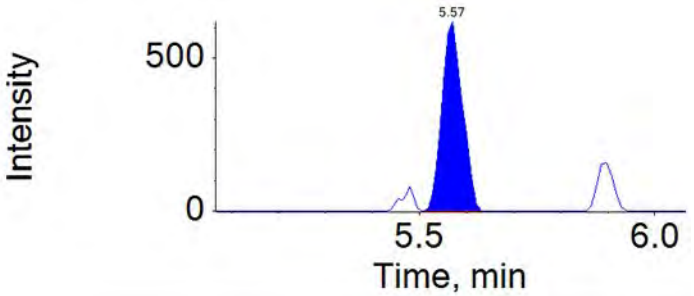

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



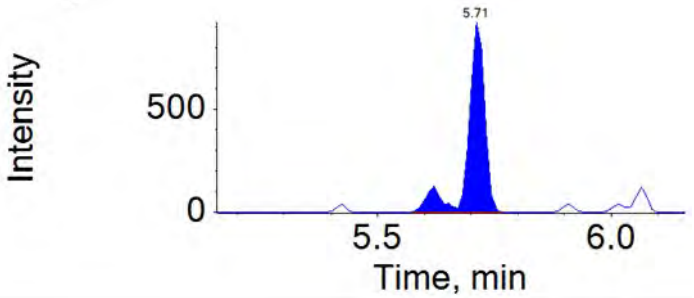

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



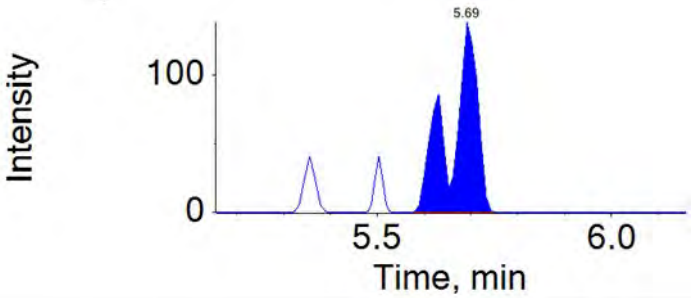

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



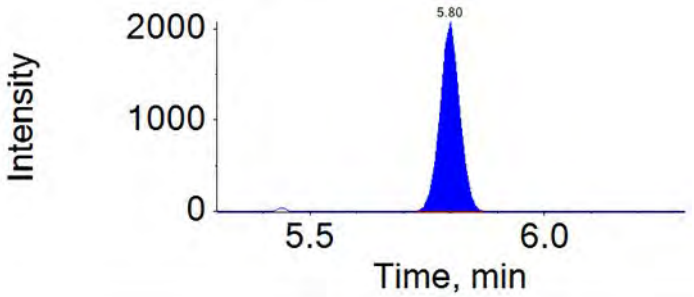

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



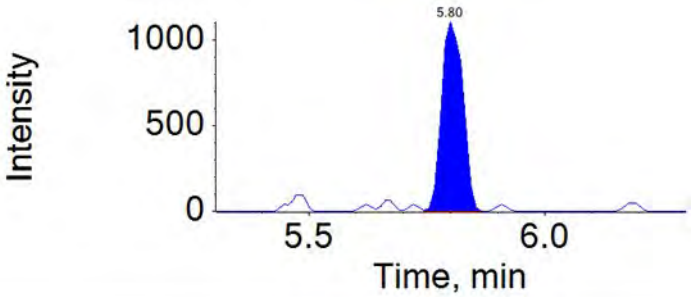

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

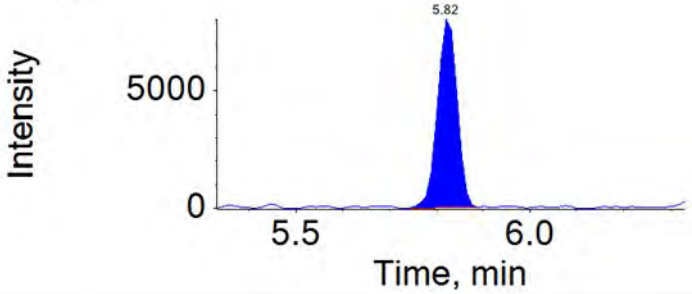



APPROVED
*By MCD at 6:33 pm, 11/12/18*

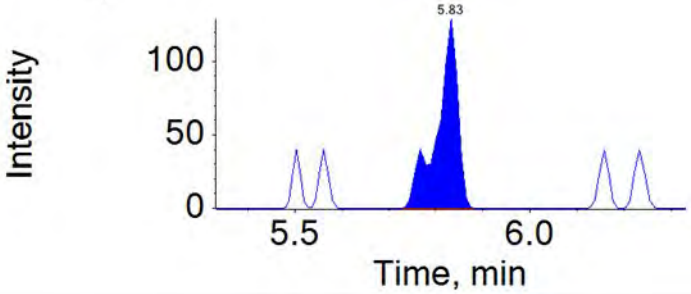


REVIEWED
*By HMK at 10:53 am, 11/13/18*

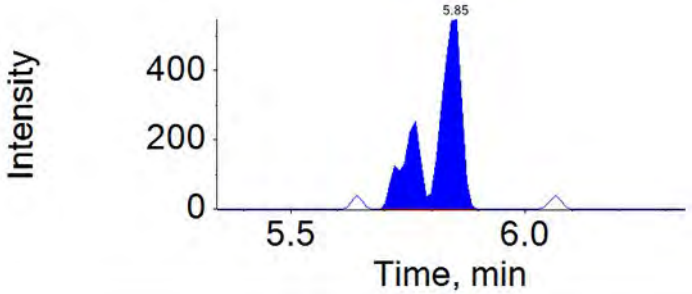
Component: PFUnDA
Primary Mass: 563.0 / 519.0



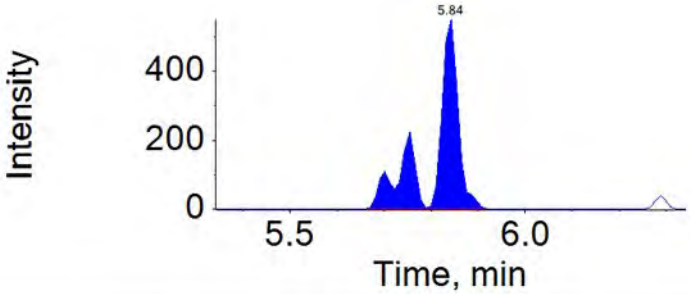

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



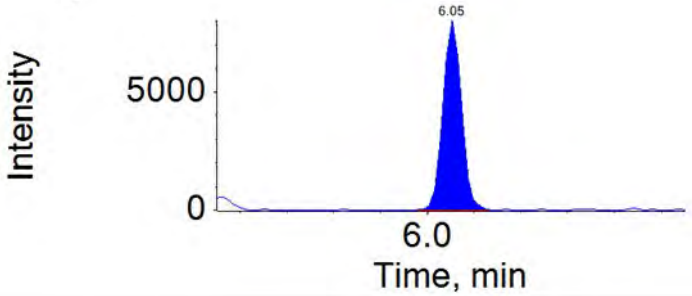

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



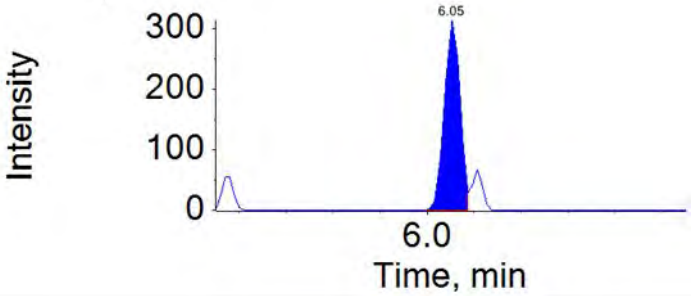

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



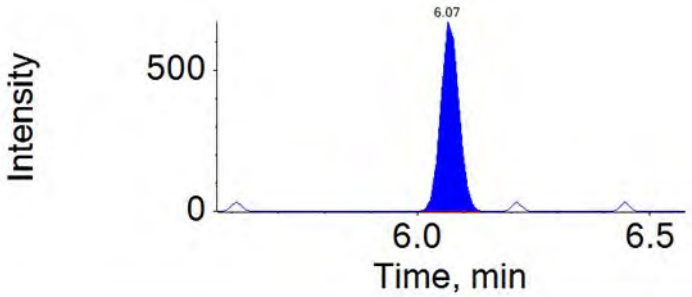

Component: PFDoDA
Primary Mass: 613.0 / 569.0



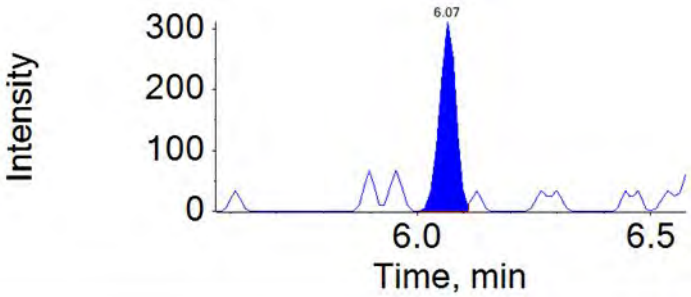

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

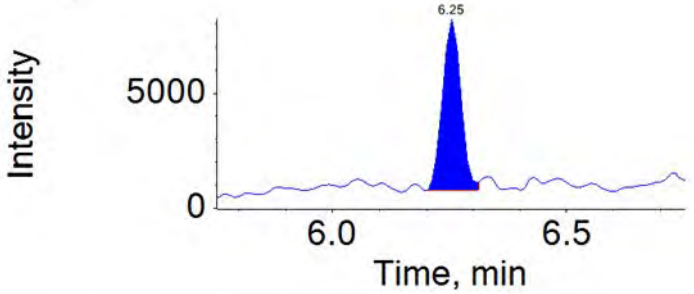



APPROVED
*By MCD at 6:33 pm, 11/12/18*

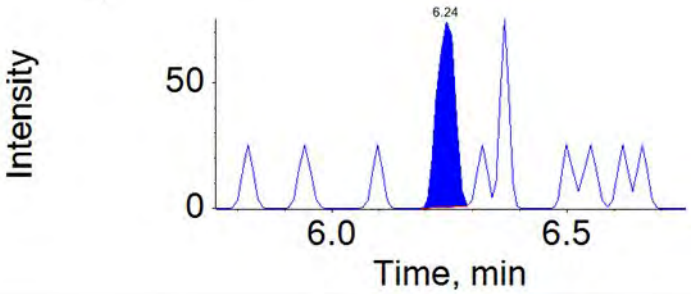


REVIEWED
*By HMK at 10:53 am, 11/13/18*

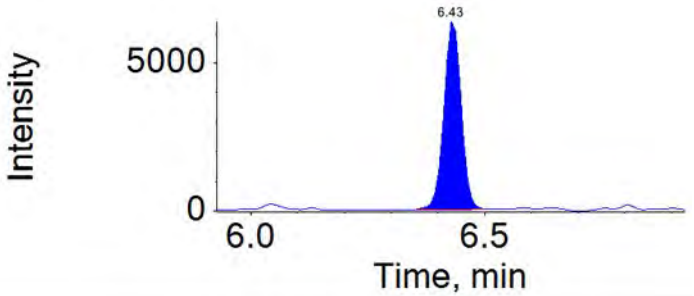
Component: PFTrDA
Primary Mass: 663.0 / 619.0



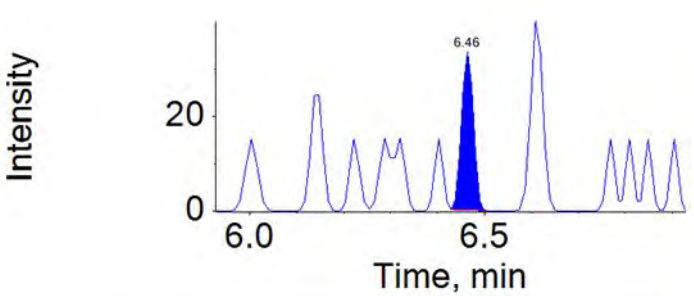

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



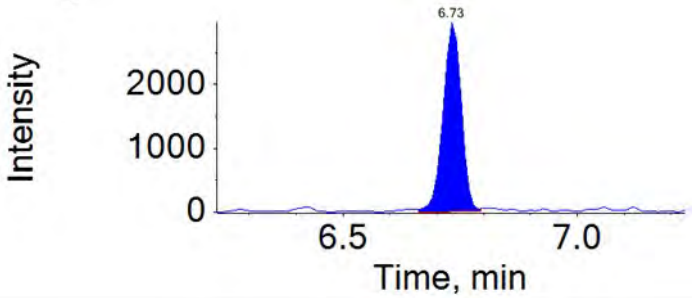

Component: PFTeDA
Primary Mass: 713.0 / 669.0



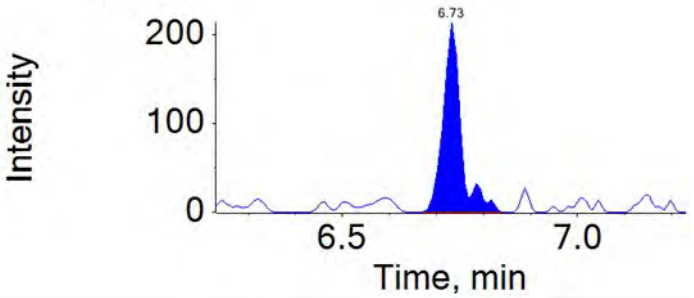

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



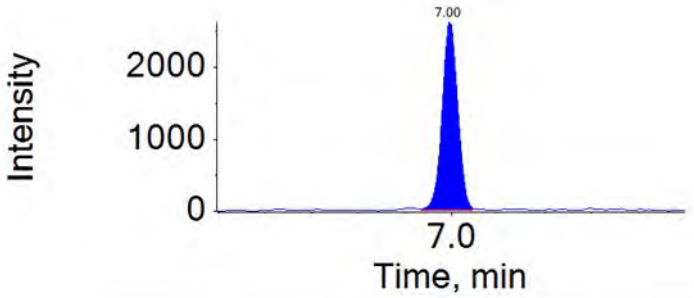

Component: PFHxDA
Primary Mass: 813.0 / 769.0



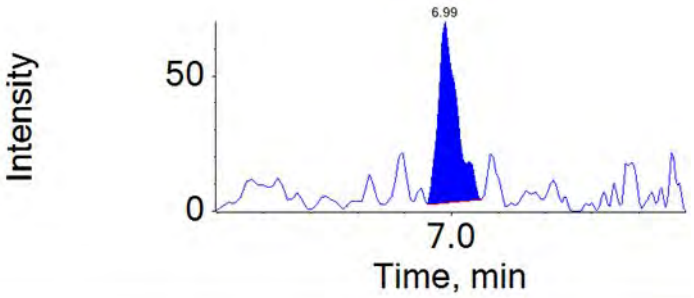

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CAL2 | | | **Data File:** | | 18NOV12DCAL-43.wiff |
| **Sample ID:** | CALBRN21833C | | | **Acquis Date:** | | 2018-11-12T15:15:03 |
| **Sample Type:** | Standard | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 4 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 662396.7 | 659926.2 | 0 | 50 | |
| 13C2-PFOA | 5.0 | 454466.7 | 450219.7 | 1 | 50 | |
| 13C4-PFOS | 4.8 | 250483.8 | 249205.8 | 1 | 50 | |
| 13C2-PFDA | 5.0 | 277324.2 | 278743.9 | -1 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 771445.8 | 13C3-PFBA | 662396.7 | 1.165 | 5.000 | 5.221 | 104 | 70-130 | |
| E13C5-PFPeA | 738194.7 | 13C3-PFBA | 662396.7 | 1.114 | 5.000 | 4.998 | 100 | 70-130 | |
| E13C3-PFBS | 418860.7 | 13C3-PFBA | 662396.7 | 0.632 | 4.650 | 4.464 | 96 | 70-130 | |
| E13C2-4:2-FTS | 46141.8 | 13C2-PFOA | 454466.7 | 0.102 | 4.670 | 4.522 | 97 | 70-130 | |
| E13C5-PFHxA | 648170.1 | 13C2-PFOA | 454466.7 | 1.426 | 5.000 | 5.152 | 103 | 70-130 | |
| E13C3-PFHxS | 320400.4 | 13C2-PFOA | 454466.7 | 0.705 | 4.730 | 4.838 | 102 | 70-130 | |
| E13C4-PFHpA | 532987.5 | 13C2-PFOA | 454466.7 | 1.173 | 5.000 | 5.284 | 106 | 70-130 | |
| E13C2-6:2-FTS | 35585.7 | 13C2-PFOA | 454466.7 | 0.078 | 4.750 | 5.239 | 110 | 70-130 | |
| E13C8-PFOA | 892584.2 | 13C2-PFOA | 454466.7 | 1.964 | 5.000 | 5.411 | 108 | 70-130 | |
| E13C8-PFOS | 271778.8 | 13C4-PFOS | 250483.8 | 1.085 | 4.780 | 4.808 | 101 | 70-130 | |
| E13C9-PFNA | 451850.1 | 13C4-PFOS | 250483.8 | 1.804 | 5.000 | 5.030 | 101 | 70-130 | |
| E13C6-PFDA | 601859.8 | 13C2-PFDA | 277324.2 | 2.170 | 5.000 | 5.064 | 101 | 70-130 | |
| E13C2-8:2-FTS | 27639.2 | 13C2-PFDA | 277324.2 | 0.100 | 4.790 | 4.970 | 104 | 70-130 | |
| E13C8-PFOSA | 636543.2 | 13C2-PFDA | 277324.2 | 2.295 | 5.000 | 5.089 | 102 | 70-130 | |
| Ed3-NMeFOSAA | 77388.6 | 13C2-PFDA | 277324.2 | 0.279 | 5.000 | 5.037 | 101 | 70-130 | |
| E13C7-PFUnDA | 242881.8 | 13C2-PFDA | 277324.2 | 0.876 | 5.000 | 5.085 | 102 | 70-130 | |
| Ed5-NEtFOSAA | 63686.9 | 13C2-PFDA | 277324.2 | 0.230 | 5.000 | 4.859 | 97 | 70-130 | |
| E13C2-PFDoDA | 532175.4 | 13C2-PFDA | 277324.2 | 1.919 | 5.000 | 4.982 | 100 | 70-130 | |
| Ed7-NMePFOSAE | 323456.5 | 13C2-PFDA | 277324.2 | 1.166 | 5.000 | 5.047 | 101 | 70-130 | |
| Ed3-NMePFOSA | 77893.2 | 13C2-PFDA | 277324.2 | 0.281 | 5.000 | 5.103 | 102 | 70-130 | |
| Ed9-NEtPFOSAE | 261195.6 | 13C2-PFDA | 277324.2 | 0.942 | 5.000 | 4.899 | 98 | 70-130 | |
| Ed5-NEtPFOSA | 58073.5 | 13C2-PFDA | 277324.2 | 0.209 | 5.000 | 4.912 | 98 | 70-130 | |
| E13C2-PFTeDA | 394146.2 | 13C2-PFDA | 277324.2 | 1.421 | 5.000 | 4.990 | 100 | 70-130 | |

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

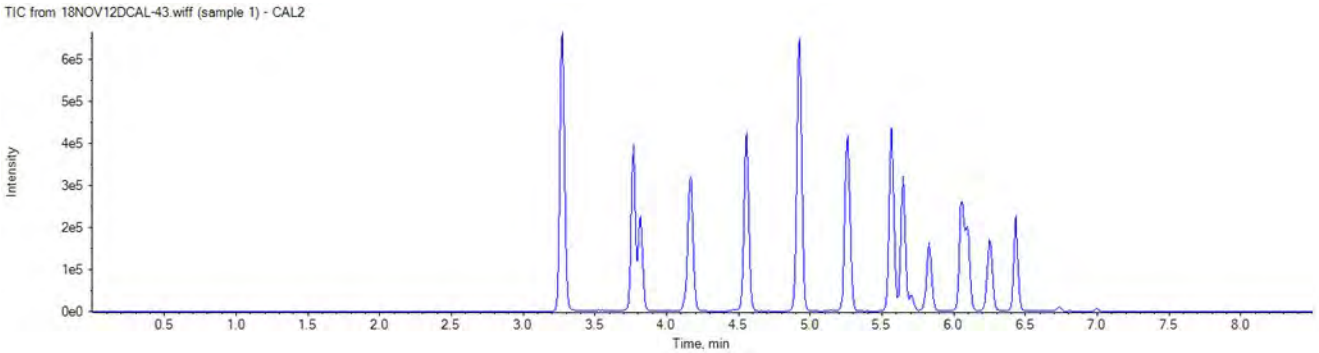
## Analyte Quantitation Peak Table

**Sample Name:** CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-43.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 | 80396.2 | | A | 13C4-PFBA | 3.27 | 771445.8 | 0.104 | 0.577 |
| PFPeA | 3.77 | 1.000 | 84319.4 | | A | 13C5-PFPeA | 3.77 | 738194.7 | 0.114 | 0.661 |
| PFBS | 3.82 | 1.000 | 44885.2 | | A | 13C3-PFBS | 3.82 | 418860.7 | 0.107 | 0.510 |
| 4:2-FTS | 4.13 | 1.000 | 8804.0 | | A | 13C2-4:2-FTS | 4.13 | 46141.8 | 0.191 | 0.518 |
| PFHxA | 4.16 | 1.000 | 96559.3 | | A | 13C5-PFHxA | 4.17 | 648170.1 | 0.149 | 0.622 |
| PFPeS | 4.19 | 1.100 | 20295.0 | | A | 13C3-PFBS | 3.82 | 418860.7 | 0.048 | 0.470 |
| PFHpA | 4.55 | 1.000 | 95048.3 | | M | 13C4-PFHpA | 4.55 | 532987.5 | 0.178 | 0.591 |
| PFHxS | 4.56 | 1.000 | 31064.7 | | M | 13C3-PFHxS | 4.56 | 320400.4 | 0.097 | 0.470 |
| 6:2-FTS | 4.91 | 1.000 | 8048.4 | | A | 13C2-6:2-FTS | 4.91 | 35585.7 | 0.226 | 0.547 |
| PFHpS | 4.92 | 1.080 | 29902.3 | | A | 13C3-PFHxS | 4.56 | 320400.4 | 0.093 | 0.491 |
| PFOA | 4.93 | 1.000 | 100710.5 | | A | 13C8-PFOA | 4.92 | 892584.2 | 0.113 | 0.603 |
| PFOS | 5.25 | 1.000 | 32301.0 | | M | 13C8-PFOS | 5.25 | 271778.8 | 0.119 | 0.520 |
| PFNA | 5.27 | 1.000 | 80724.2 | | A | 13C9-PFNA | 5.27 | 451850.1 | 0.179 | 0.644 |
| PFNS | 5.55 | 1.060 | 20326.1 | | A | 13C8-PFOS | 5.25 | 271778.8 | 0.075 | 0.523 |
| PFDA | 5.57 | 1.000 | 63802.1 | | M | 13C6-PFDA | 5.57 | 601859.8 | 0.106 | 0.562 |
| 8:2-FTS | 5.57 | 1.000 | 6214.2 | | A | 13C2-8:2-FTS | 5.57 | 27639.2 | 0.225 | 0.524 |
| PFOSA | 5.65 | 1.000 | 71087.0 | | A | 13C8-PFOSA | 5.65 | 636543.2 | 0.112 | 0.545 |
| NMeFOSAA | 5.71 | 1.000 | 5759.6 | | A | d3-NMeFOSAA | 5.71 | 77388.6 | 0.074 | 0.421 |
| PFDS | 5.80 | 1.100 | 16291.9 | | A | 13C8-PFOS | 5.25 | 271778.8 | 0.060 | 0.543 |
| PFUnDA | 5.83 | 1.000 | 51206.8 | | A | 13C7-PFUnDA | 5.83 | 242881.8 | 0.211 | 0.551 |
| NEtFOSAA | 5.85 | 1.000 | 7727.1 | | M | d5-NEtFOSAA | 5.84 | 63686.9 | 0.121 | 0.636 |
| PFDoDA | 6.06 | 1.000 | 59695.3 | | A | 13C2-PFDoDA | 6.06 | 532175.4 | 0.112 | 0.571 |
| 10:2-FTS | 6.08 | 1.090 | 5206.5 | | A | 13C2-8:2-FTS | 5.57 | 27639.2 | 0.188 | 0.627 |
| NMePFOSAE | 6.10 | 1.000 | 43085.1 | | A | d7-NMePFOSAE | 6.09 | 323456.5 | 0.133 | 0.554 |
| NMePFOSA | 6.11 | 1.000 | 8877.7 | | A | d3-NMePFOSA | 6.11 | 77893.2 | 0.114 | 0.562 |
| PFDoS | 6.22 | 1.190 | 8992.5 | | M | 13C8-PFOS | 5.25 | 271778.8 | 0.033 | 0.580 |
| NEtPFOSAE | 6.26 | 1.000 | 46623.3 | | M | d9-NEtPFOSAE | 6.25 | 261195.6 | 0.178 | 0.573 |
| NEtPFOSA | 6.27 | 1.000 | 8053.7 | | M | d5-NEtPFOSA | 6.27 | 58073.5 | 0.139 | 0.637 |
| PFTrDA | 6.26 | 1.030 | 47991.3 | | A | 13C2-PFDoDA | 6.06 | 532175.4 | 0.090 | 0.569 |
| PFTeDA | 6.43 | 1.000 | 40236.5 | | A | 13C2-PFTeDA | 6.43 | 394146.2 | 0.102 | 0.572 |
| PFHxDA | 6.74 | 1.050 | 19006.4 | | A | 13C2-PFTeDA | 6.43 | 394146.2 | 0.048 | 0.575 |
| PFODA | 7.00 | 1.090 | 14955.6 | | A | 13C2-PFTeDA | 6.43 | 394146.2 | 0.038 | 0.528 |

## Total Ion Chromatogram



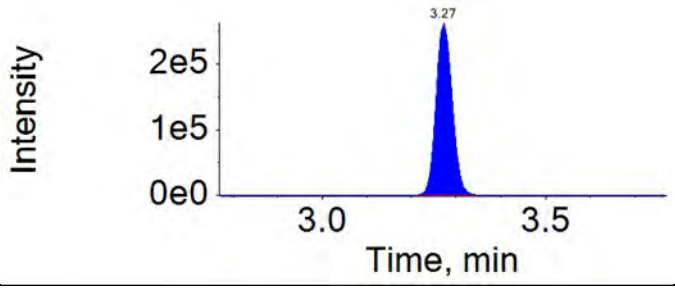

APPROVED
*By MCD at 6:33 pm, 11/12/18*



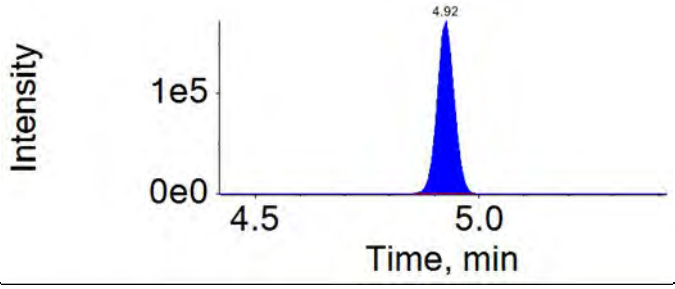
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

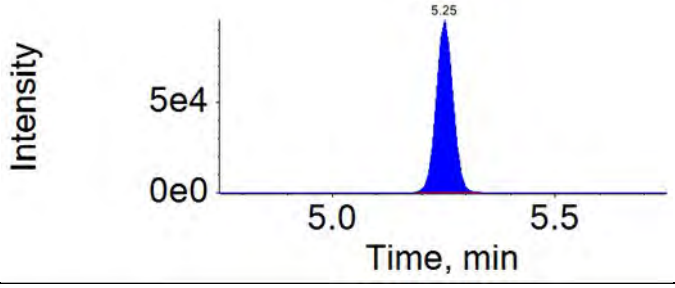
Injection Standard: 13C3-PFBA
216.0 / 172.0



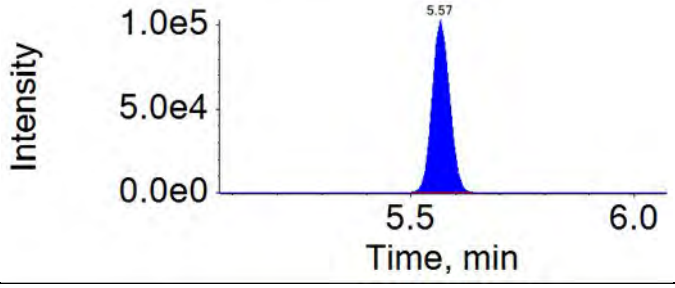

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



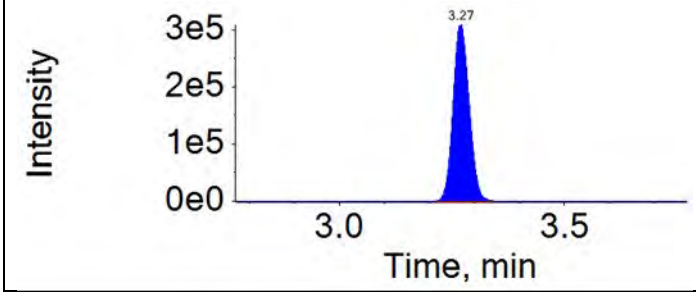

APPROVED
*By MCD at 6:33 pm, 11/12/18*

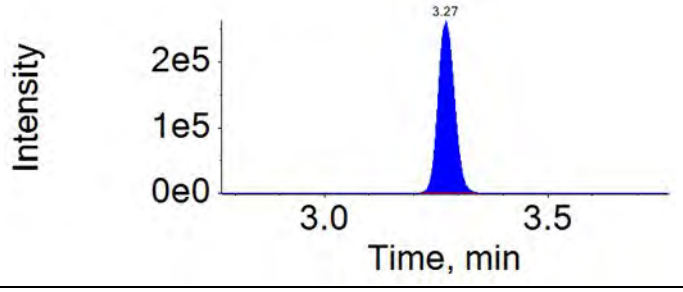


REVIEWED
*By HMK at 10:53 am, 11/13/18*

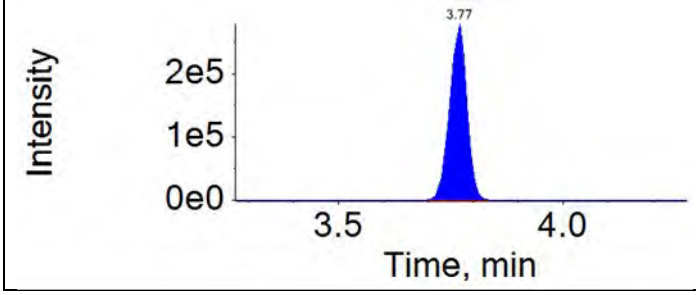
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

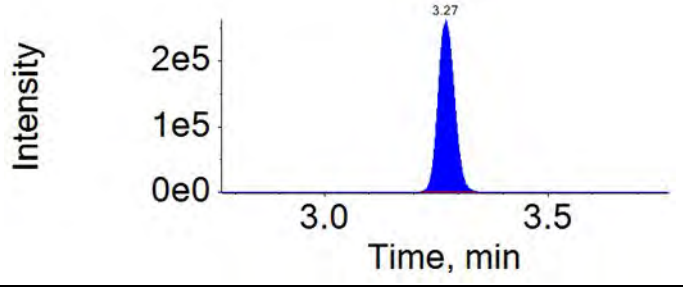
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



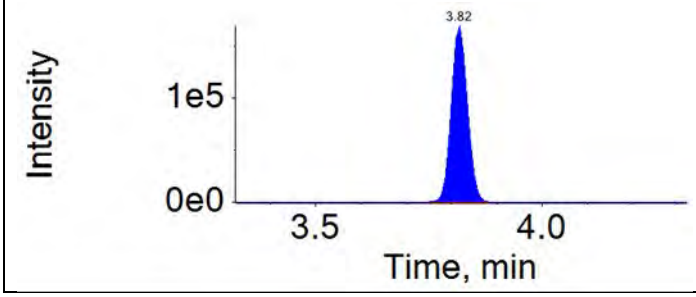



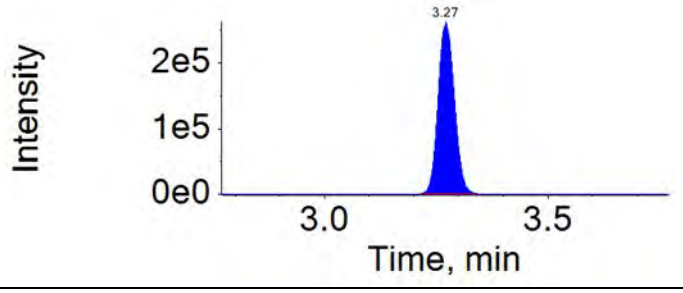

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



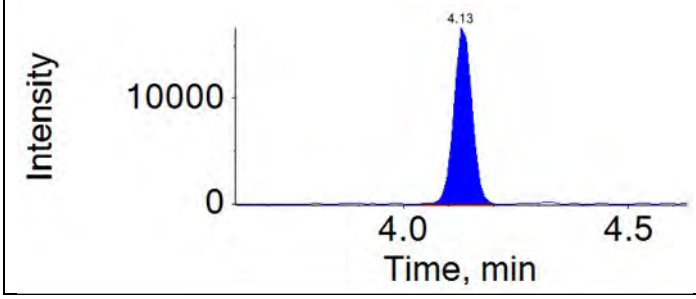



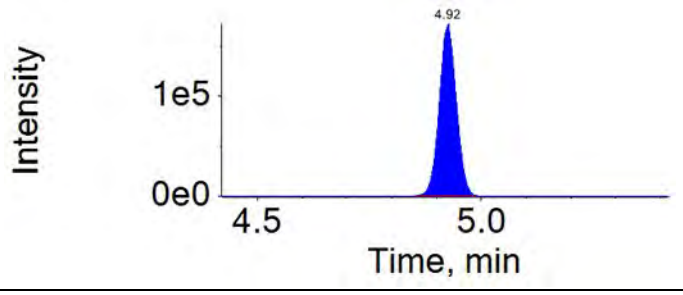

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



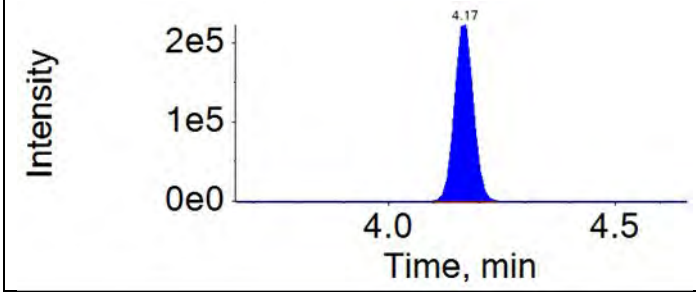

APPROVED
*By MCD at 6:33 pm, 11/12/18*

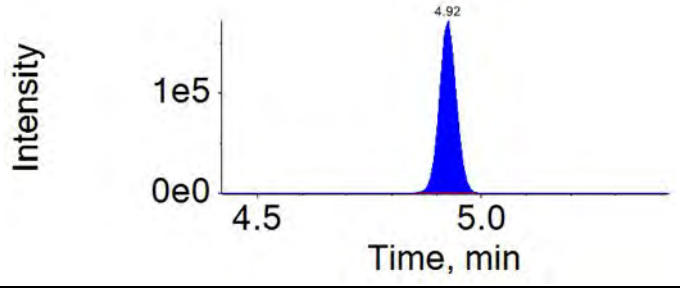


REVIEWED
*By HMK at 10:53 am, 11/13/18*

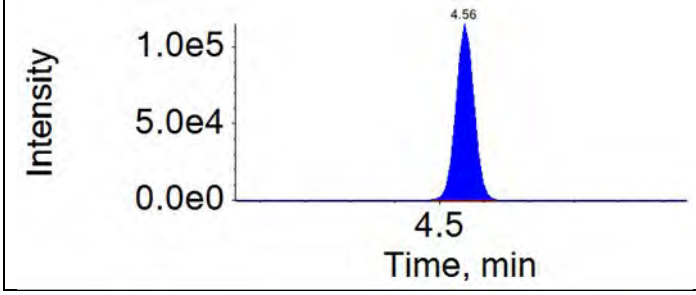
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

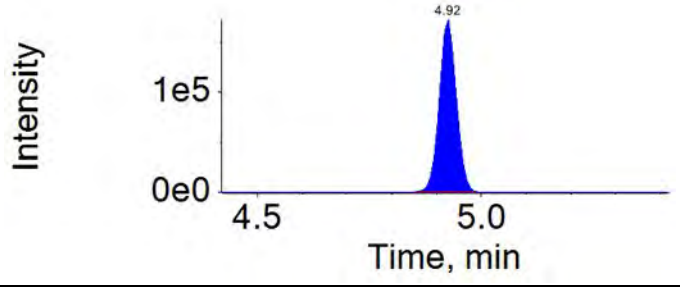
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



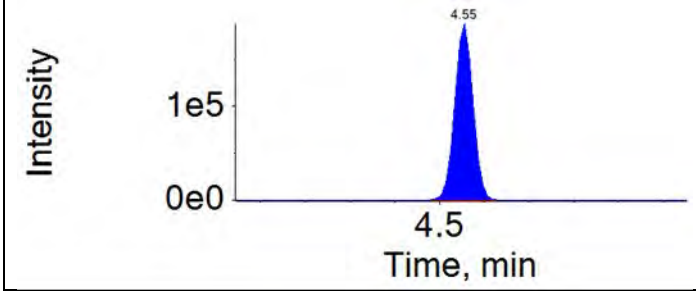



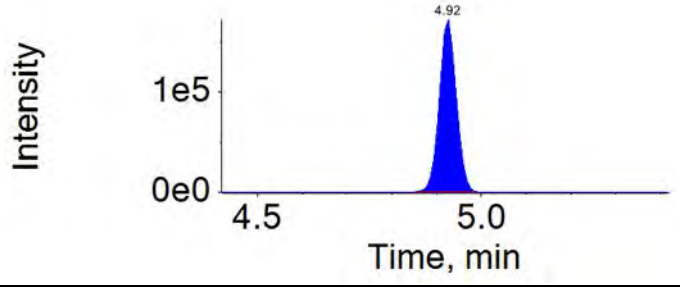

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



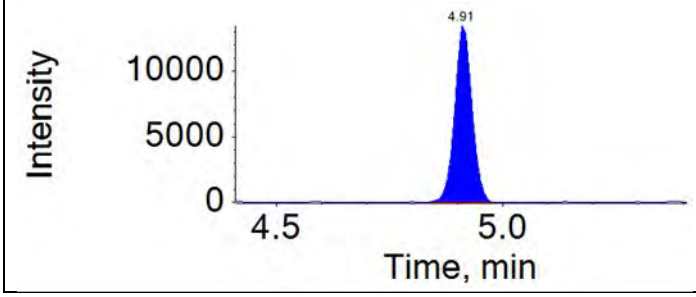



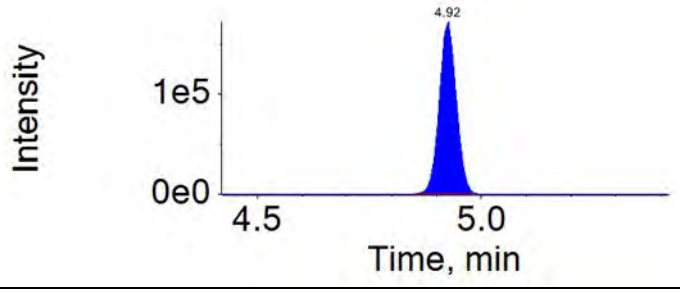

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



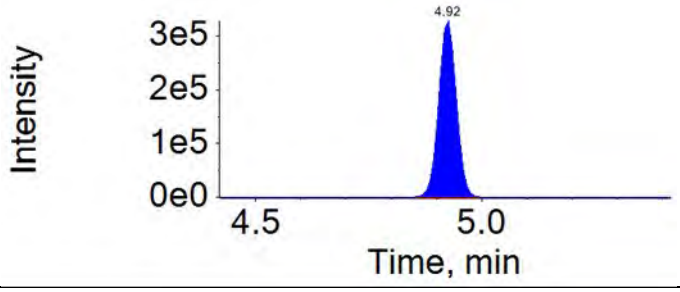
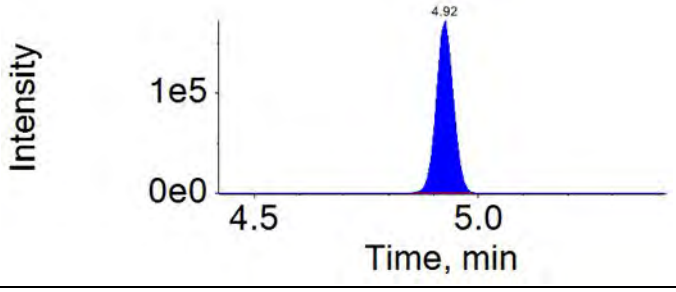




APPROVED
*By MCD at 6:33 pm, 11/12/18*



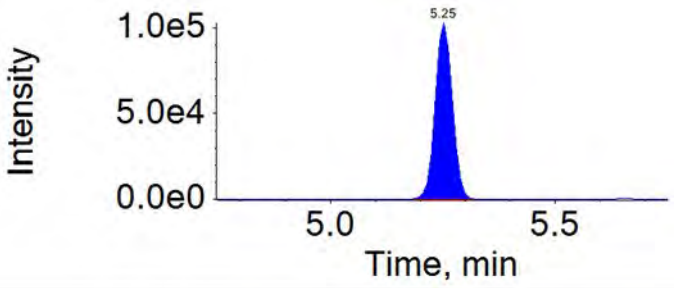
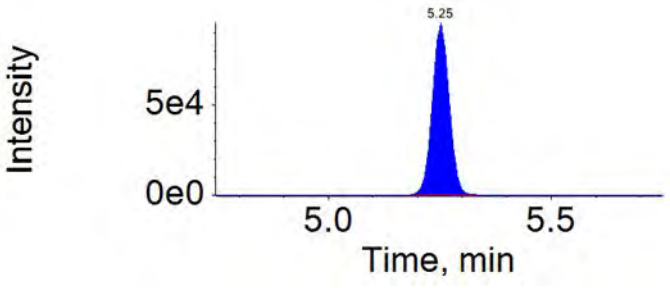
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

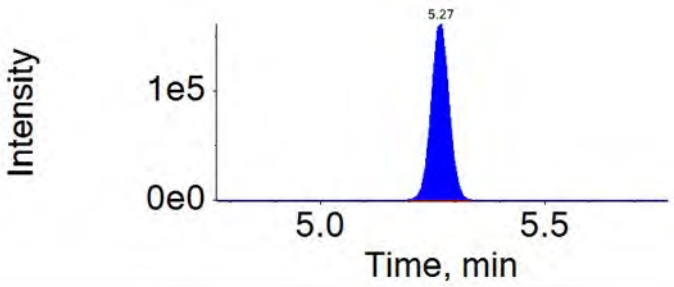
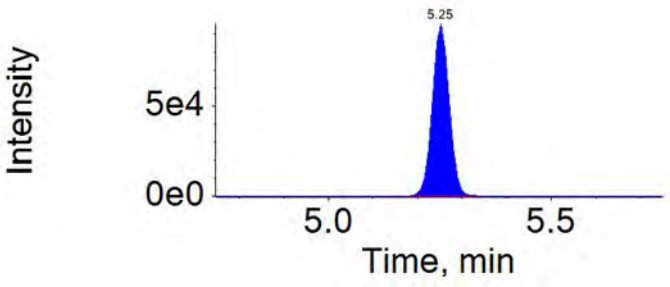




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

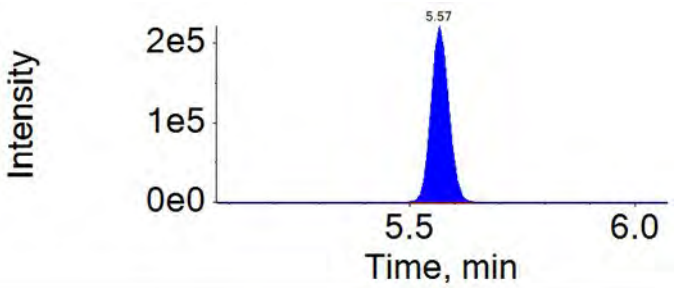
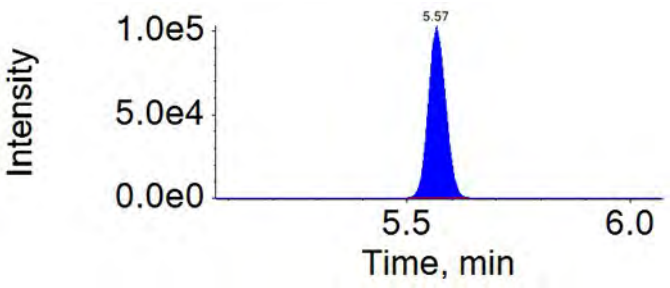




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |

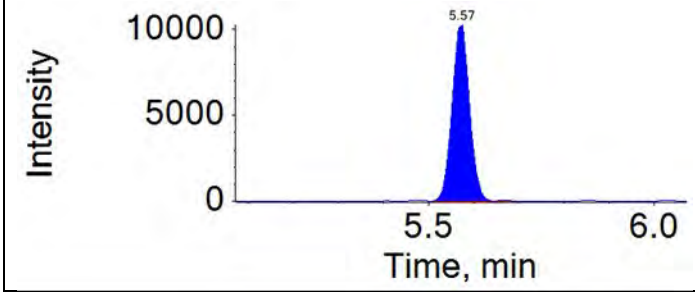


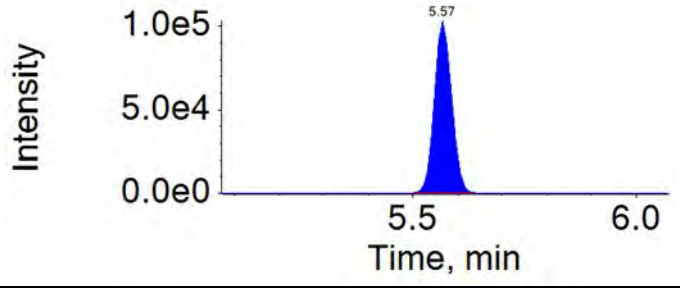


| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

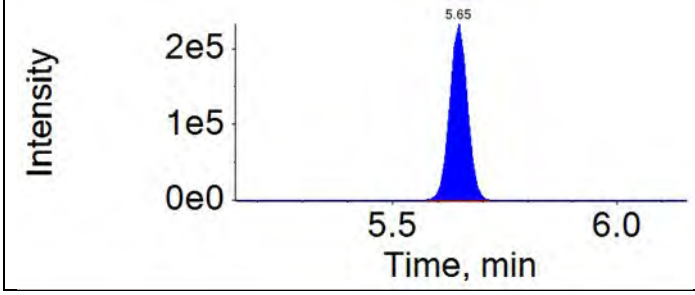
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

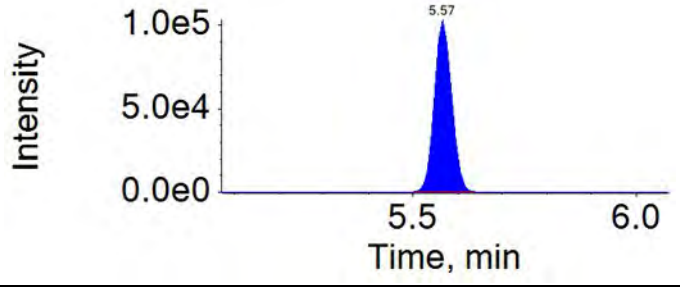
| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |



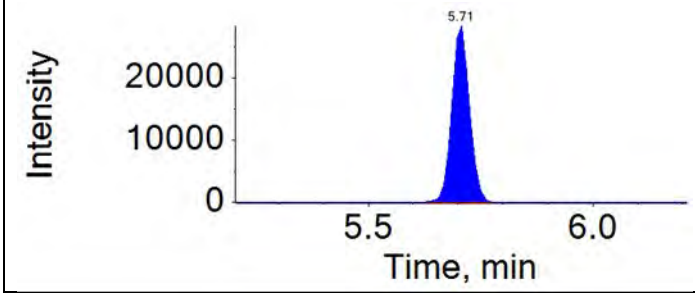



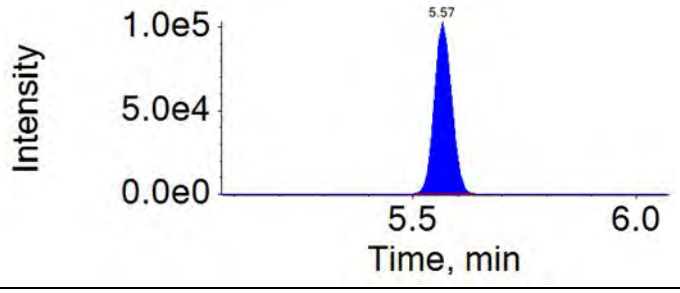

| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |



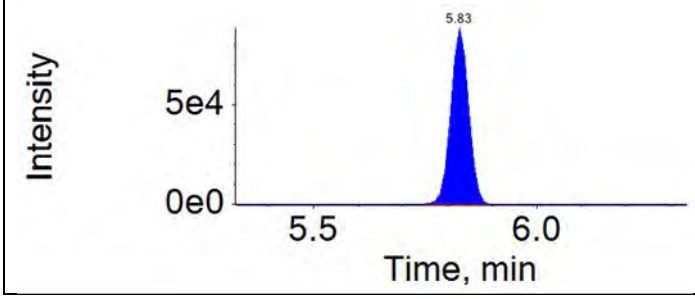



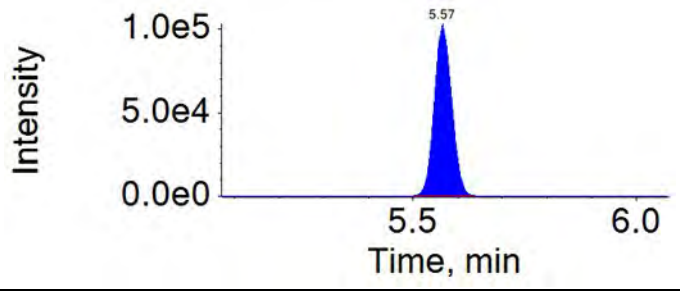

| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |




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



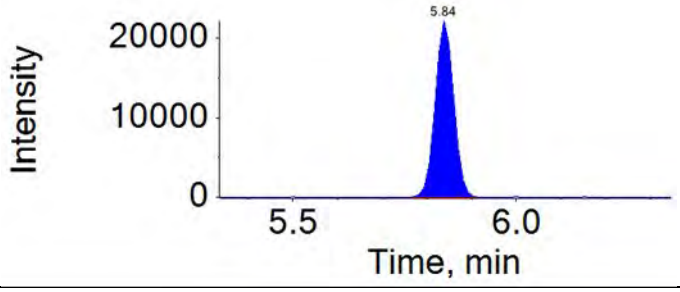
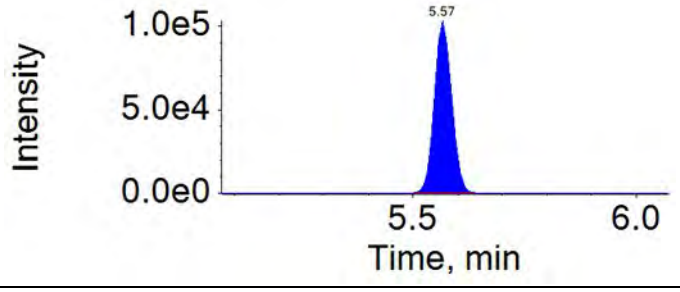




APPROVED
*By MCD at 6:33 pm, 11/12/18*



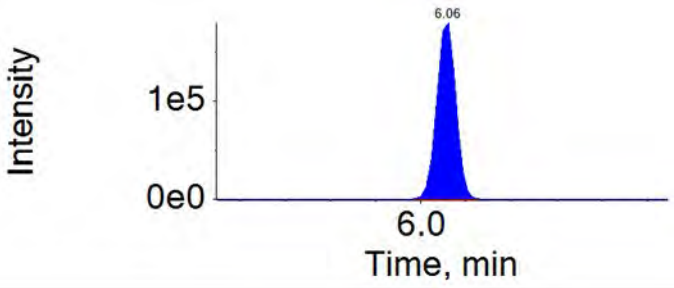
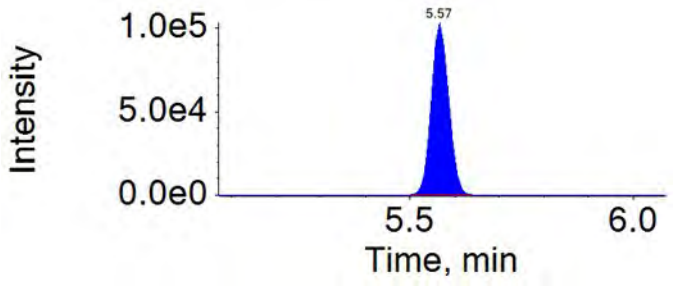
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

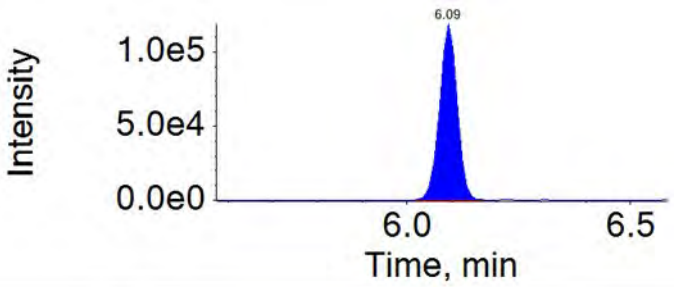
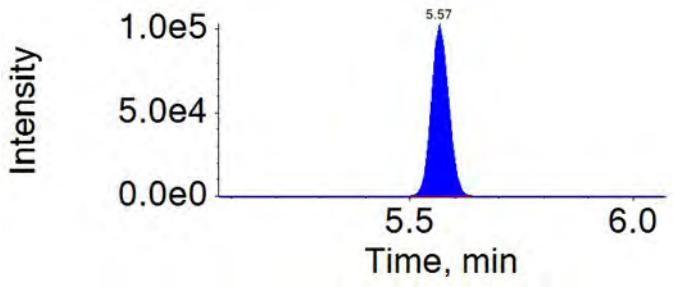




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

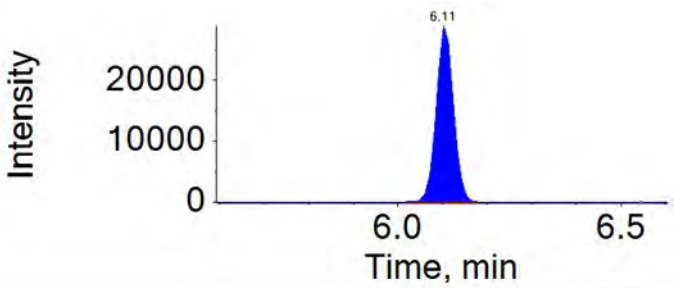
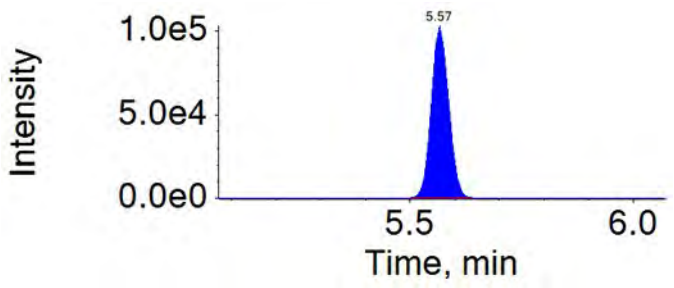




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





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





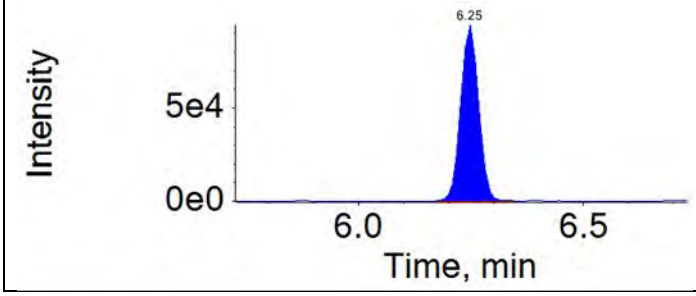
APPROVED
*By MCD at 6:33 pm, 11/12/18*

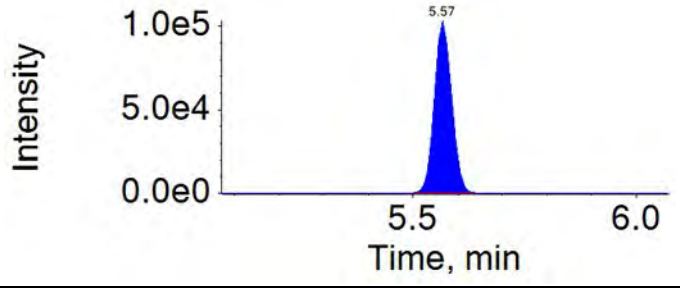


REVIEWED
*By HMK at 10:53 am, 11/13/18*

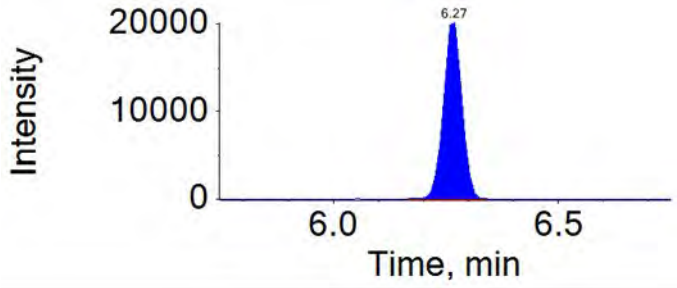
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

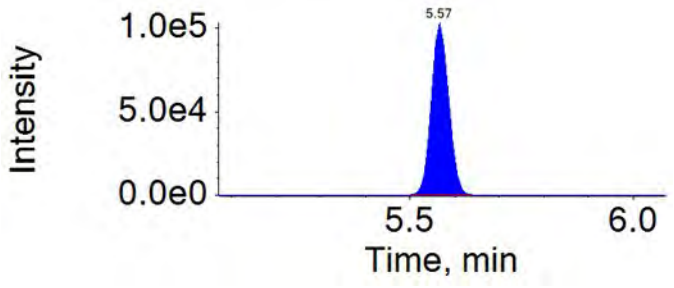
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



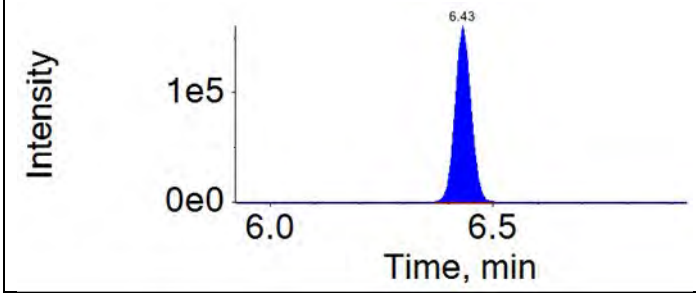



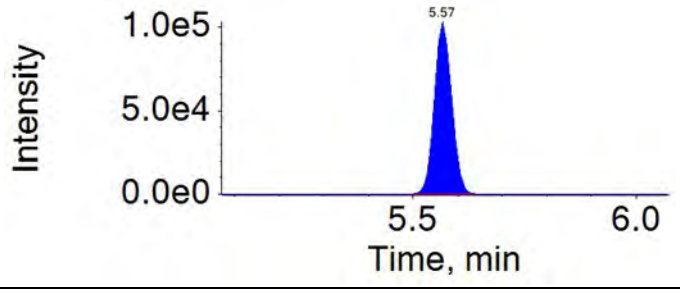

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



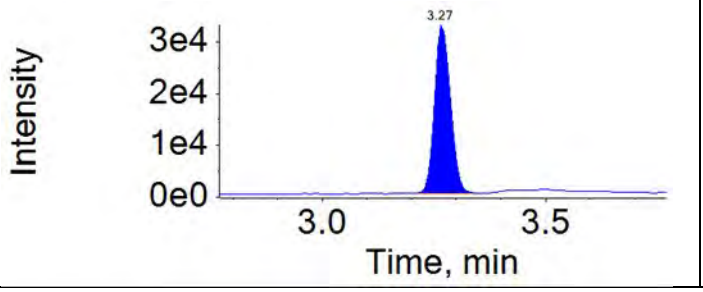

APPROVED
*By MCD at 6:33 pm, 11/12/18*

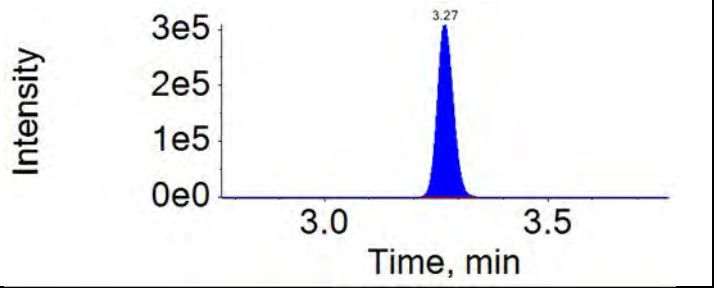


REVIEWED
*By HMK at 10:53 am, 11/13/18*

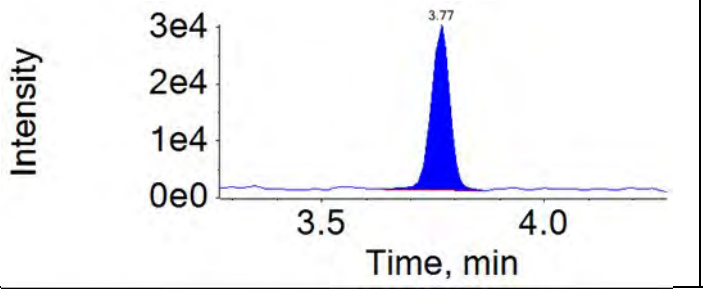
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

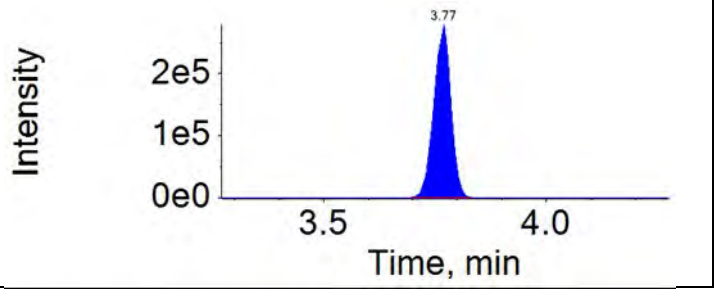
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



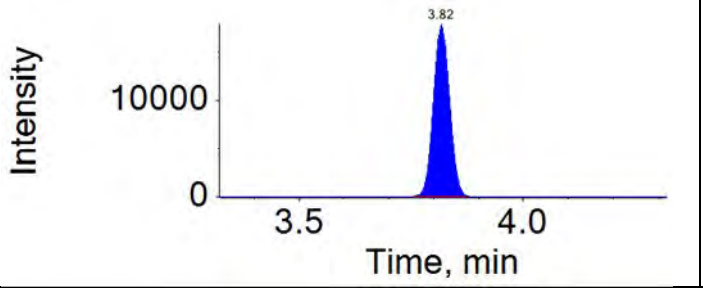



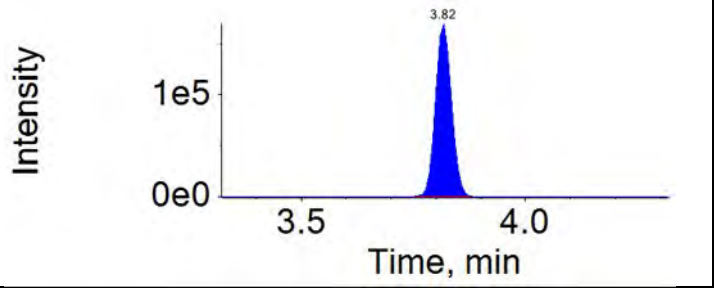

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



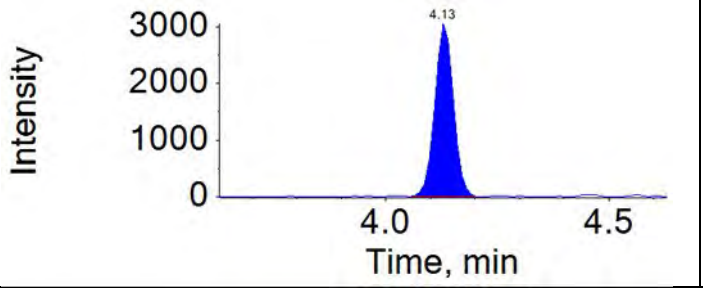



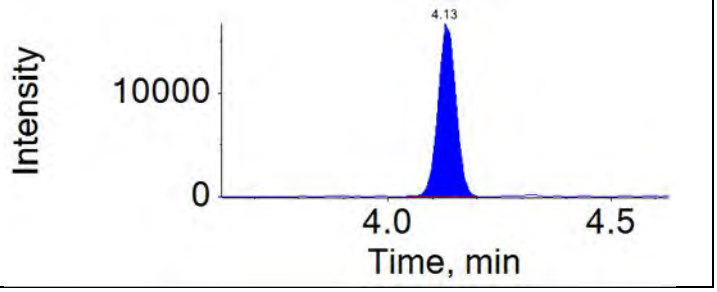

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



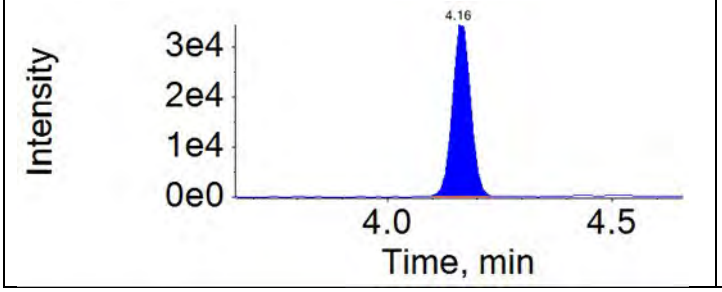

APPROVED
*By MCD at 6:33 pm, 11/12/18*

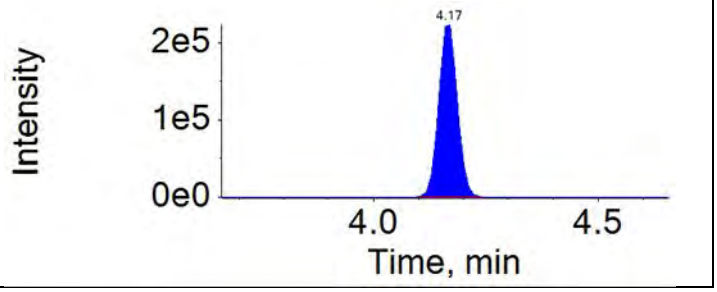


REVIEWED
*By HMK at 10:53 am, 11/13/18*

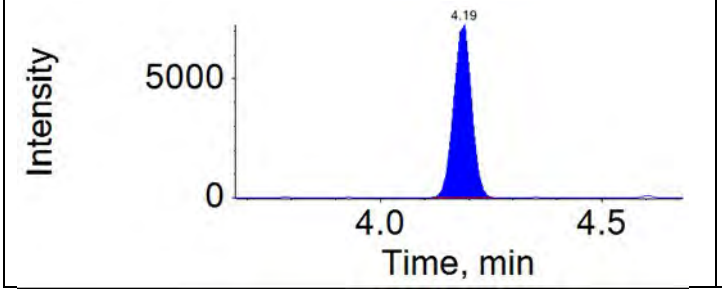
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

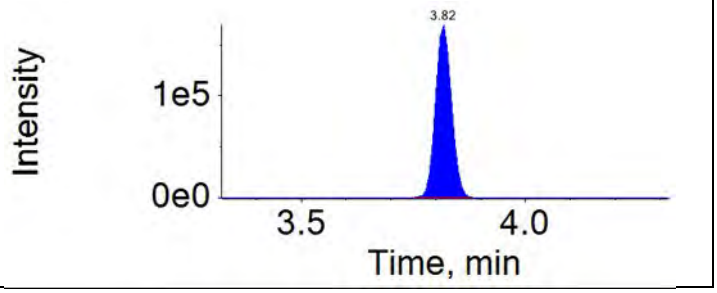
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



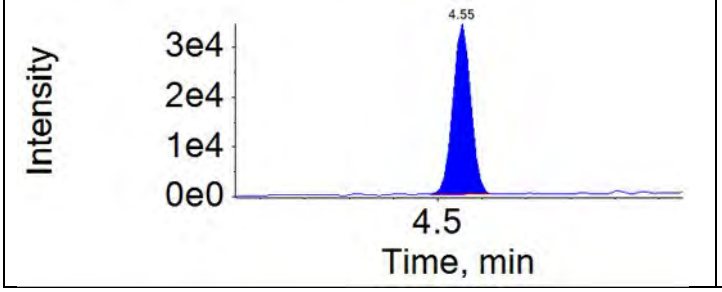



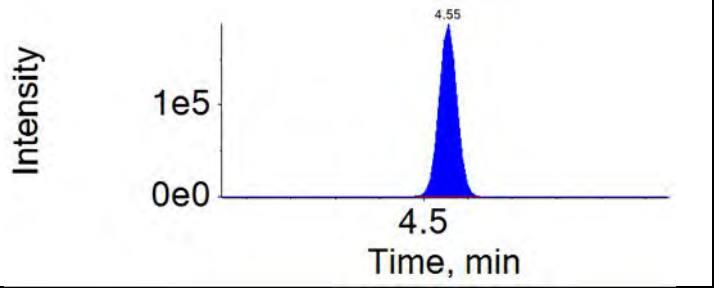

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



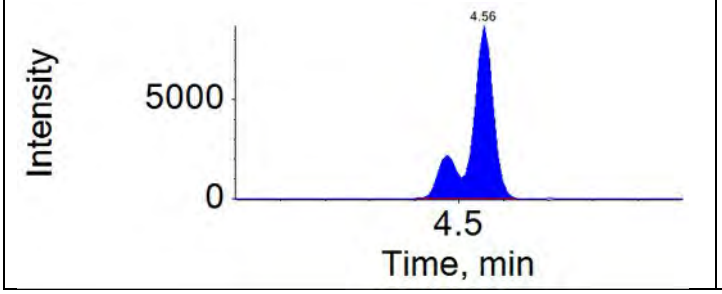



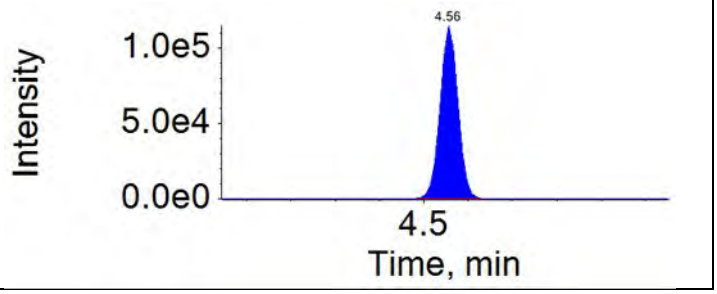

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



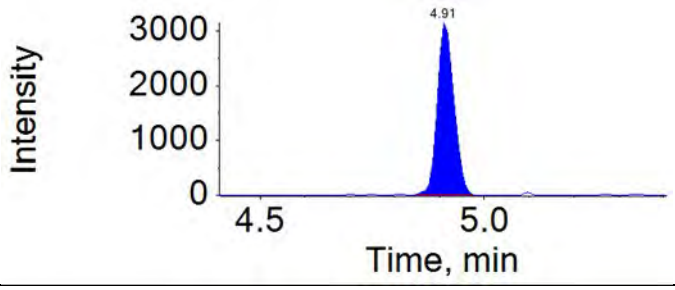
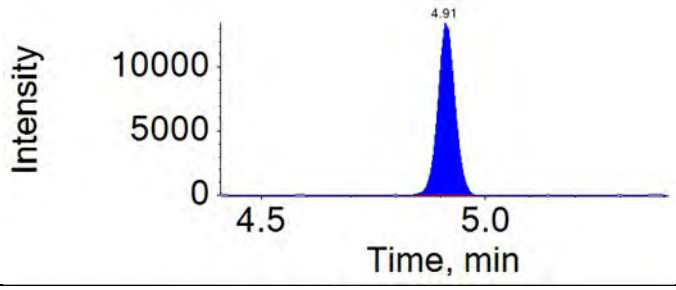




APPROVED
*By MCD at 6:33 pm, 11/12/18*



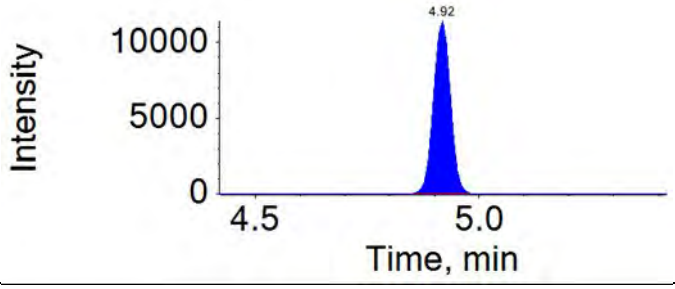
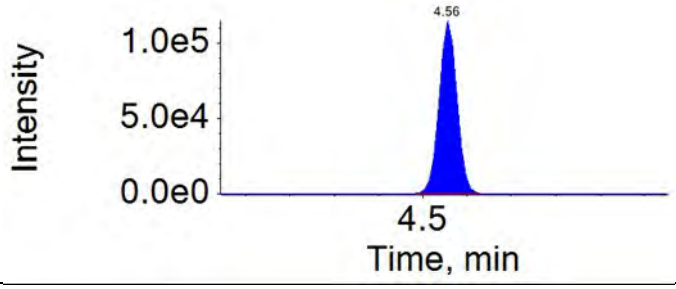
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |
|  |  |

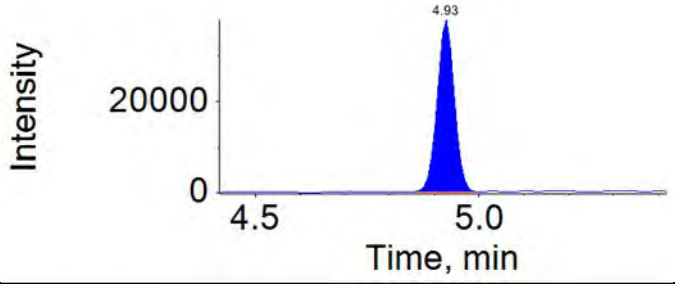
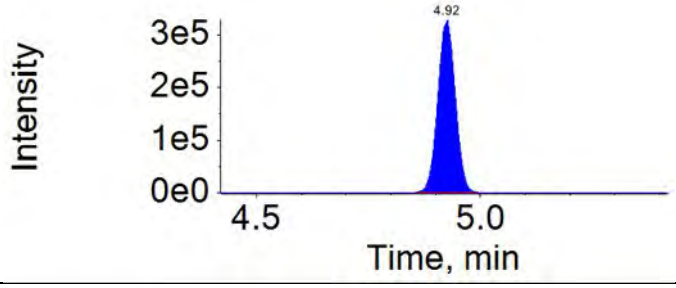




| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |
|  |  |

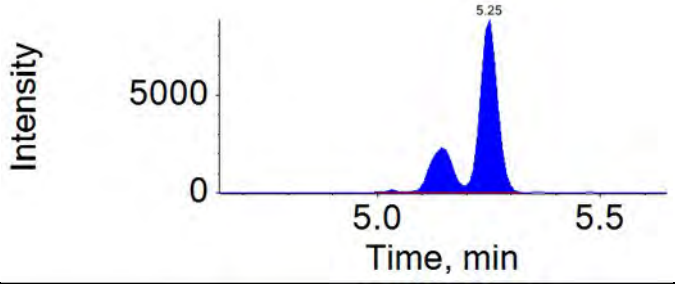
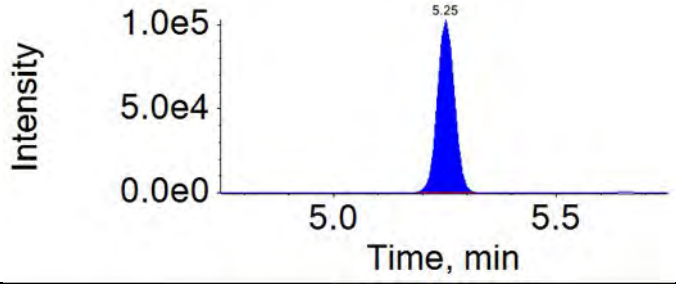




| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |
|  |  |





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





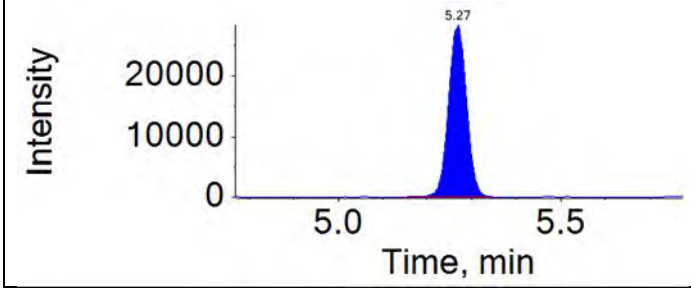
APPROVED
*By MCD at 6:33 pm, 11/12/18*

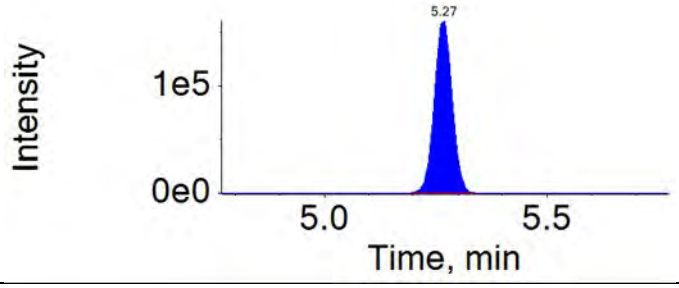


REVIEWED
*By HMK at 10:53 am, 11/13/18*

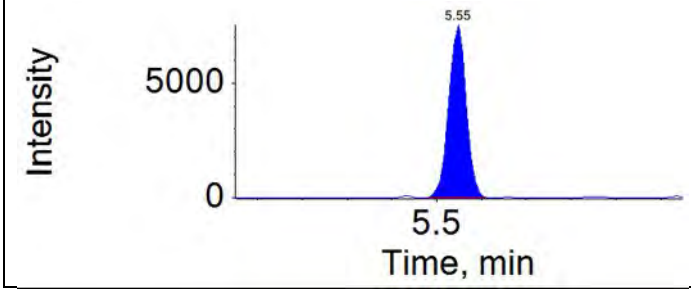
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

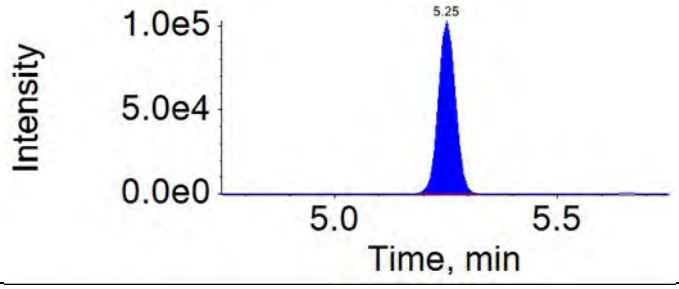
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



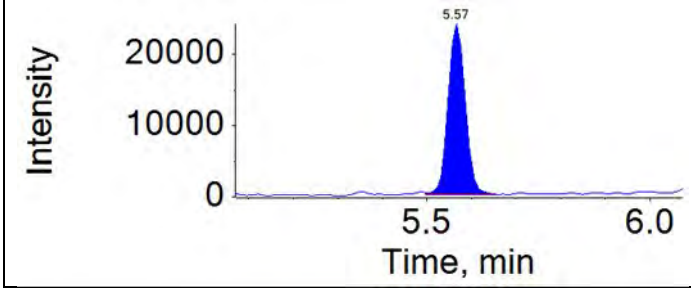



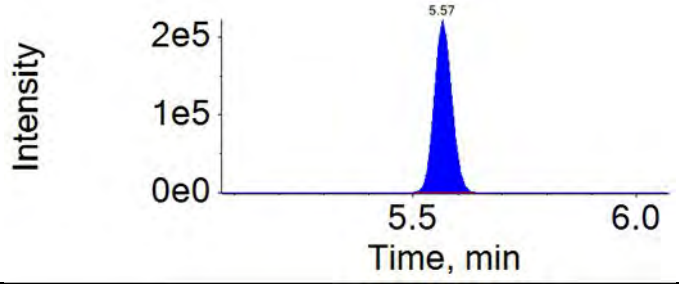

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



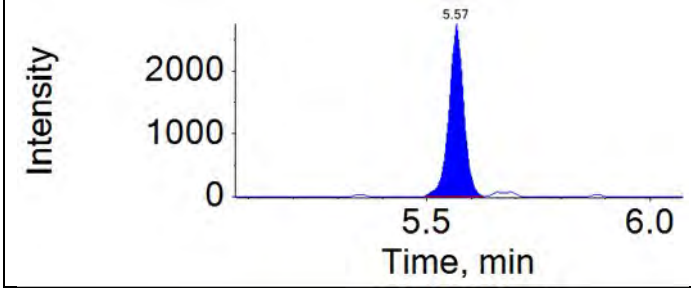



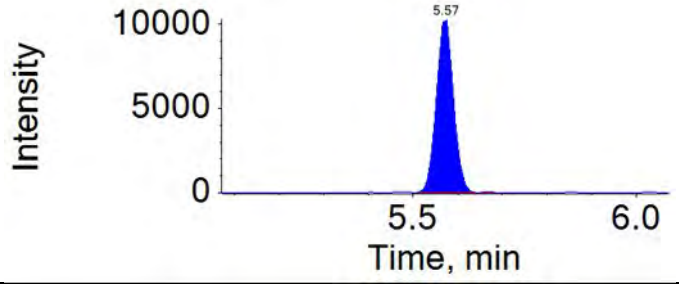

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



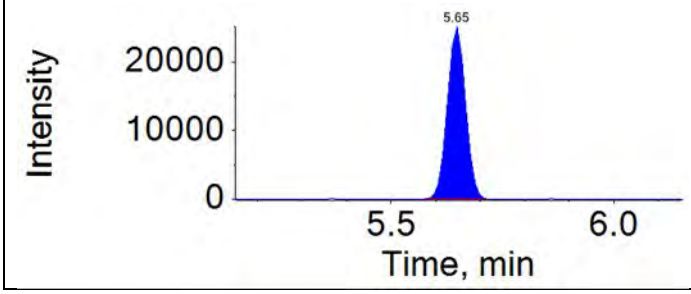

APPROVED
*By MCD at 6:33 pm, 11/12/18*

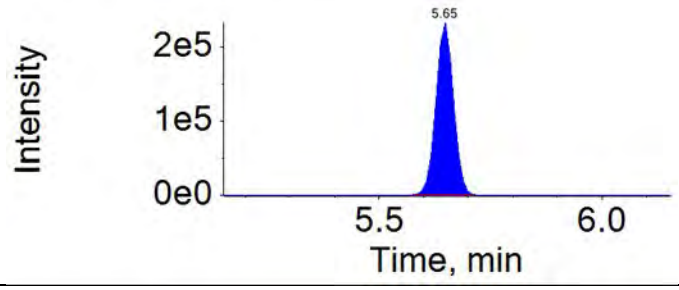


REVIEWED
*By HMK at 10:53 am, 11/13/18*

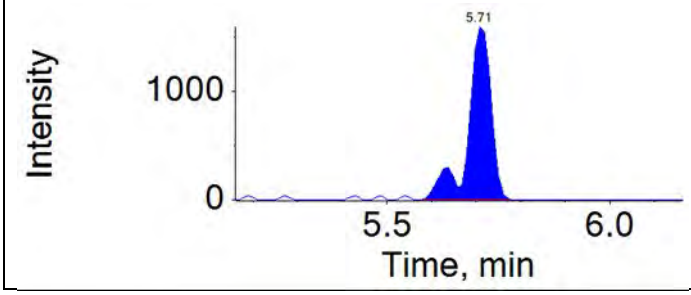
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

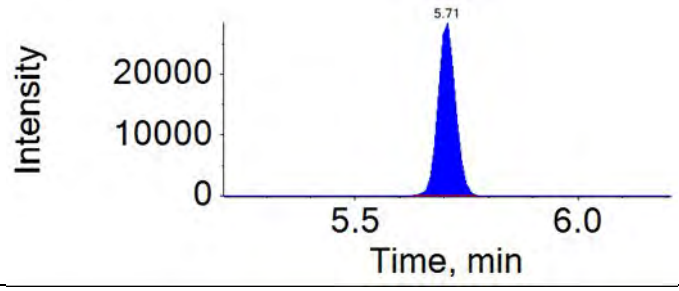
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



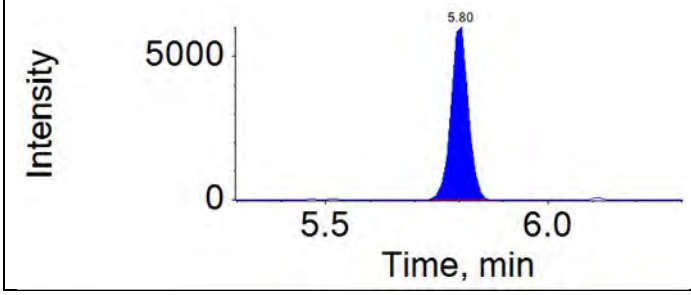



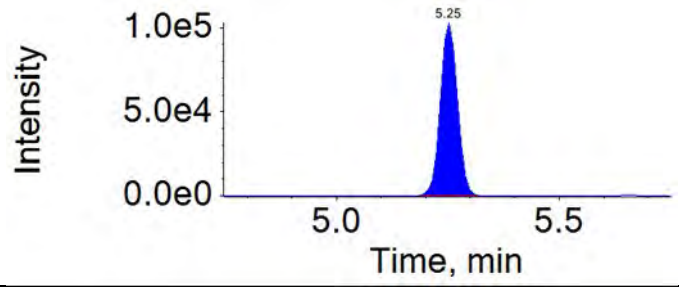

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



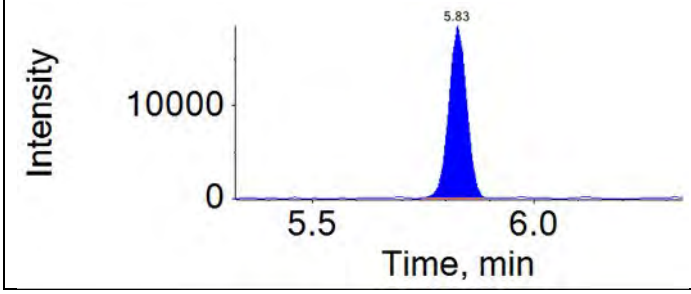



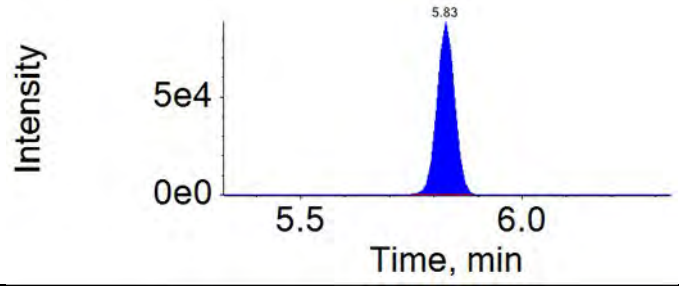

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



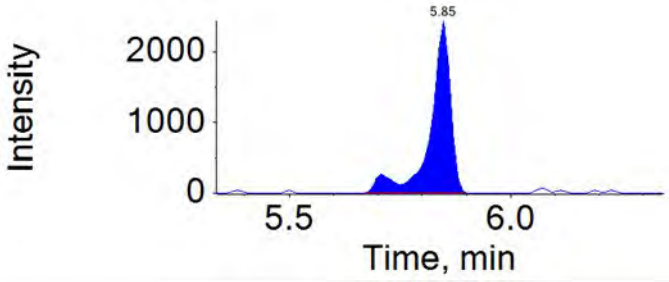
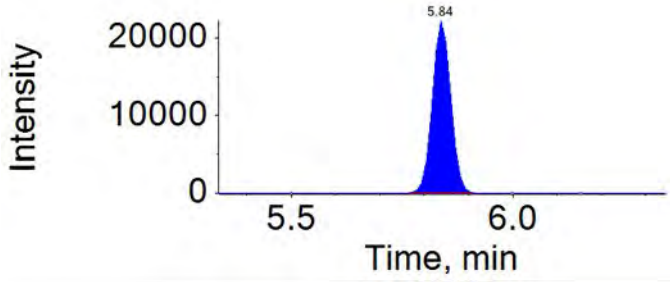




APPROVED
*By MCD at 6:33 pm, 11/12/18*



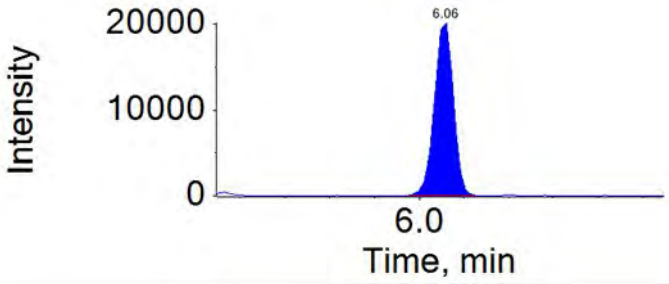
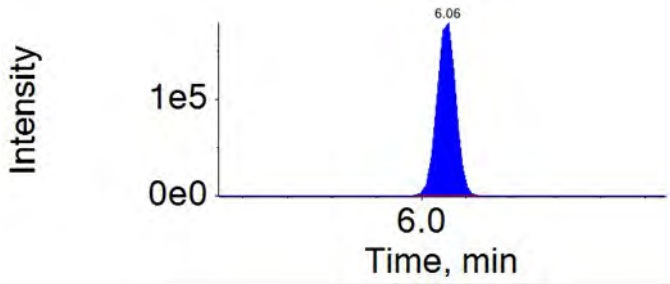
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

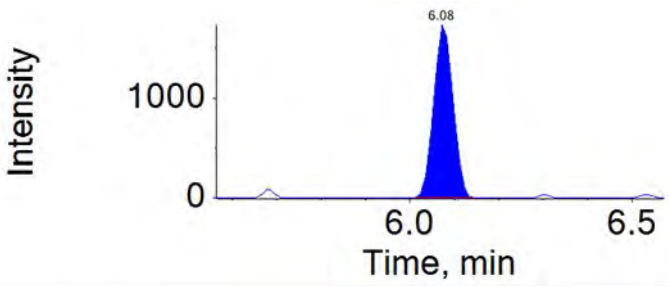
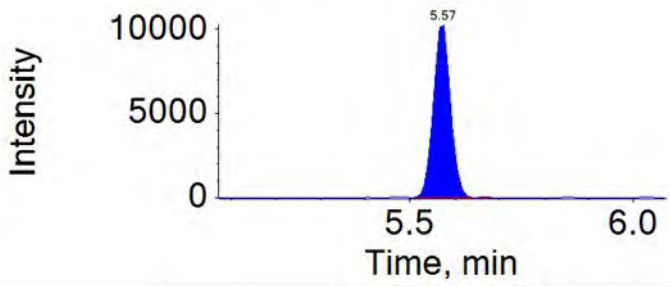




| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |
|  |  |

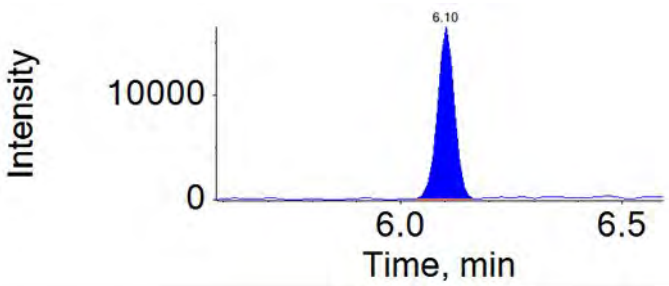
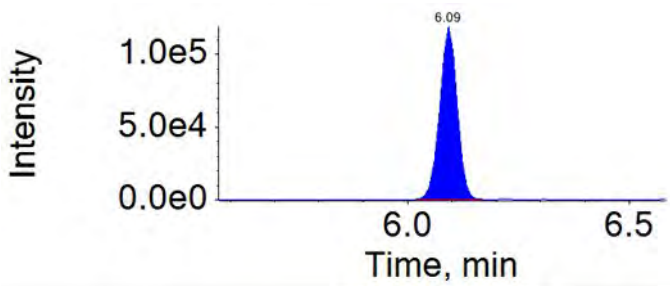




| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |
|  |  |





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





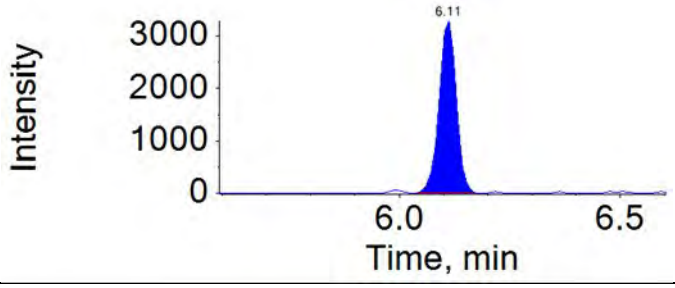
APPROVED
*By MCD at 6:33 pm, 11/12/18*

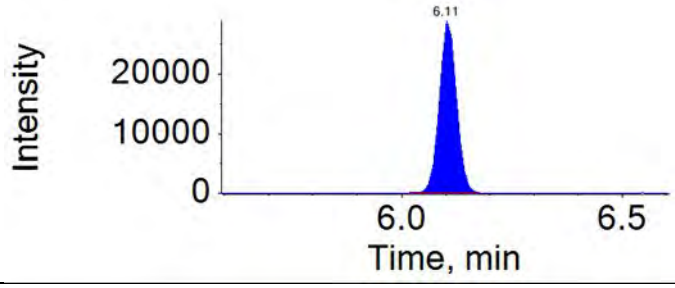


REVIEWED
*By HMK at 10:53 am, 11/13/18*

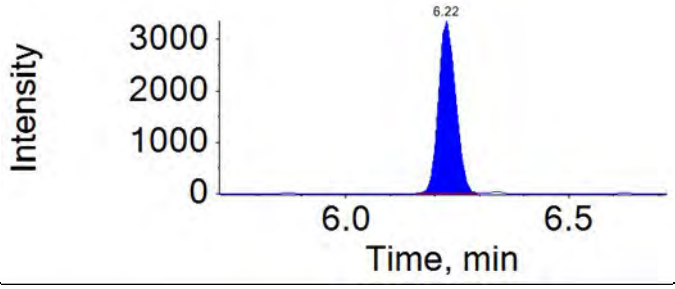
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

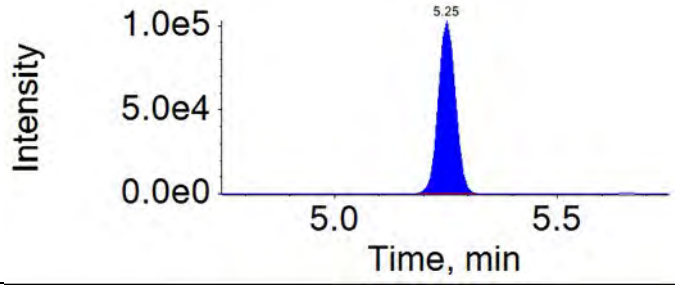
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



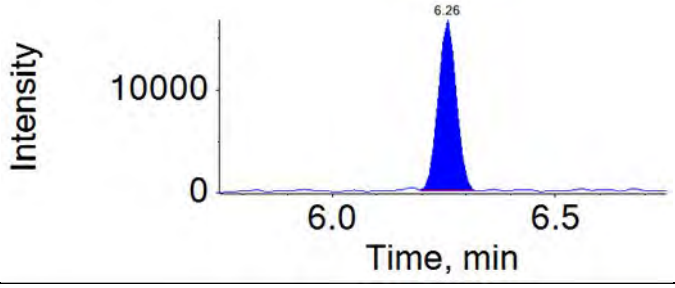



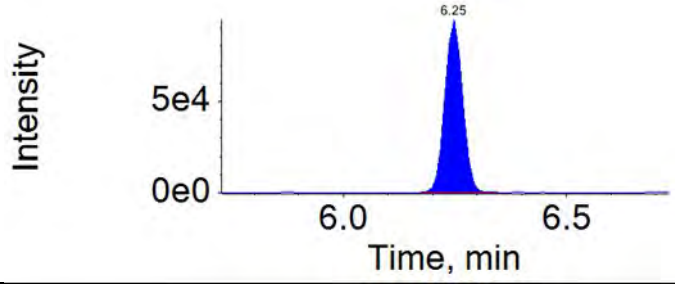

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



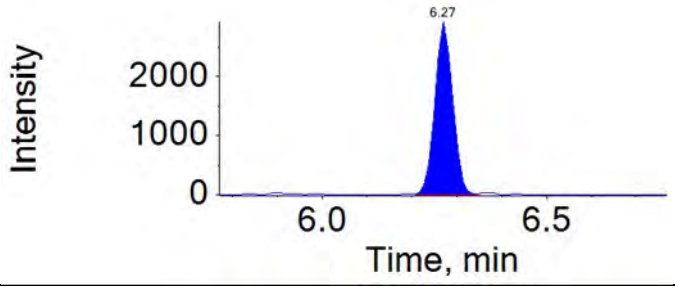



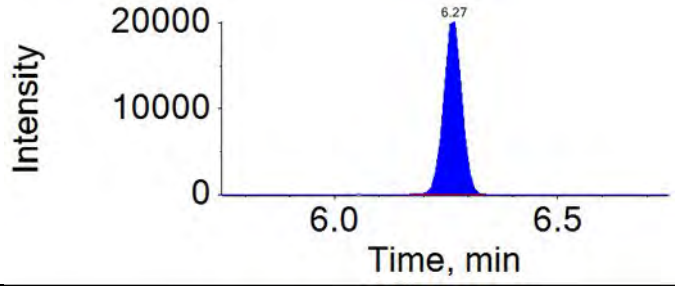

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



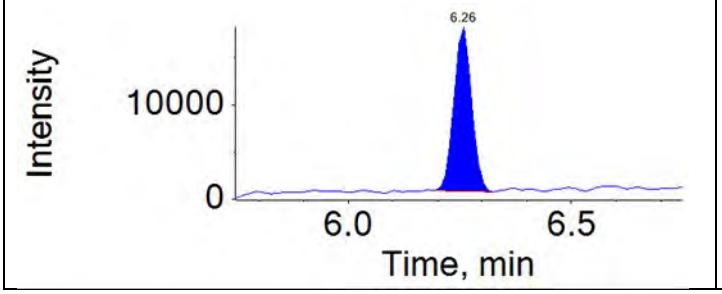

APPROVED
*By MCD at 6:33 pm, 11/12/18*

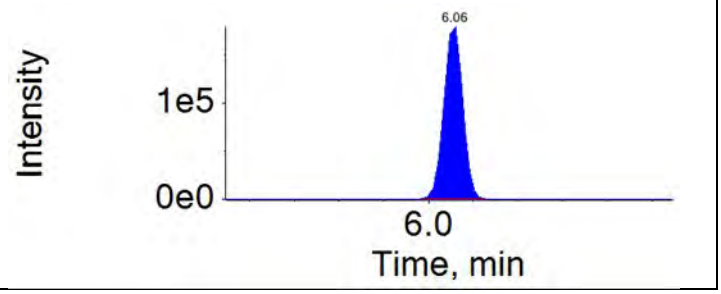


REVIEWED
*By HMK at 10:53 am, 11/13/18*

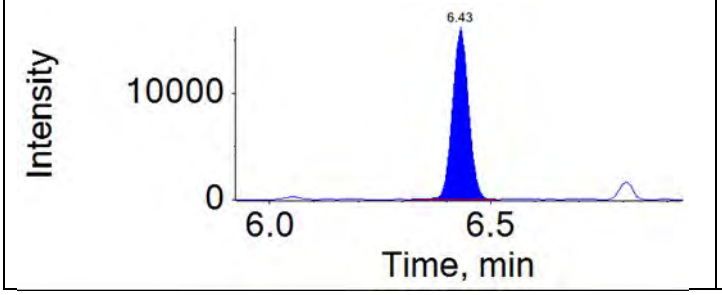
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

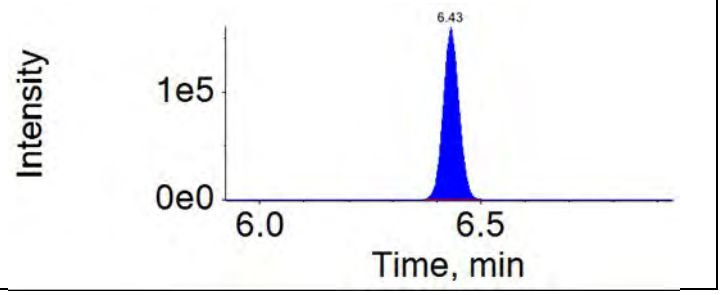
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



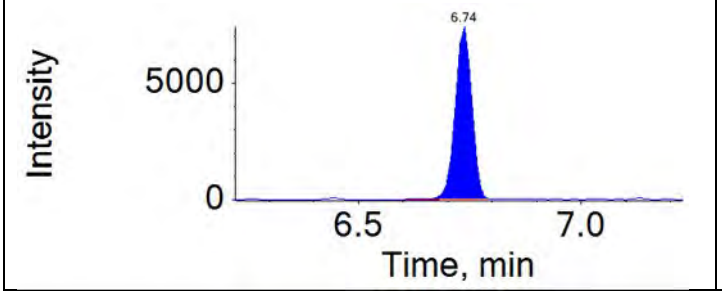



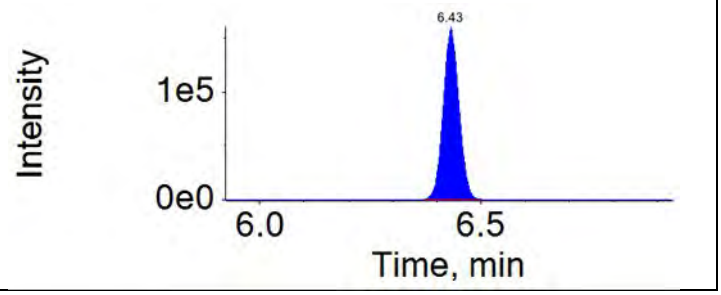

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



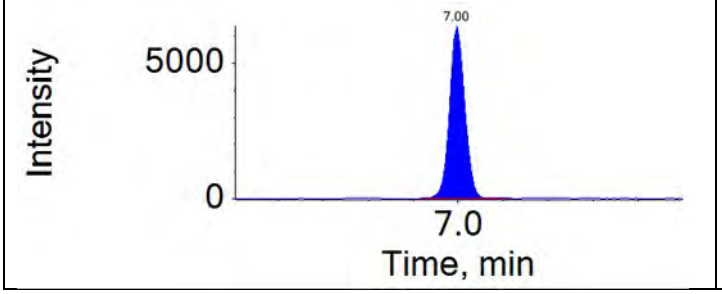



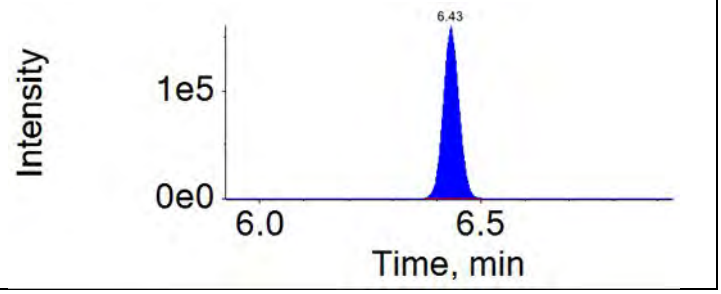

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




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



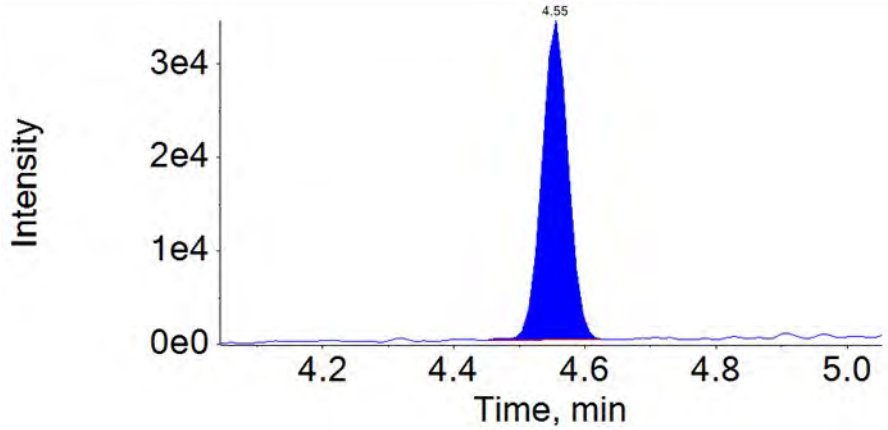

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

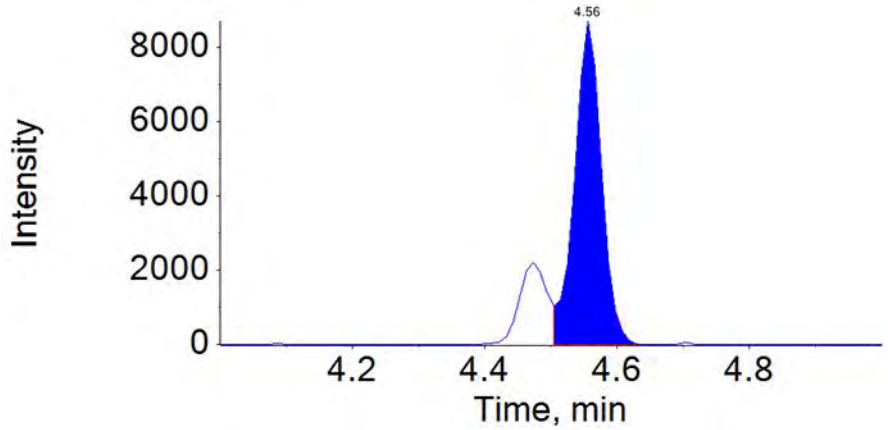
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHpA
**RT (min.):**
4.55
**Peak Area:**
95434.80
**Mass Range:**
363.0 / 319.0
**File Name:**
18NOV12DCAL-43.wiff
**Sample Name:**
CAL2



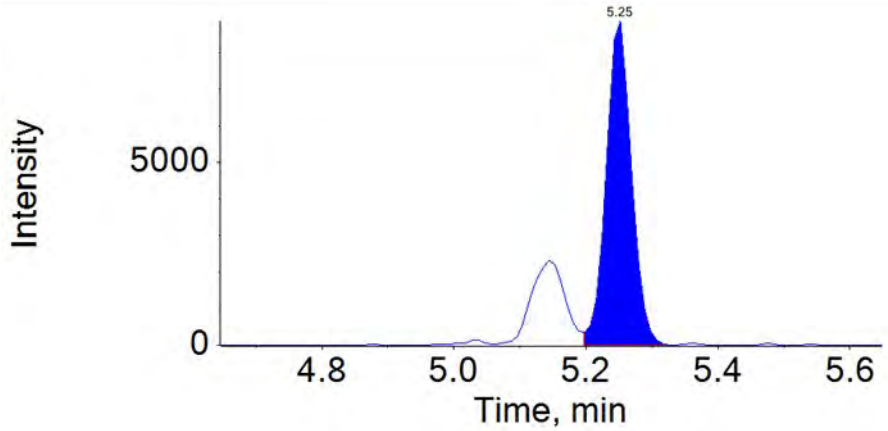

**Integration Comment:** incorrect integration

**Component Name:**
PFHxS
**RT (min.):**
4.56
**Peak Area:**
24710.47
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV12DCAL-43.wiff
**Sample Name:**
CAL2




**Integration Comment:** incorrect integration

**Component Name:**
PFOS
**RT (min.):**
5.25
**Peak Area:**
23625.90
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-43.wiff
**Sample Name:**
CAL2



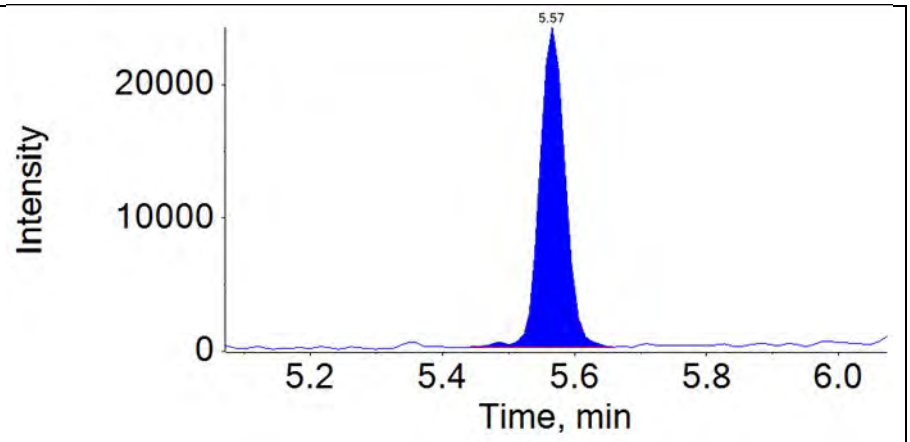

**Integration Comment:** incorrect integration

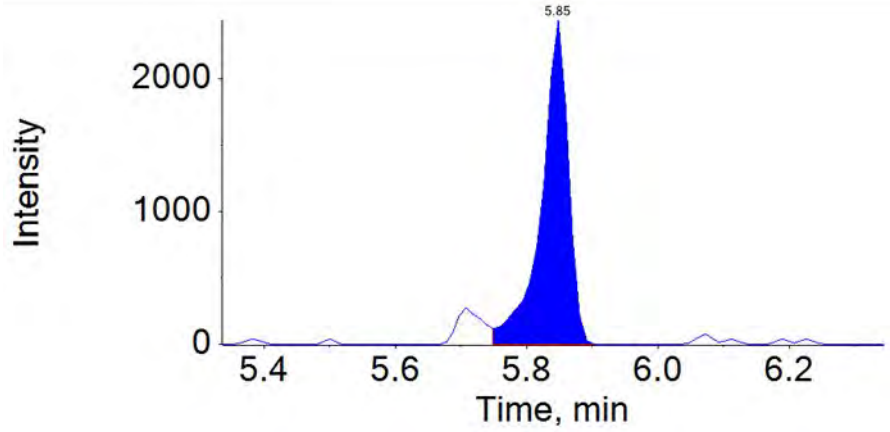
APPROVED
*By MCD at 6:33 pm, 11/12/18*

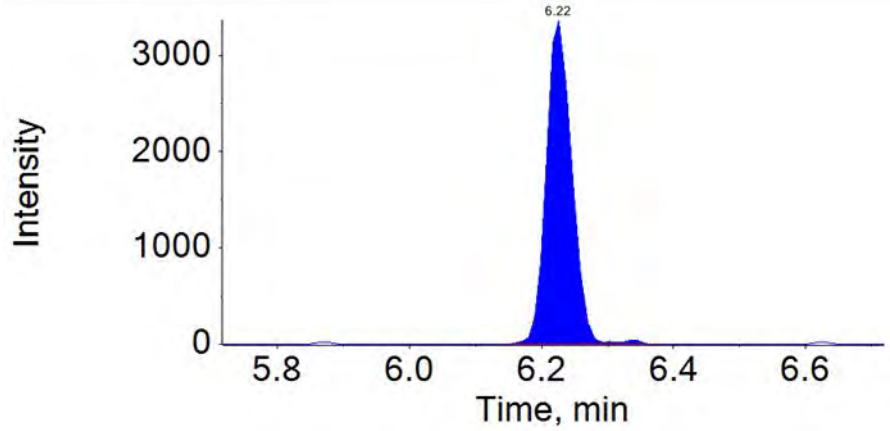


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFDA<br>**RT (min.):** 5.57<br>**Peak Area:** 64555.75<br>**Mass Range:** 513.0 / 469.0<br>**File Name:** 18NOV12DCAL-43.wiff<br>**Sample Name:** CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NEtFOSAA<br>**RT (min.):** 5.85<br>**Peak Area:** 6972.11<br>**Mass Range:** 584.0 / 419.0<br>**File Name:** 18NOV12DCAL-43.wiff<br>**Sample Name:** CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFDoS<br>**RT (min.):** 6.22<br>**Peak Area:** 9104.97<br>**Mass Range:** 699.0 / 80.0<br>**File Name:** 18NOV12DCAL-43.wiff<br>**Sample Name:** CAL2 | <br>**Integration Comment:** incorrect integration |

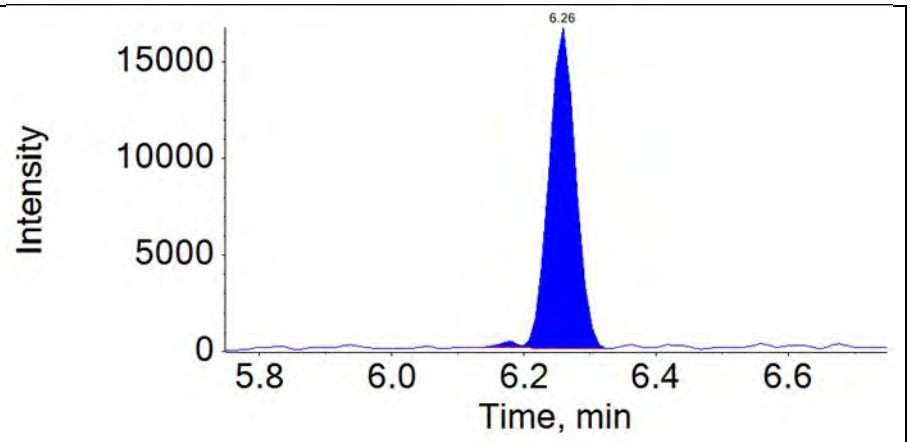
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

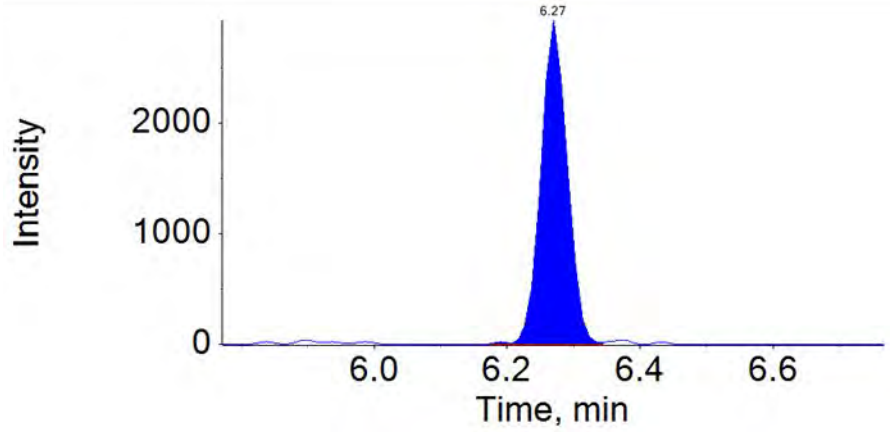
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NEtPFOSAE
**RT (min.):**
6.26
**Peak Area:**
47267.14
**Mass Range:**
630.0 / 59.0
**File Name:**
18NOV12DCAL-43.wiff
**Sample Name:**
CAL2



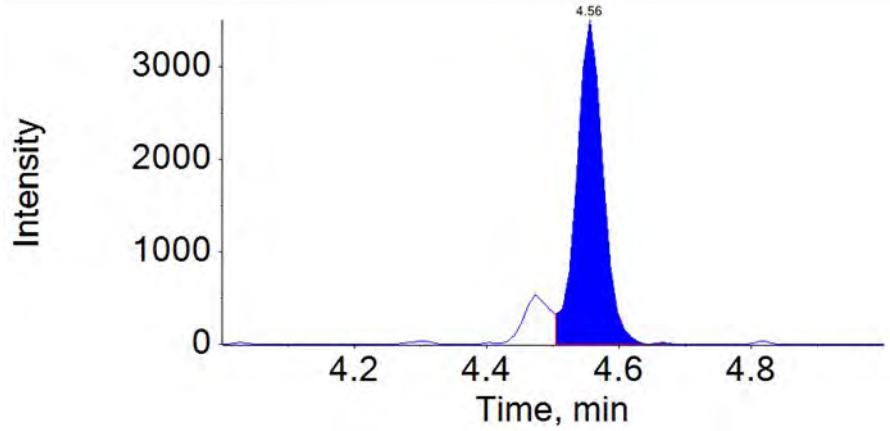

**Integration Comment:** incorrect integration

**Component Name:**
NEtPFOSA
**RT (min.):**
6.27
**Peak Area:**
8081.41
**Mass Range:**
526.0 / 169.0
**File Name:**
18NOV12DCAL-43.wiff
**Sample Name:**
CAL2




**Integration Comment:** incorrect integration

**Component Name:**
PFHxS_2
**RT (min.):**
4.56
**Peak Area:**
9734.65
**Mass Range:**
399.0 / 99.0
**File Name:**
18NOV12DCAL-43.wiff
**Sample Name:**
CAL2



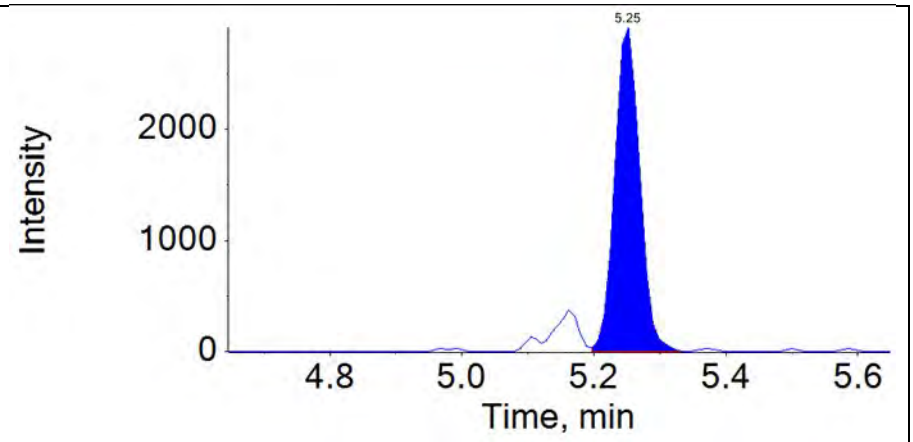

**Integration Comment:** incorrect integration

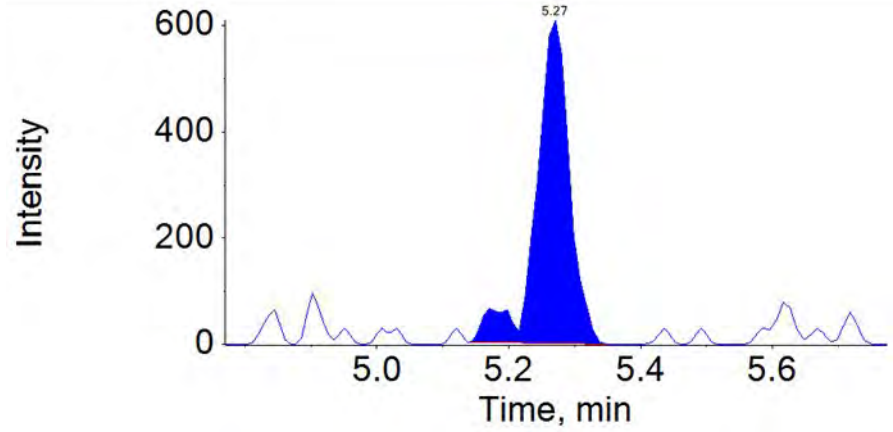
APPROVED
*By MCD at 6:33 pm, 11/12/18*

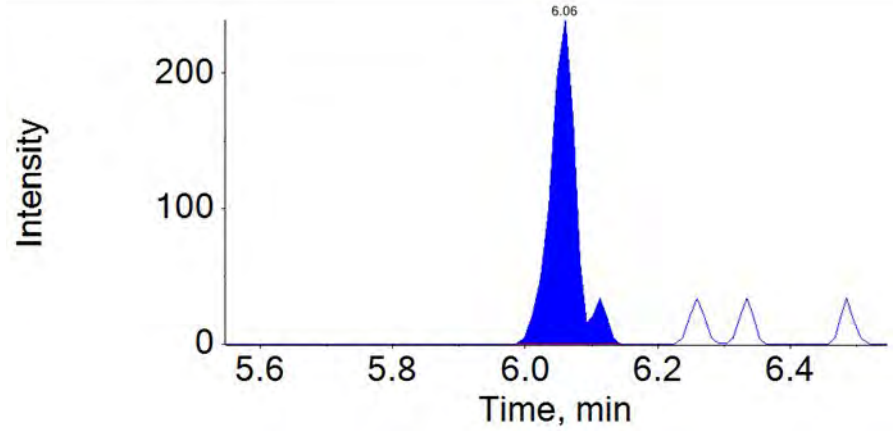


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.25<br>**Peak Area:** 7692.11<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV12DCAL-43.wiff<br>**Sample Name:** CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFNA_2<br>**RT (min.):** 5.27<br>**Peak Area:** 2176.77<br>**Mass Range:** 463.0 / 169.0<br>**File Name:** 18NOV12DCAL-43.wiff<br>**Sample Name:** CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFDoDA_2<br>**RT (min.):** 6.06<br>**Peak Area:** 655.49<br>**Mass Range:** 613.0 / 169.0<br>**File Name:** 18NOV12DCAL-43.wiff<br>**Sample Name:** CAL2 | <br>**Integration Comment:** incorrect integration |

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

## Ion Ratio Report

**Sample Name:** CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-43.wiff

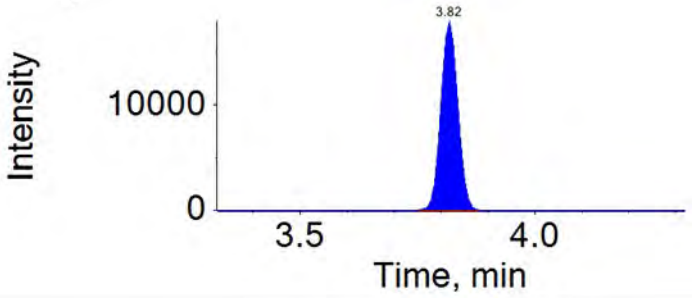
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.82 | 1.00 | 44885.16 | A | 0.3619 | 0.3622 | | | |
| PFBS_2 | 3.82 | 1.00 | 16259.22 | A | 0.3619 | 0.3622 | 0 | 50 | |
| 4:2-FTS | 4.13 | 1.00 | 8803.96 | A | 0.6730 | 0.7006 | | | |
| 4:2 FTS_2 | 4.13 | 1.00 | 6168.18 | A | 0.6730 | 0.7006 | | #NA! | |
| PFHxA | 4.16 | 1.00 | 96559.34 | A | 0.0117 | 0.0147 | | | |
| PFHxA_2 | 4.16 | 1.00 | 1416.25 | A | 0.0117 | 0.0147 | 26 | 50 | |
| PFPeS | 4.19 | 1.10 | 20295.04 | A | 0.5191 | 0.5794 | | | |
| PFPeS_2 | 4.18 | 1.10 | 11758.90 | A | 0.5191 | 0.5794 | 12 | 50 | |
| PFHpA | 4.55 | 1.00 | 95048.34 | M | 0.0563 | 0.0529 | | | |
| PFHpA_2 | 4.55 | 1.00 | 5032.31 | A | 0.0563 | 0.0529 | -6 | 50 | |
| PFHxS | 4.56 | 1.00 | 31064.73 | M | 0.3428 | 0.3595 | | | |
| PFHxS_2 | 4.56 | 1.00 | 11169.02 | M | 0.3428 | 0.3595 | 5 | 50 | |
| 6:2-FTS | 4.91 | 1.00 | 8048.37 | A | 0.6604 | 0.6742 | | | |
| 6:2 FTS_2 | 4.91 | 1.00 | 5425.84 | A | 0.6604 | 0.6742 | | #NA! | |
| PFHpS | 4.92 | 1.08 | 29902.32 | A | 0.4066 | 0.4437 | | | |
| PFHpS_2 | 4.92 | 1.08 | 13266.19 | A | 0.4066 | 0.4437 | 9 | 50 | |
| PFOA | 4.93 | 1.00 | 100710.53 | A | 0.0562 | 0.0523 | | | |
| PFOA_2 | 4.92 | 1.00 | 5264.55 | A | 0.0562 | 0.0523 | -7 | 50 | |
| PFOS | 5.25 | 1.00 | 32300.98 | M | 0.2968 | 0.2722 | | | |
| PFOS_2 | 5.25 | 1.00 | 8793.88 | M | 0.2968 | 0.2722 | -8 | 50 | |
| PFNA | 5.27 | 1.00 | 80724.19 | A | 0.0229 | 0.0248 | | | |
| PFNA_2 | 5.27 | 1.00 | 1999.67 | M | 0.0229 | 0.0248 | 8 | 50 | |
| PFNS | 5.55 | 1.06 | 20326.14 | A | 0.4828 | 0.4548 | | | |
| PFNS_2 | 5.54 | 1.06 | 9243.39 | A | 0.4828 | 0.4548 | -6 | 50 | |
| PFDA | 5.57 | 1.00 | 63802.06 | M | 0.0081 | 0.0067 | | | |
| PFDA_2 | 5.56 | 1.00 | 427.00 | A | 0.0081 | 0.0067 | -17 | 50 | |
| 8:2-FTS | 5.57 | 1.00 | 6214.24 | A | 0.6814 | 0.7964 | | | |
| 8:2 FTS_2 | 5.57 | 1.00 | 4949.26 | A | 0.6814 | 0.7964 | | #NA! | |
| NMeFOSAA | 5.71 | 1.00 | 5759.59 | A | 0.2569 | 0.2344 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 1350.22 | A | 0.2569 | 0.2344 | -9 | 50 | |
| PFDS | 5.80 | 1.10 | 16291.91 | A | 0.5144 | 0.5360 | | | |
| PFDS_2 | 5.80 | 1.11 | 8732.52 | A | 0.5144 | 0.5360 | 4 | 50 | |
| PFUnDA | 5.83 | 1.00 | 51206.76 | A | 0.0058 | 0.0013 | | | |
| PFUnDA_2 | 5.87 | 1.01 | 64.88 | A | 0.0058 | 0.0013 | -78 | 50 | OOS |
| NEtFOSAA | 5.85 | 1.00 | 7727.12 | M | 0.7253 | 0.7329 | | | |
| NEtFOSAA_2 | 5.84 | 1.00 | 5663.34 | A | 0.7253 | 0.7329 | 1 | 50 | |
| PFDoDA | 6.06 | 1.00 | 59695.25 | A | 0.0157 | 0.0101 | | | |
| PFDoDA_2 | 6.06 | 1.00 | 604.13 | M | 0.0157 | 0.0101 | -35 | 50 | |
| 10:2-FTS | 6.08 | 1.09 | 5206.47 | A | 0.6356 | 0.6377 | | | |
| 10:2 FTS_2 | 6.07 | 1.09 | 3320.12 | A | 0.6356 | 0.6377 | | #NA! | |
| PFTrDA | 6.26 | 1.03 | 47991.31 | A | 0.0086 | 0.0047 | | | |
| PFTrDA_2 | 6.26 | 1.03 | 226.86 | A | 0.0086 | 0.0047 | -45 | 50 | |
| PFTeDA | 6.43 | 1.00 | 40236.53 | A | 0.0062 | 0.0078 | | | |
| PFTeDA_2 | 6.43 | 1.00 | 314.50 | A | 0.0062 | 0.0078 | 25 | 50 | |
| PFHxDA | 6.74 | 1.05 | 19006.44 | A | 0.0683 | 0.0747 | | | |
| PFHxDA_2 | 6.73 | 1.05 | 1419.64 | A | 0.0683 | 0.0747 | 9 | 50 | |
| PFODA | 7.00 | 1.09 | 14955.56 | A | 0.0277 | 0.0314 | | | |
| PFODA_2 | 7.00 | 1.09 | 469.81 | A | 0.0277 | 0.0314 | 13 | 50 | |

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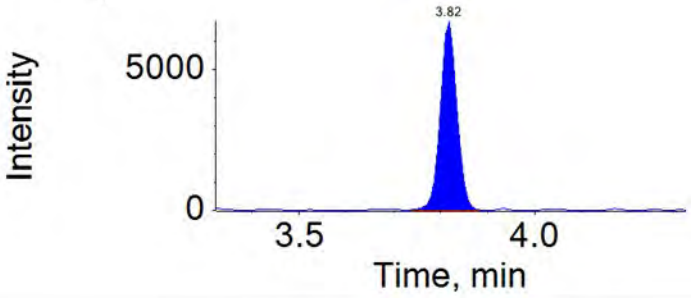


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*By HMK at 10:53 am, 11/13/18*

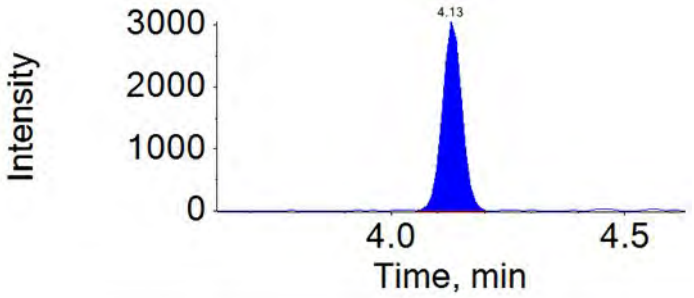
Component: PFBS
Primary Mass: 299.0 / 80.0



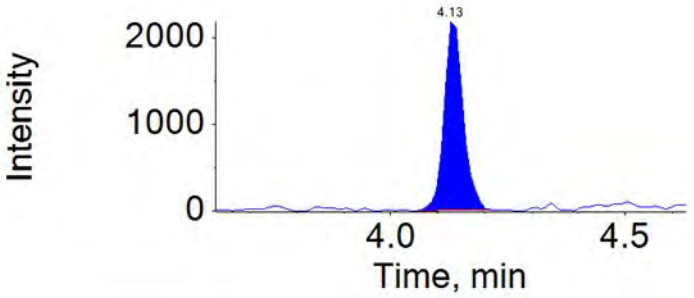

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



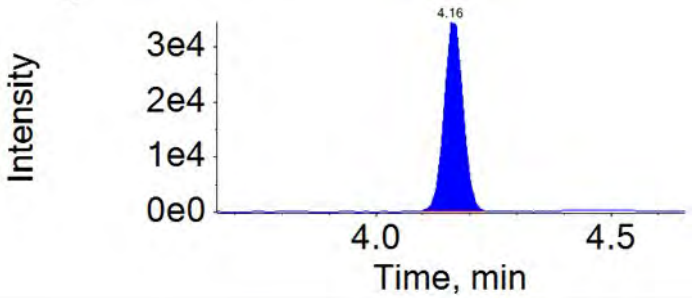

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



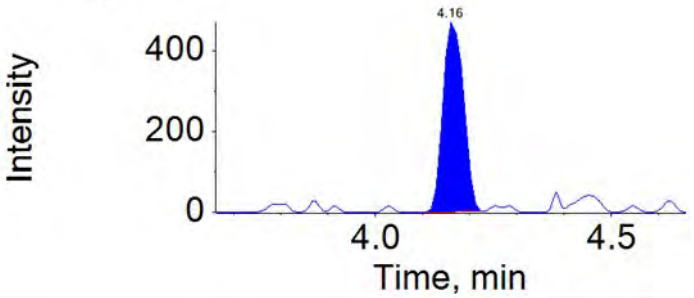

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



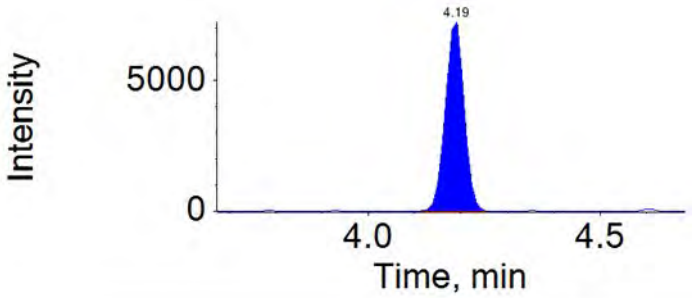

Component: PFHxA
Primary Mass: 313.0 / 269.0



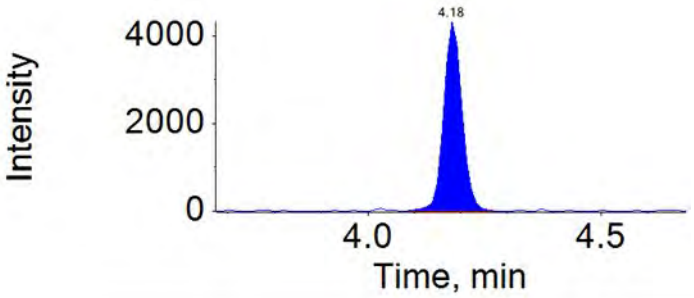

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

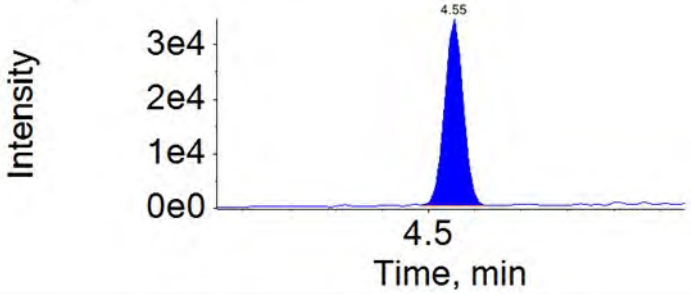



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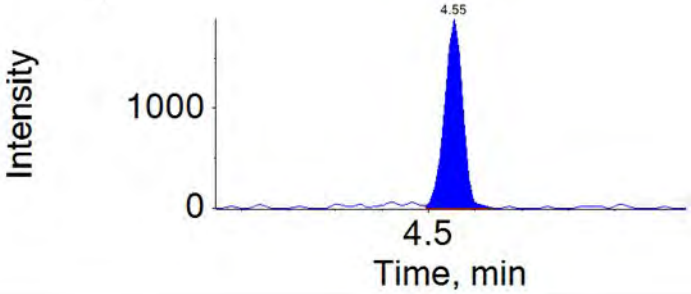


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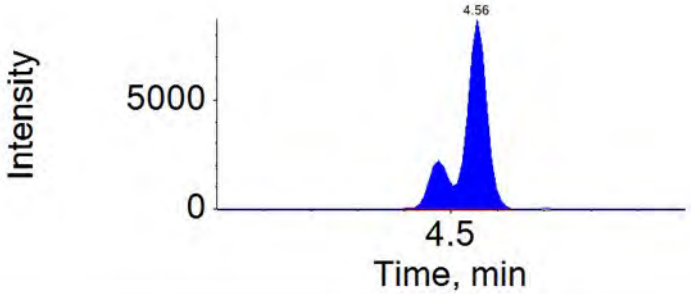
Component: PFHpA
Primary Mass: 363.0 / 319.0



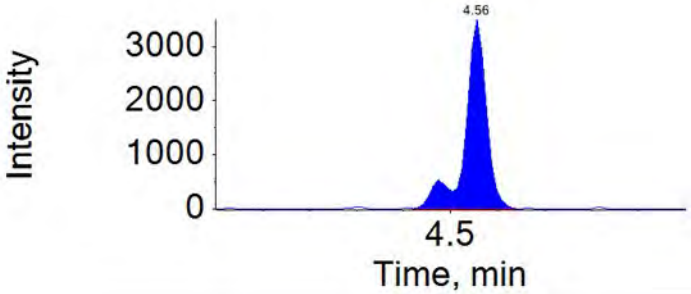

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



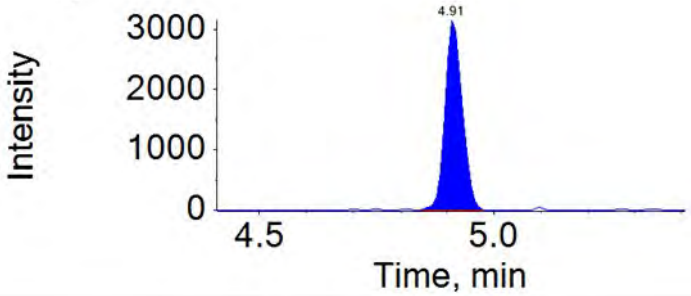

Component: PFHxS
Primary Mass: 399.0 / 80.0



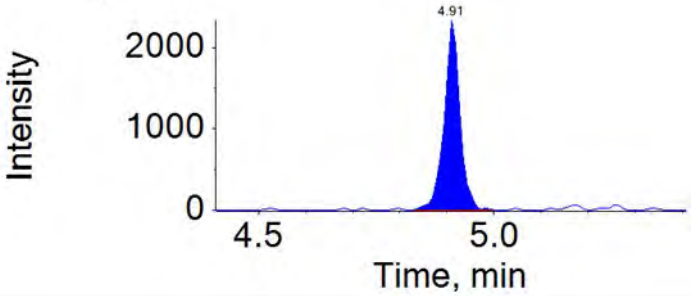

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



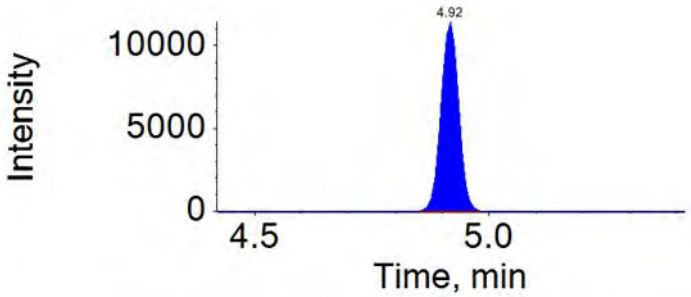

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



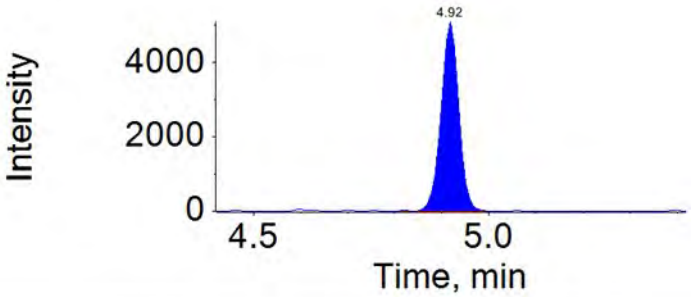

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

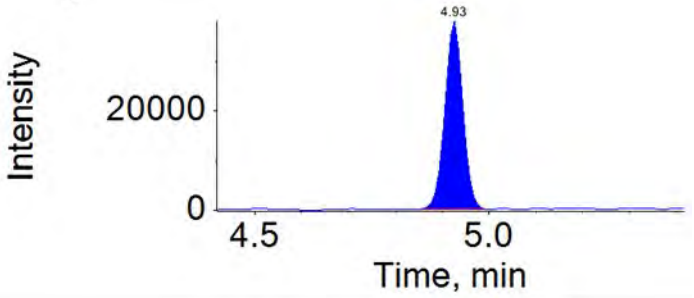



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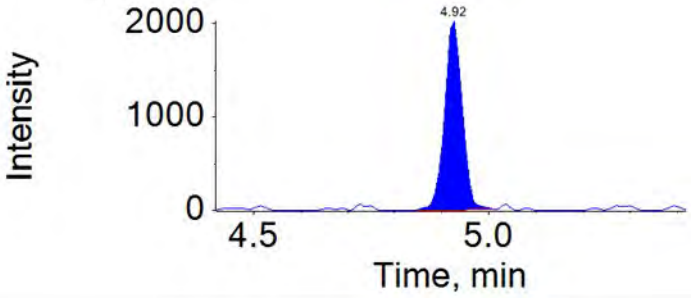


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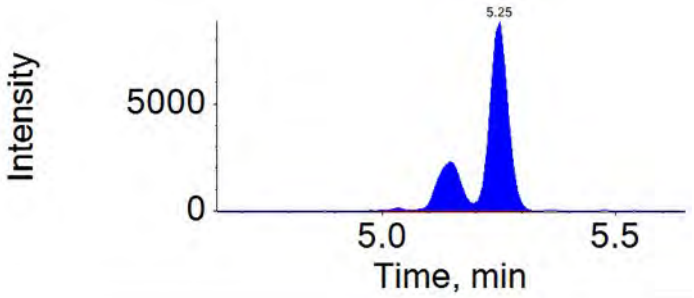
Component: PFOA
Primary Mass: 413.0 / 369.0



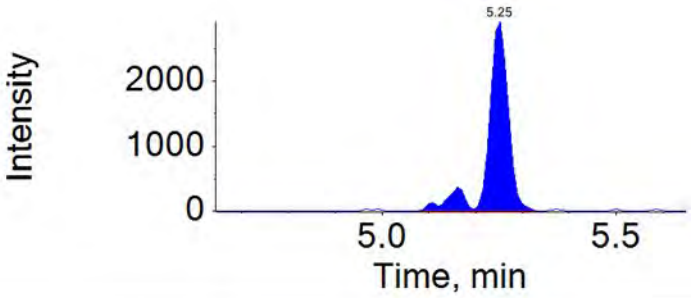

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



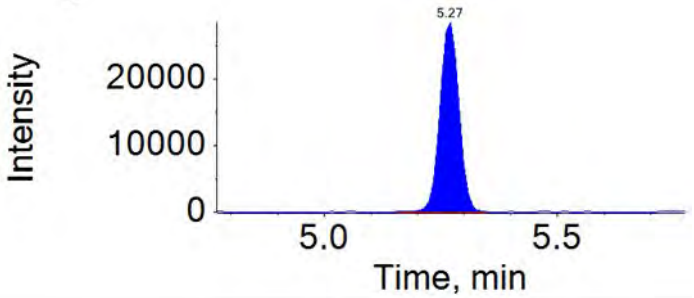

Component: PFOS
Primary Mass: 499.0 / 80.0



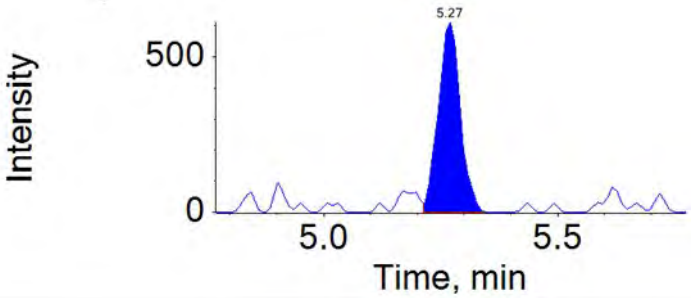

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



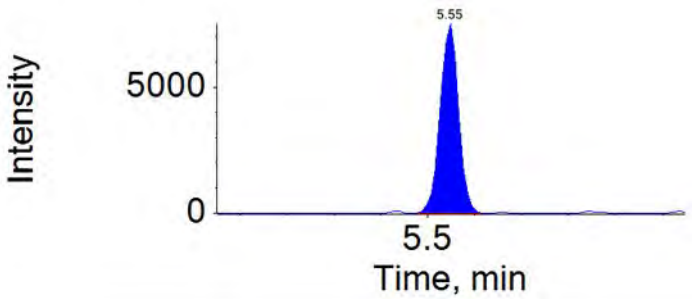

Component: PFNA
Primary Mass: 463.0 / 419.0



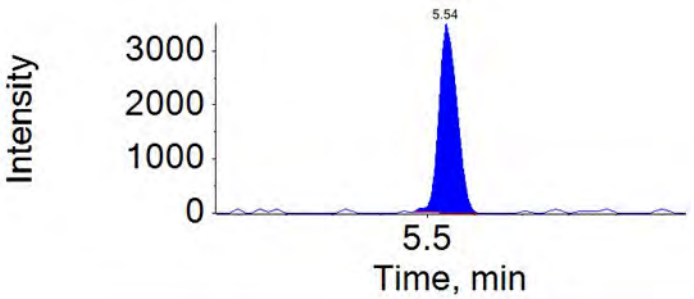

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

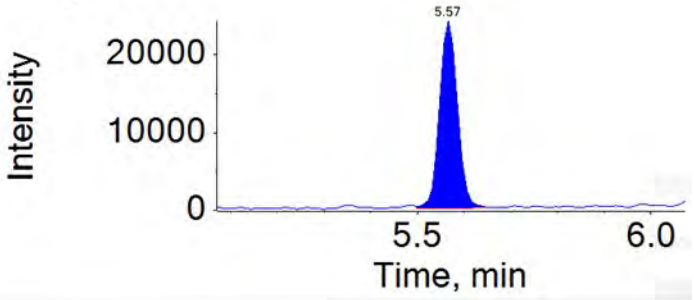



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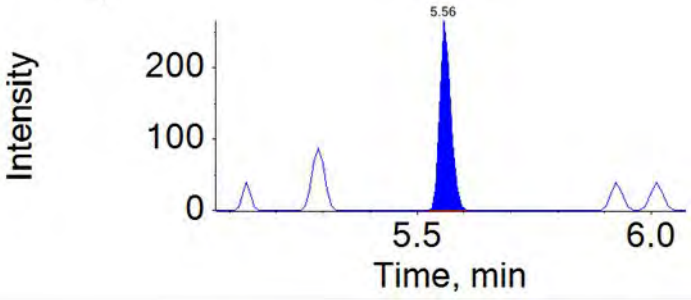


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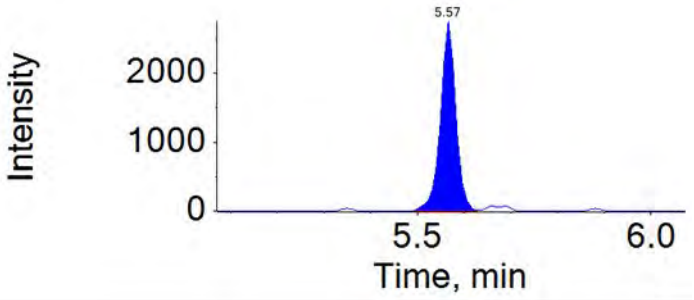
Component: PFDA
Primary Mass: 513.0 / 469.0



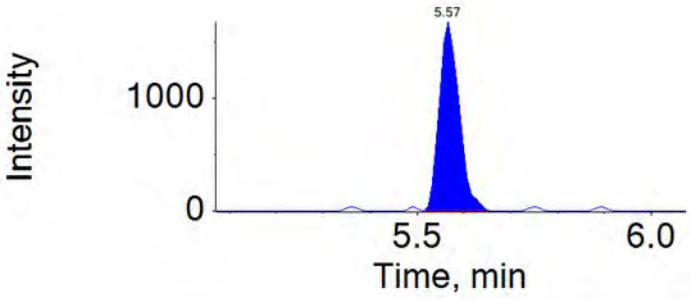

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



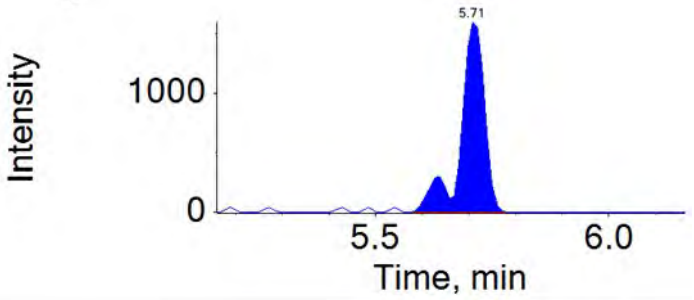

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



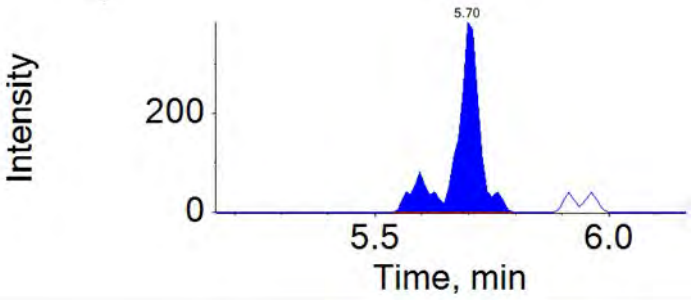

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



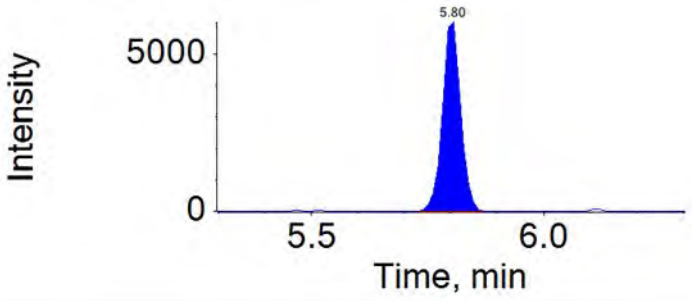

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



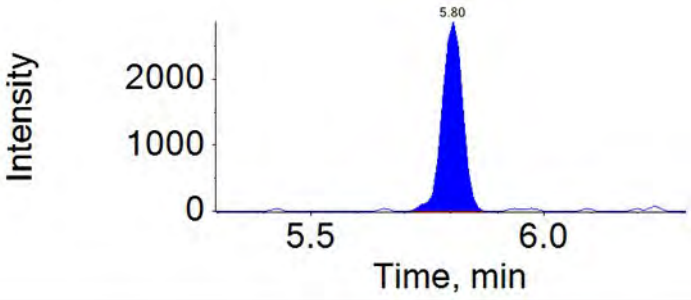

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

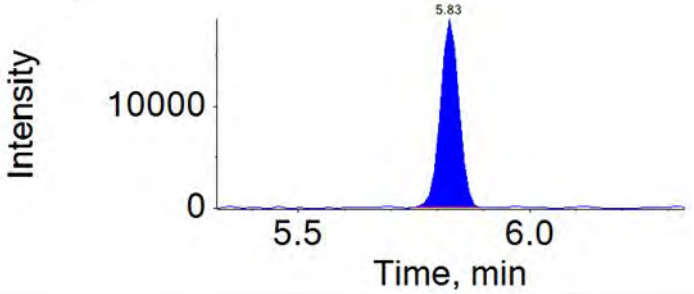



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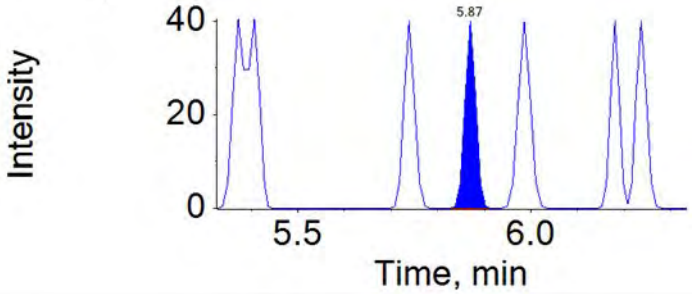


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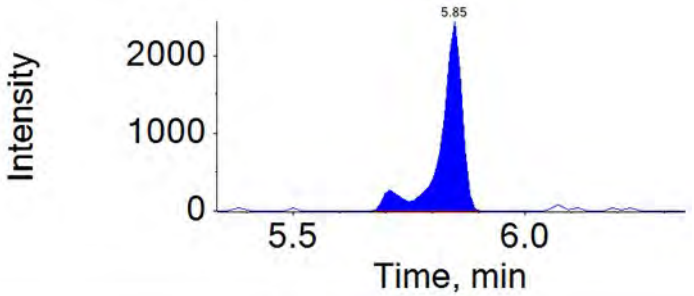
Component: PFUnDA
Primary Mass: 563.0 / 519.0



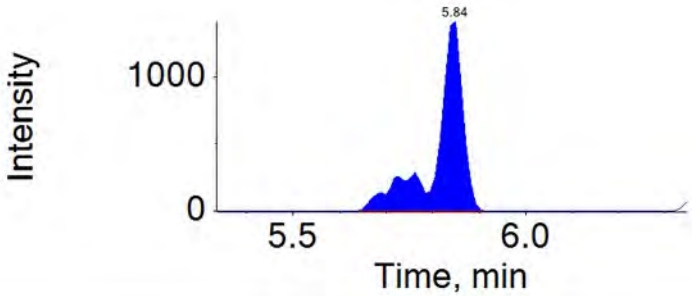

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



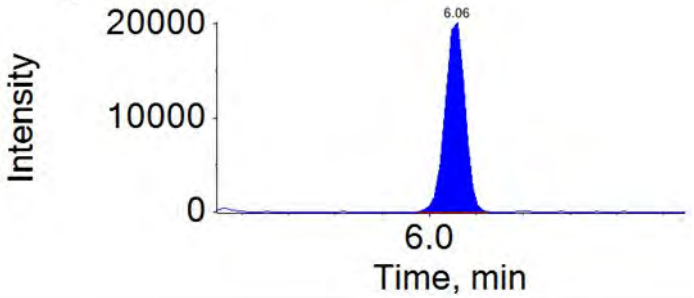

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



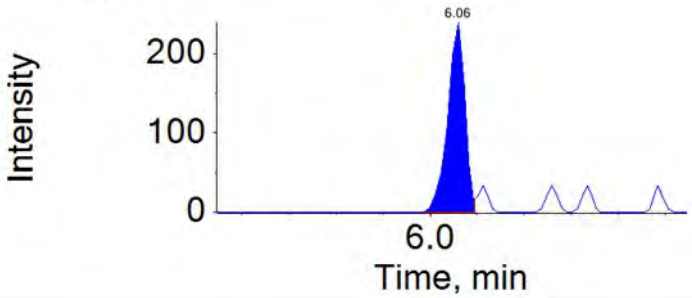

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



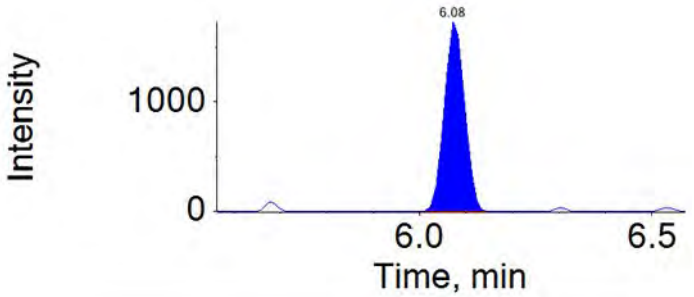

Component: PFDoDA
Primary Mass: 613.0 / 569.0



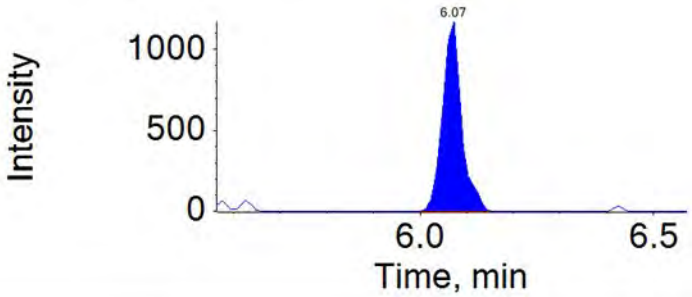

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

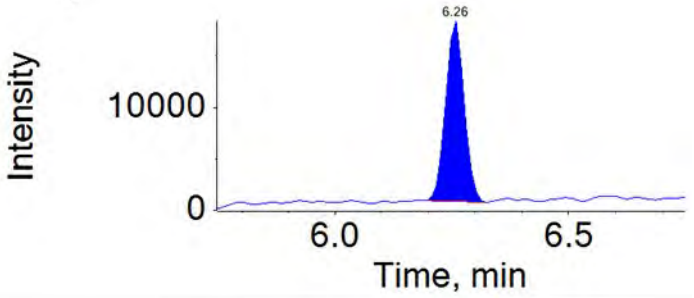



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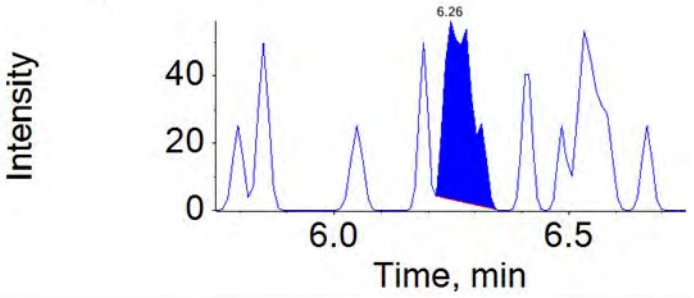


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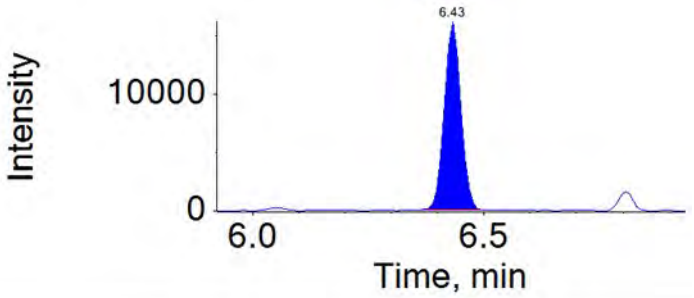
Component: PFTrDA
Primary Mass: 663.0 / 619.0



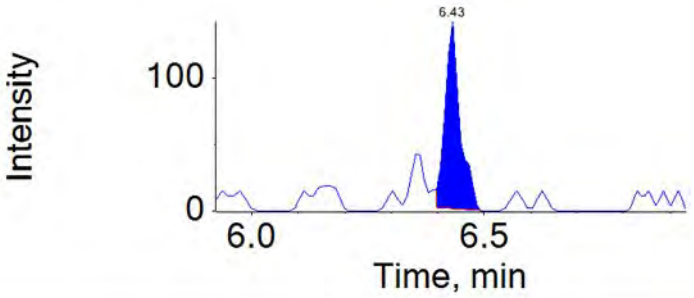

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



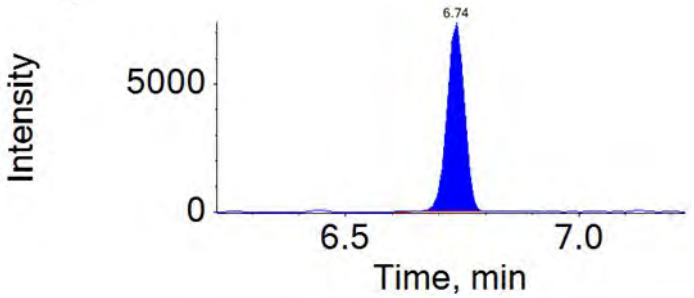

Component: PFTeDA
Primary Mass: 713.0 / 669.0



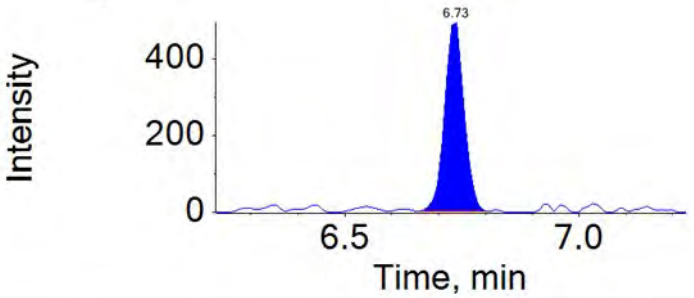

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



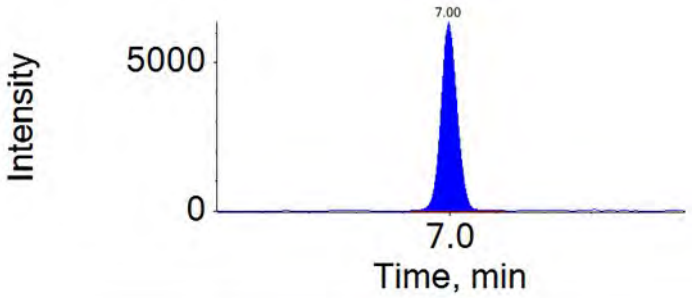

Component: PFHxDA
Primary Mass: 813.0 / 769.0



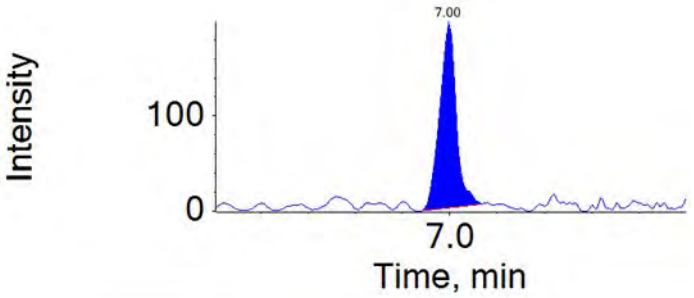

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CAL3 | | | **Data File:** | | 18NOV12DCAL-44.wiff |
| **Sample ID:** | CALBRN31833B | | | **Acquis Date:** | | 2018-11-12T15:24:03 |
| **Sample Type:** | Standard | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 5 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 659926.2 | 659926.2 | 0 | 50 | |
| 13C2-PFOA | 5.0 | 450219.7 | 450219.7 | 0 | 50 | |
| 13C4-PFOS | 4.8 | 249205.8 | 249205.8 | 0 | 50 | |
| 13C2-PFDA | 5.0 | 278743.9 | 278743.9 | 0 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 733360.2 | 13C3-PFBA | 659926.2 | 1.111 | 5.000 | 4.982 | 100 | 70-130 | |
| E13C5-PFPeA | 695805.7 | 13C3-PFBA | 659926.2 | 1.054 | 5.000 | 4.729 | 95 | 70-130 | |
| E13C3-PFBS | 416352.8 | 13C3-PFBA | 659926.2 | 0.631 | 4.650 | 4.454 | 96 | 70-130 | |
| E13C2-4:2-FTS | 47514.8 | 13C2-PFOA | 450219.7 | 0.106 | 4.670 | 4.700 | 101 | 70-130 | |
| E13C5-PFHxA | 646783.5 | 13C2-PFOA | 450219.7 | 1.437 | 5.000 | 5.189 | 104 | 70-130 | |
| E13C3-PFHxS | 317243.2 | 13C2-PFOA | 450219.7 | 0.705 | 4.730 | 4.835 | 102 | 70-130 | |
| E13C4-PFHpA | 503681.0 | 13C2-PFOA | 450219.7 | 1.119 | 5.000 | 5.040 | 101 | 70-130 | |
| E13C2-6:2-FTS | 31706.4 | 13C2-PFOA | 450219.7 | 0.070 | 4.750 | 4.712 | 99 | 70-130 | |
| E13C8-PFOA | 878868.5 | 13C2-PFOA | 450219.7 | 1.952 | 5.000 | 5.378 | 108 | 70-130 | |
| E13C8-PFOS | 281035.5 | 13C4-PFOS | 249205.8 | 1.128 | 4.780 | 4.997 | 105 | 70-130 | |
| E13C9-PFNA | 455948.9 | 13C4-PFOS | 249205.8 | 1.830 | 5.000 | 5.101 | 102 | 70-130 | |
| E13C6-PFDA | 612680.8 | 13C2-PFDA | 278743.9 | 2.198 | 5.000 | 5.129 | 103 | 70-130 | |
| E13C2-8:2-FTS | 29249.8 | 13C2-PFDA | 278743.9 | 0.105 | 4.790 | 5.233 | 109 | 70-130 | |
| E13C8-PFOSA | 629109.9 | 13C2-PFDA | 278743.9 | 2.257 | 5.000 | 5.004 | 100 | 70-130 | |
| Ed3-NMeFOSAA | 71670.3 | 13C2-PFDA | 278743.9 | 0.257 | 5.000 | 4.641 | 93 | 70-130 | |
| E13C7-PFUnDA | 245605.3 | 13C2-PFDA | 278743.9 | 0.881 | 5.000 | 5.116 | 102 | 70-130 | |
| Ed5-NEtFOSAA | 54383.9 | 13C2-PFDA | 278743.9 | 0.195 | 5.000 | 4.128 | 83 | 70-130 | |
| E13C2-PFDoDA | 549542.3 | 13C2-PFDA | 278743.9 | 1.971 | 5.000 | 5.119 | 102 | 70-130 | |
| Ed7-NMePFOSAE | 307355.4 | 13C2-PFDA | 278743.9 | 1.103 | 5.000 | 4.772 | 95 | 70-130 | |
| Ed3-NMePFOSA | 76782.9 | 13C2-PFDA | 278743.9 | 0.275 | 5.000 | 5.005 | 100 | 70-130 | |
| Ed9-NEtPFOSAE | 259792.3 | 13C2-PFDA | 278743.9 | 0.932 | 5.000 | 4.847 | 97 | 70-130 | |
| Ed5-NEtPFOSA | 57485.9 | 13C2-PFDA | 278743.9 | 0.206 | 5.000 | 4.838 | 97 | 70-130 | |
| E13C2-PFTeDA | 393544.9 | 13C2-PFDA | 278743.9 | 1.412 | 5.000 | 4.957 | 99 | 70-130 | |

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

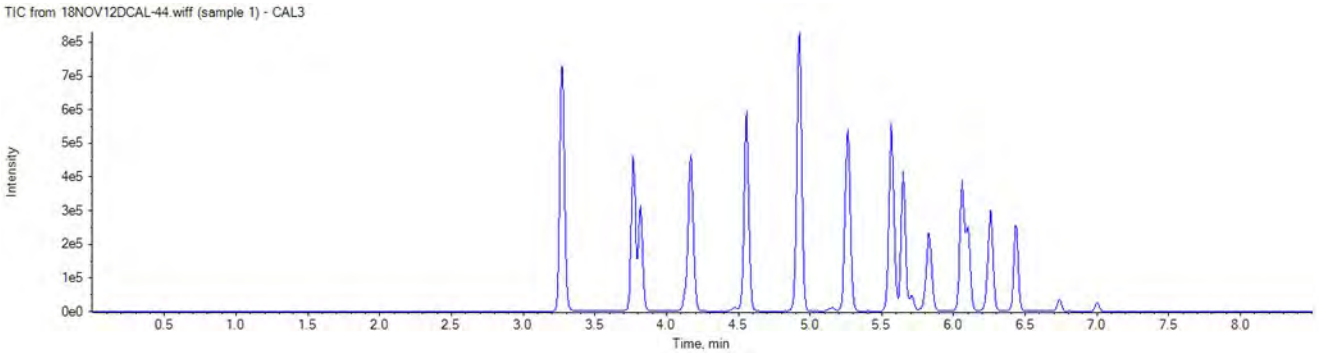
## Analyte Quantitation Peak Table

**Sample Name:** CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-44.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 | 303228.7 | | A | 13C4-PFBA | 3.27 | 733360.2 | 0.413 | 2.291 |
| PFPeA | 3.77 | 1.000 | 292715.8 | | A | 13C5-PFPeA | 3.77 | 695805.7 | 0.421 | 2.435 |
| PFBS | 3.82 | 1.000 | 168144.6 | | A | 13C3-PFBS | 3.82 | 416352.8 | 0.404 | 1.921 |
| 4:2-FTS | 4.13 | 1.000 | 34188.5 | | A | 13C2-4:2-FTS | 4.13 | 47514.8 | 0.720 | 1.954 |
| PFHxA | 4.17 | 1.000 | 352013.5 | | A | 13C5-PFHxA | 4.17 | 646783.5 | 0.544 | 2.272 |
| PFPeS | 4.19 | 1.100 | 84071.2 | | A | 13C3-PFBS | 3.82 | 416352.8 | 0.202 | 1.960 |
| PFHpA | 4.56 | 1.000 | 355834.2 | | A | 13C4-PFHpA | 4.55 | 503681.0 | 0.706 | 2.342 |
| PFHxS | 4.56 | 1.000 | 125622.0 | | M | 13C3-PFHxS | 4.56 | 317243.2 | 0.396 | 1.920 |
| 6:2-FTS | 4.91 | 1.000 | 28084.9 | | A | 13C2-6:2-FTS | 4.91 | 31706.4 | 0.886 | 2.143 |
| PFHpS | 4.92 | 1.080 | 125907.9 | | A | 13C3-PFHxS | 4.56 | 317243.2 | 0.397 | 2.089 |
| PFOA | 4.93 | 1.000 | 372258.9 | | A | 13C8-PFOA | 4.93 | 878868.5 | 0.424 | 2.262 |
| PFOS | 5.25 | 1.000 | 120897.5 | | M | 13C8-PFOS | 5.25 | 281035.5 | 0.430 | 1.881 |
| PFNA | 5.27 | 1.000 | 302323.8 | | A | 13C9-PFNA | 5.27 | 455948.9 | 0.663 | 2.391 |
| PFNS | 5.55 | 1.060 | 76049.0 | | A | 13C8-PFOS | 5.25 | 281035.5 | 0.271 | 1.893 |
| PFDA | 5.57 | 1.000 | 254047.8 | | M | 13C6-PFDA | 5.57 | 612680.8 | 0.415 | 2.198 |
| 8:2-FTS | 5.57 | 1.000 | 26295.1 | | A | 13C2-8:2-FTS | 5.57 | 29249.8 | 0.899 | 2.096 |
| PFOSA | 5.65 | 1.000 | 270175.5 | | A | 13C8-PFOSA | 5.65 | 629109.9 | 0.429 | 2.098 |
| NMeFOSAA | 5.71 | 1.000 | 25147.7 | | A | d3-NMeFOSAA | 5.71 | 71670.3 | 0.351 | 1.983 |
| PFDS | 5.80 | 1.110 | 57966.9 | | A | 13C8-PFOS | 5.25 | 281035.5 | 0.206 | 1.869 |
| PFUnDA | 5.83 | 1.000 | 199061.8 | | A | 13C7-PFUnDA | 5.83 | 245605.3 | 0.810 | 2.119 |
| NEtFOSAA | 5.84 | 1.000 | 25089.0 | | A | d5-NEtFOSAA | 5.84 | 54383.9 | 0.461 | 2.418 |
| PFDoDA | 6.06 | 1.000 | 237252.6 | | A | 13C2-PFDoDA | 6.06 | 549542.3 | 0.432 | 2.198 |
| 10:2-FTS | 6.07 | 1.090 | 18541.7 | | A | 13C2-8:2-FTS | 5.57 | 29249.8 | 0.634 | 2.111 |
| NMePFOSAE | 6.10 | 1.000 | 163668.7 | | A | d7-NMePFOSAE | 6.09 | 307355.4 | 0.533 | 2.216 |
| NMePFOSA | 6.11 | 1.000 | 29934.3 | | A | d3-NMePFOSA | 6.11 | 76782.9 | 0.390 | 1.923 |
| PFDoS | 6.23 | 1.190 | 30098.3 | | A | 13C8-PFOS | 5.25 | 281035.5 | 0.107 | 1.876 |
| NEtPFOSAE | 6.26 | 1.000 | 178457.9 | | A | d9-NEtPFOSAE | 6.25 | 259792.3 | 0.687 | 2.204 |
| NEtPFOSA | 6.27 | 1.000 | 26590.2 | | M | d5-NEtPFOSA | 6.27 | 57485.9 | 0.463 | 2.124 |
| PFTrDA | 6.26 | 1.030 | 184322.9 | | A | 13C2-PFDoDA | 6.06 | 549542.3 | 0.335 | 2.117 |
| PFTeDA | 6.43 | 1.000 | 156439.9 | | A | 13C2-PFTeDA | 6.43 | 393544.9 | 0.398 | 2.228 |
| PFHxDA | 6.74 | 1.050 | 69655.1 | | A | 13C2-PFTeDA | 6.43 | 393544.9 | 0.177 | 2.109 |
| PFODA | 7.00 | 1.090 | 57796.0 | | A | 13C2-PFTeDA | 6.43 | 393544.9 | 0.147 | 2.045 |

## Total Ion Chromatogram



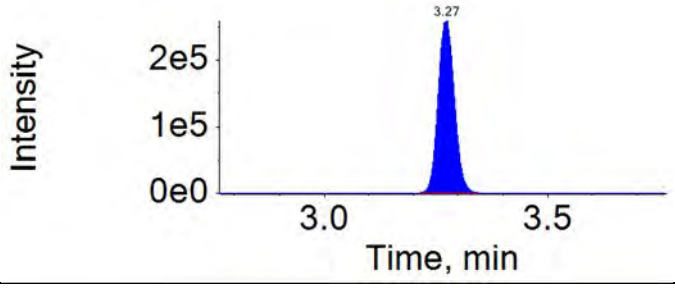

APPROVED
*By MCD at 6:33 pm, 11/12/18*



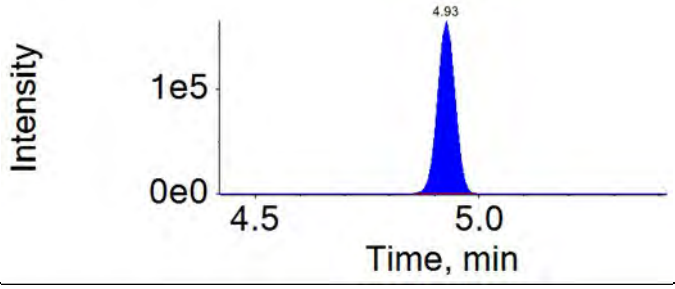
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

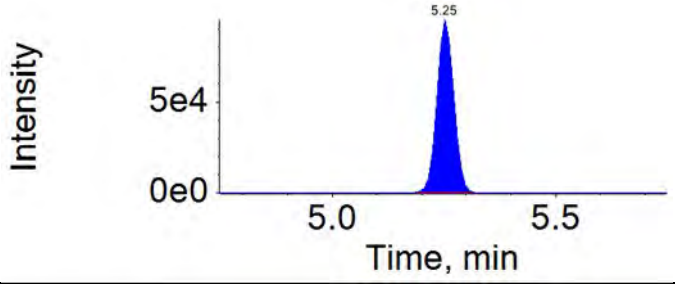
Injection Standard: 13C3-PFBA
216.0 / 172.0



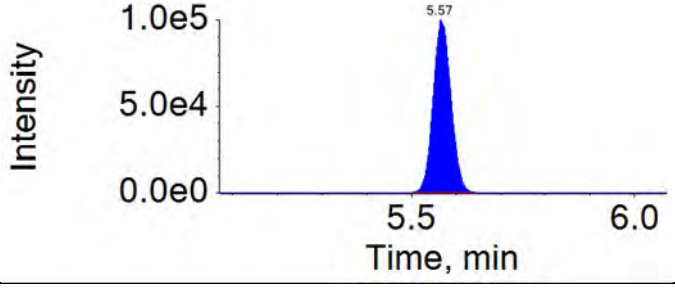

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

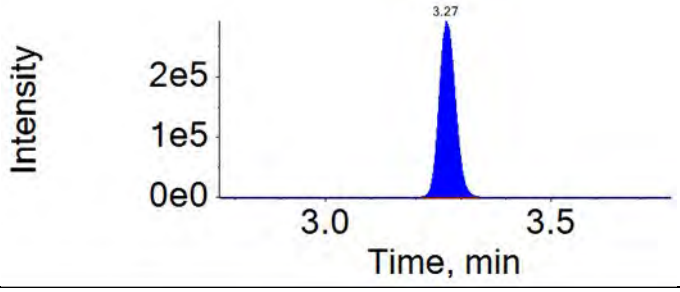
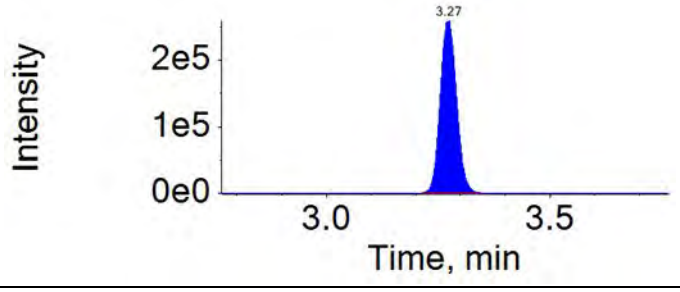



APPROVED
*By MCD at 6:33 pm, 11/12/18*

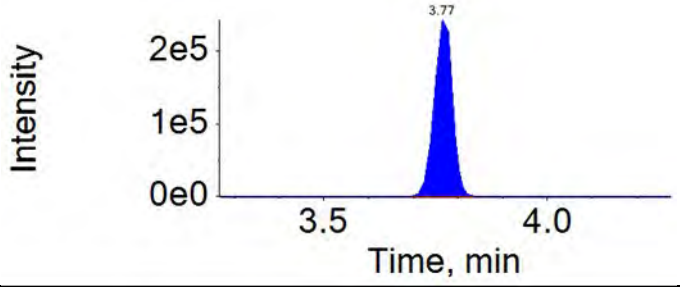
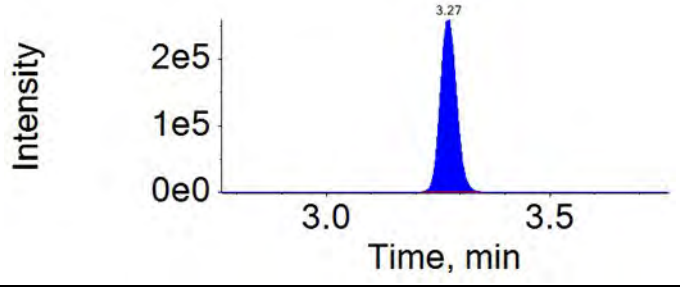


REVIEWED
*By HMK at 10:53 am, 11/13/18*

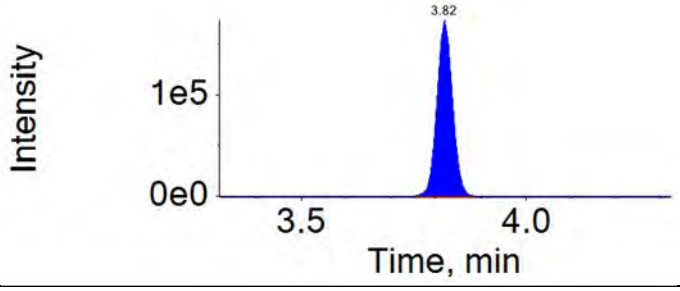
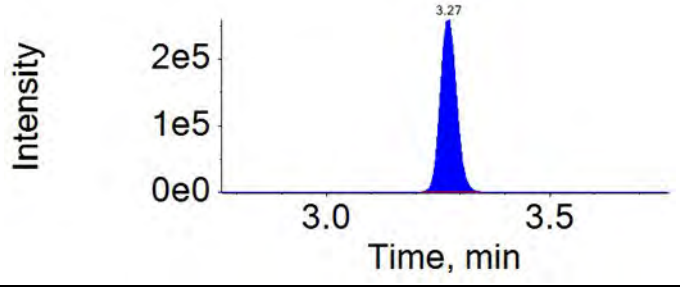
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

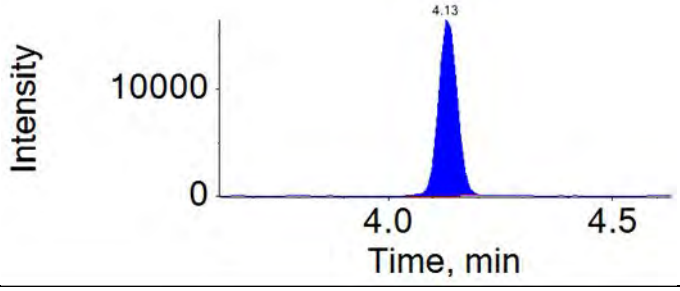
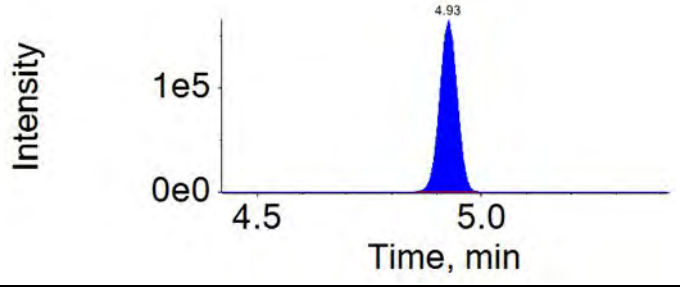


| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |
|  |  |



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



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



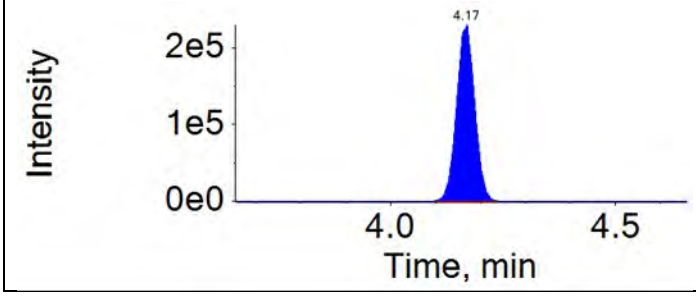
APPROVED
*By MCD at 6:33 pm, 11/12/18*

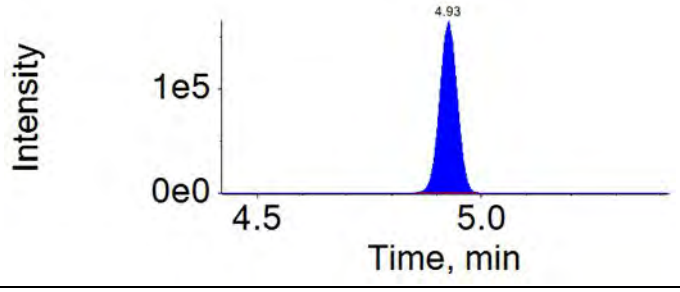


REVIEWED
*By HMK at 10:53 am, 11/13/18*

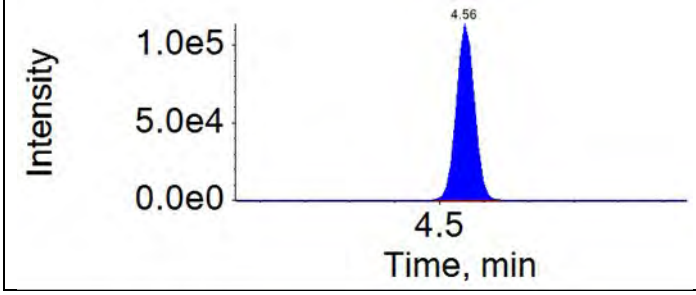
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

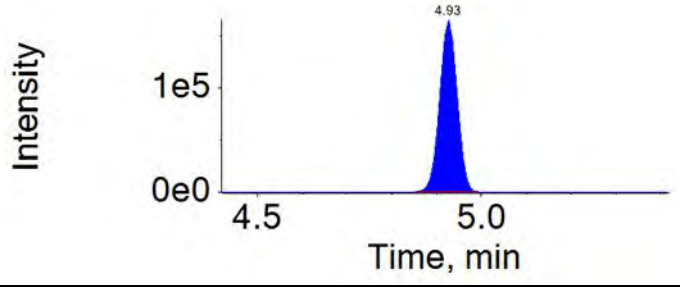
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



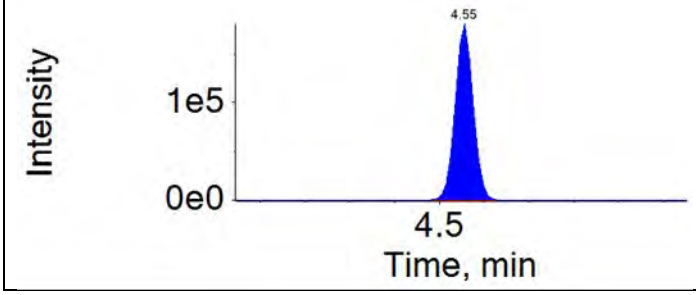



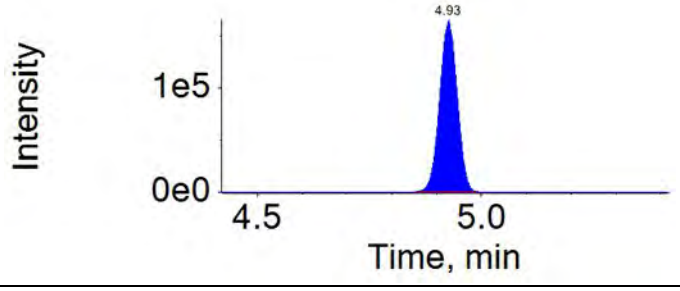

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



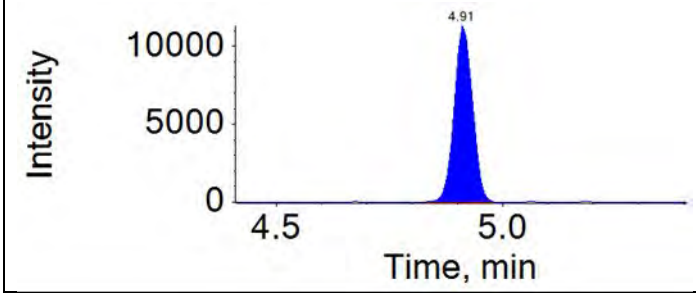



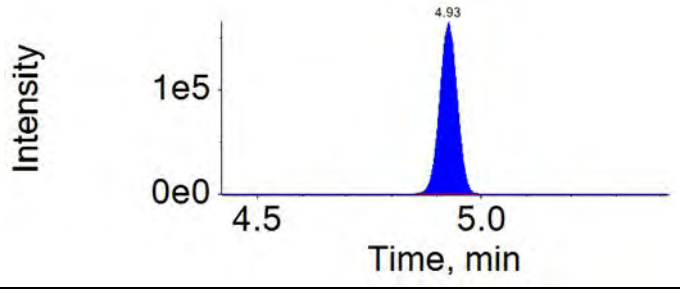

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



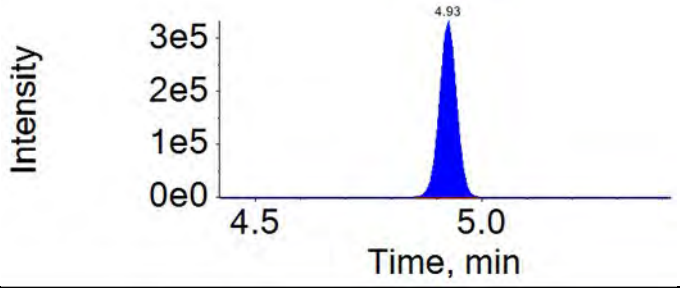
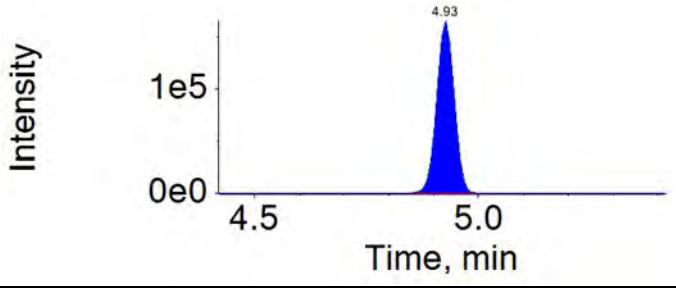




APPROVED
*By MCD at 6:33 pm, 11/12/18*



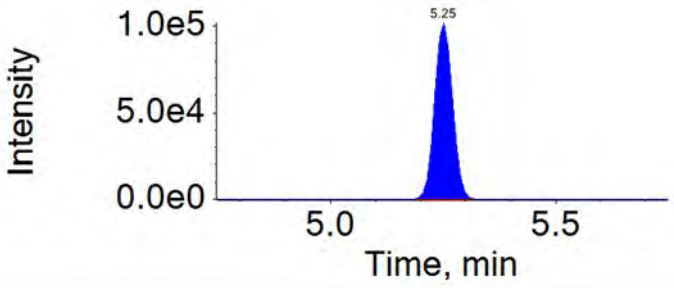
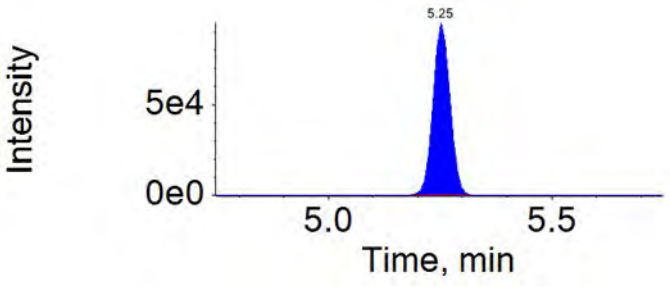
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

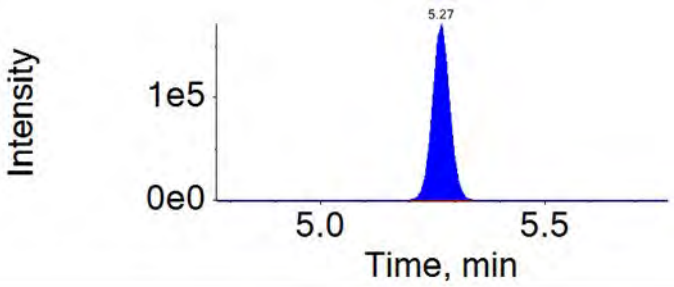
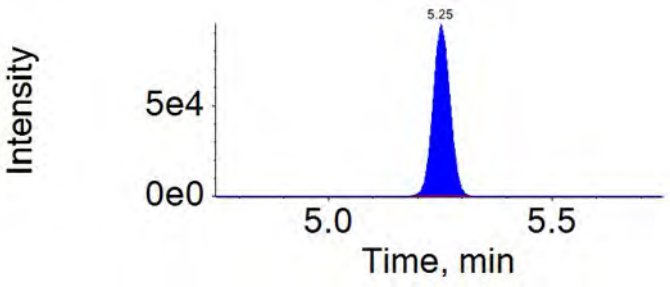




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

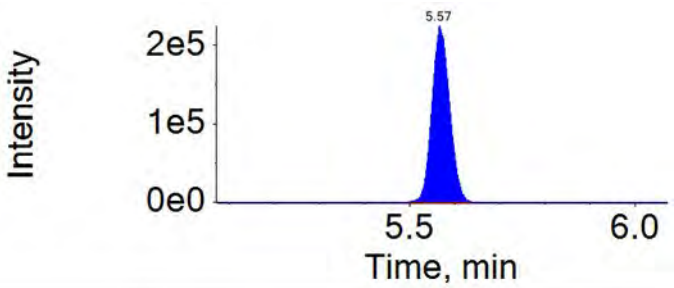
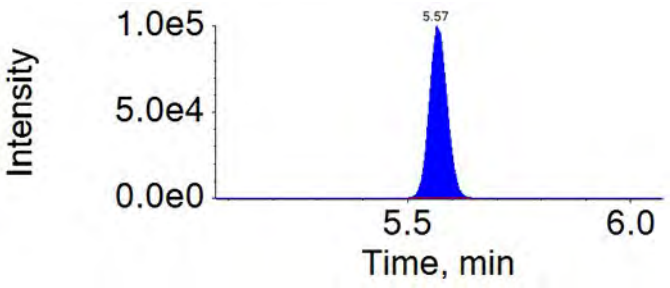




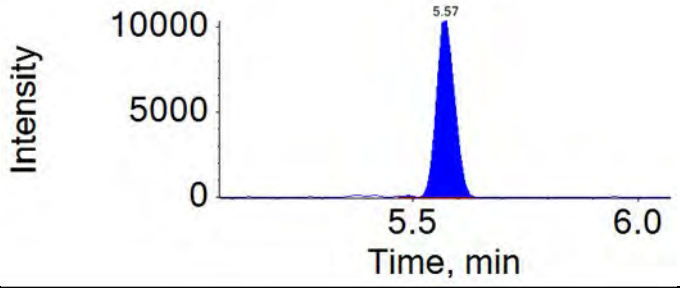
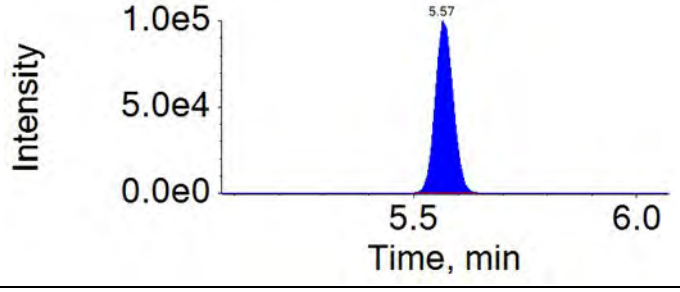
| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





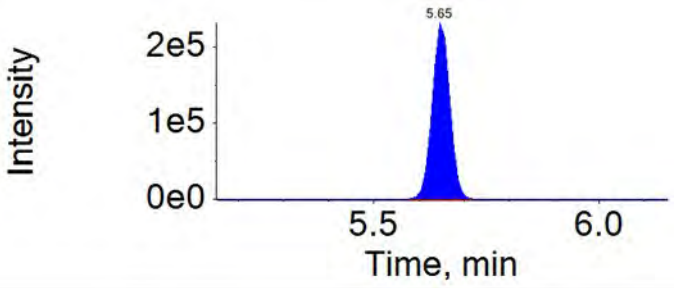
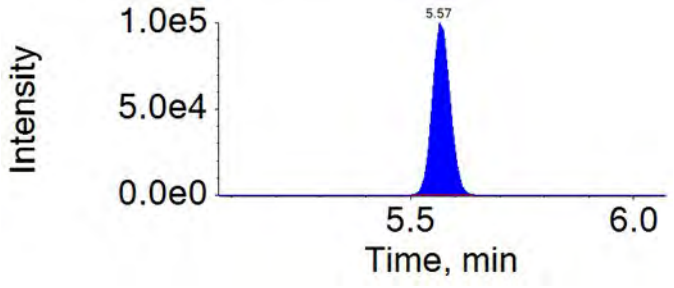
| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

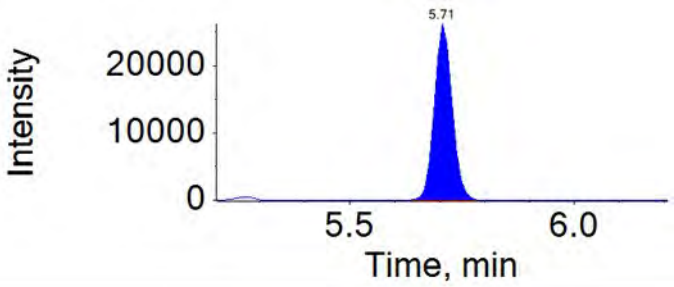
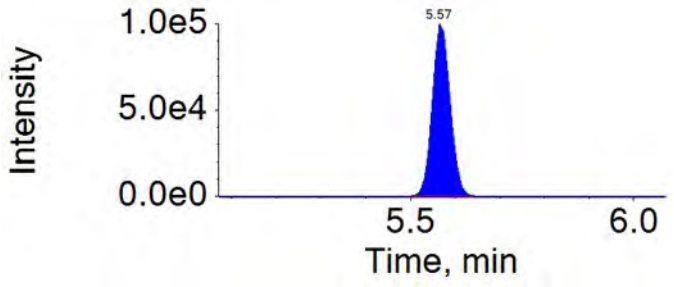




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

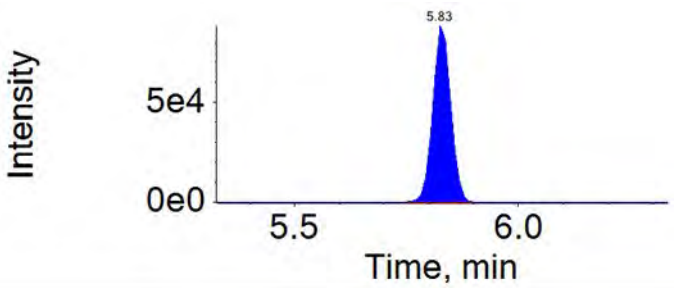
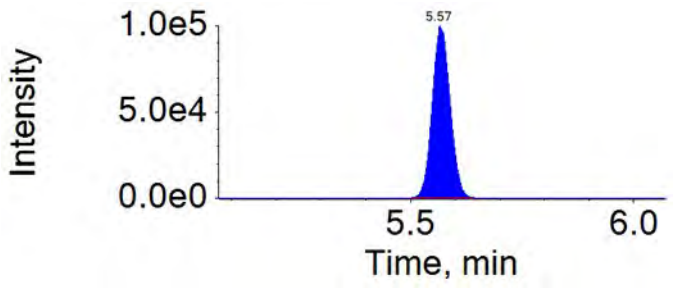




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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



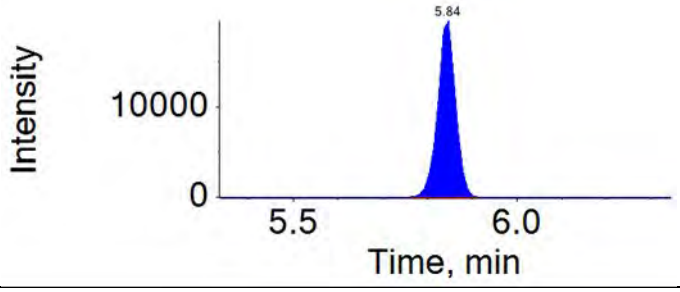
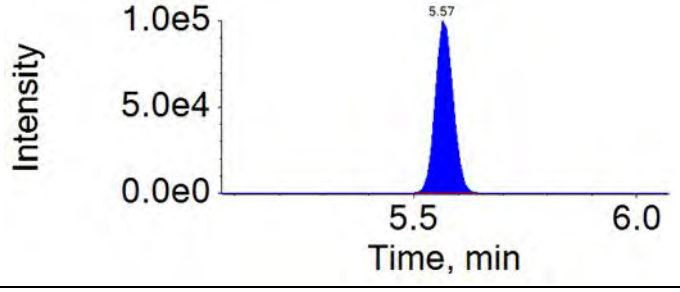


APPROVED
*By MCD at 6:33 pm, 11/12/18*



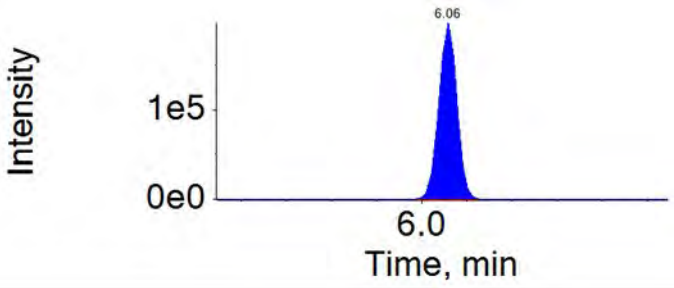
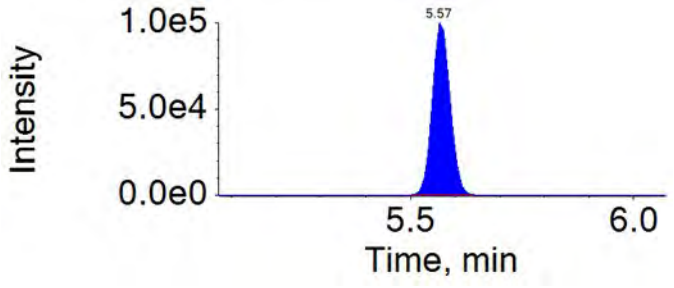
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

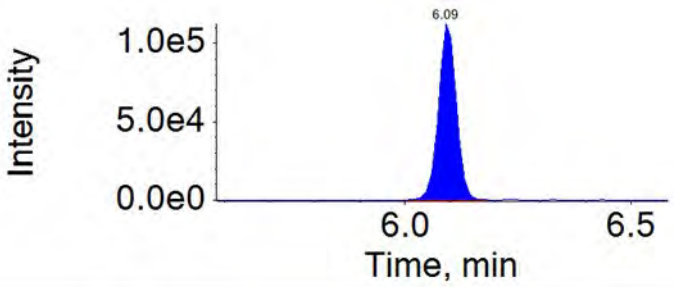
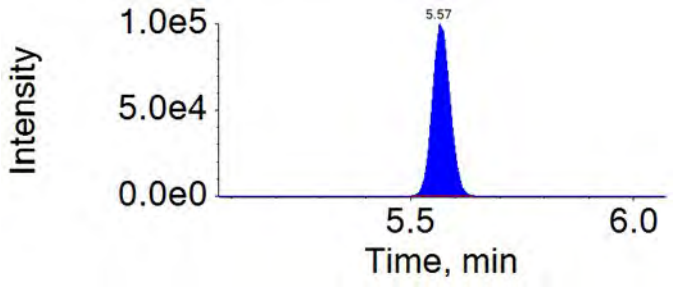




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

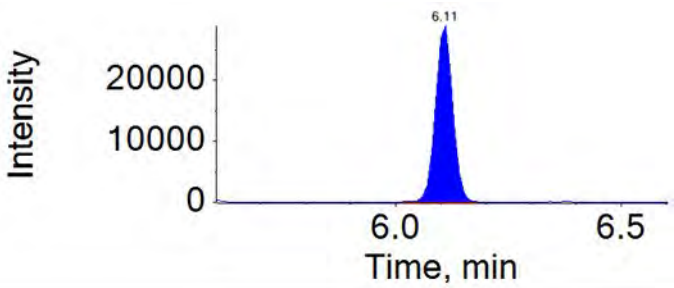
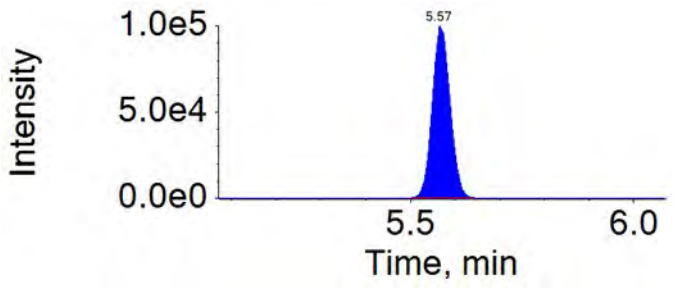




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |

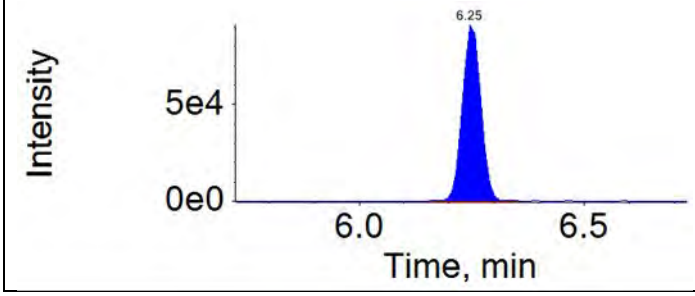


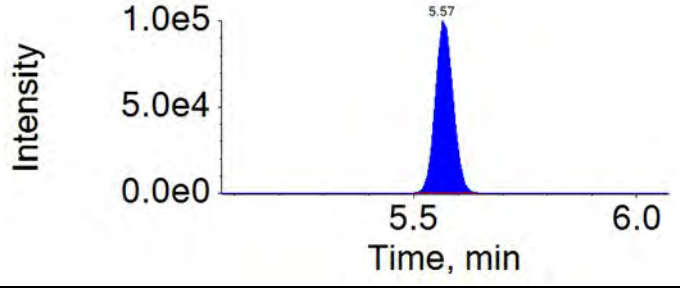


| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |
|  |  |

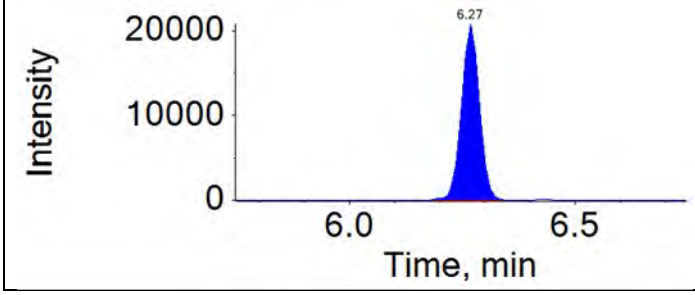
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

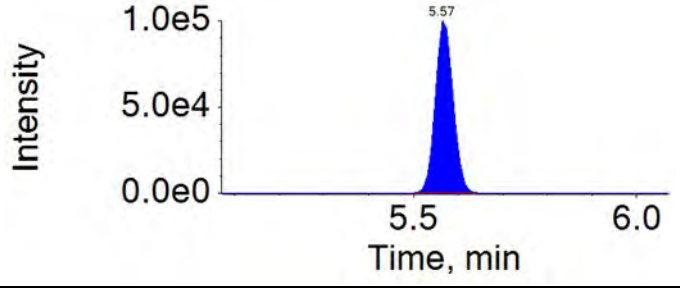
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



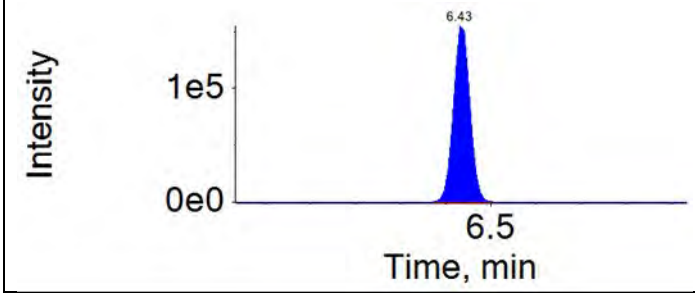



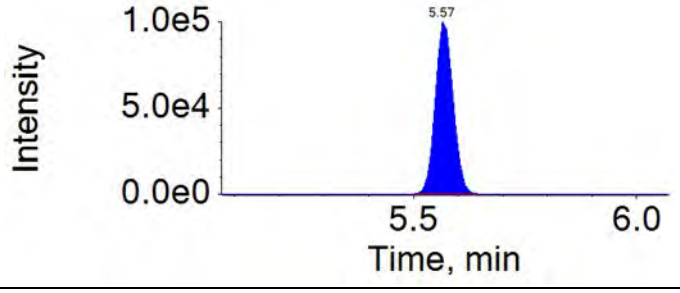

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



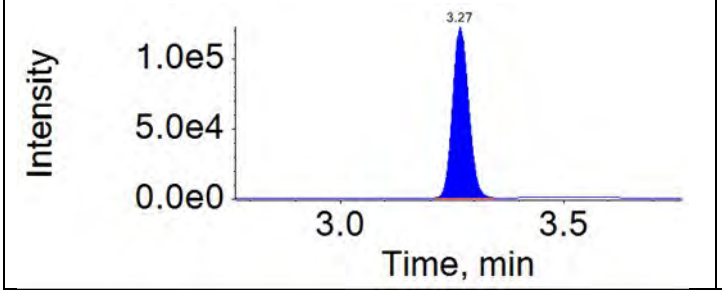

APPROVED
*By MCD at 6:33 pm, 11/12/18*

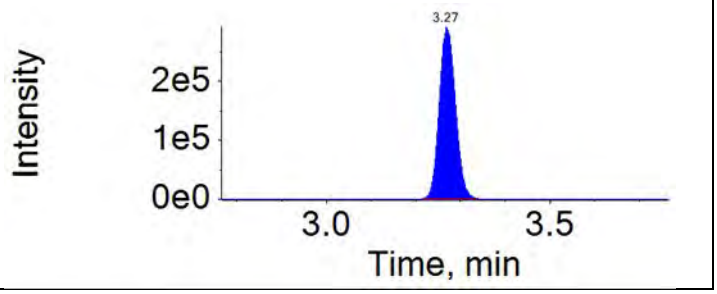


REVIEWED
*By HMK at 10:53 am, 11/13/18*

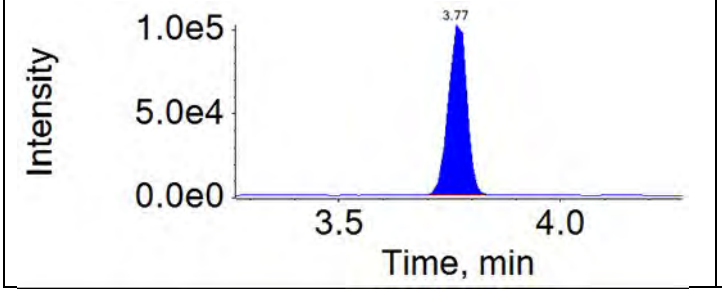
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

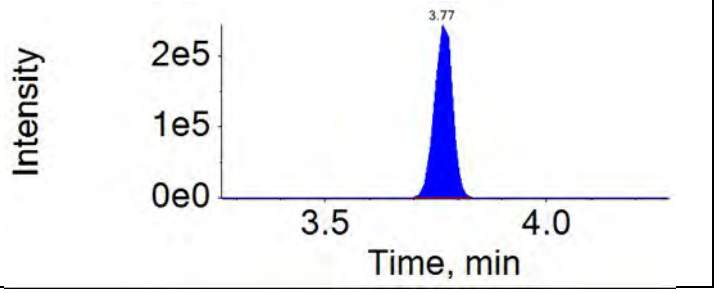
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



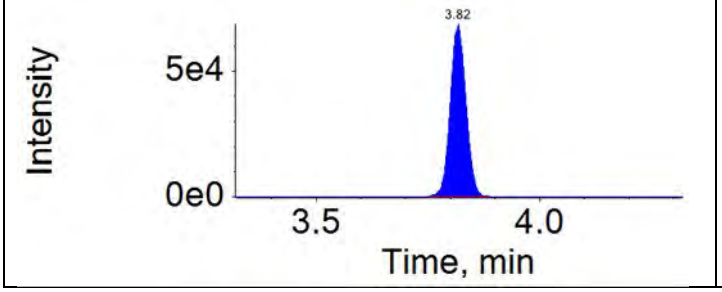



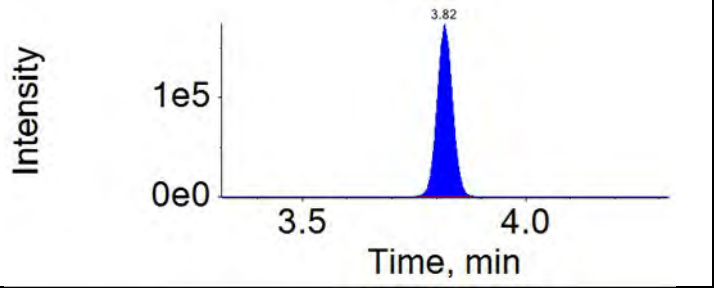

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



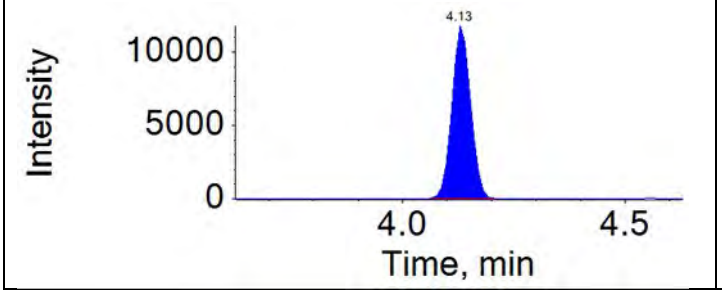



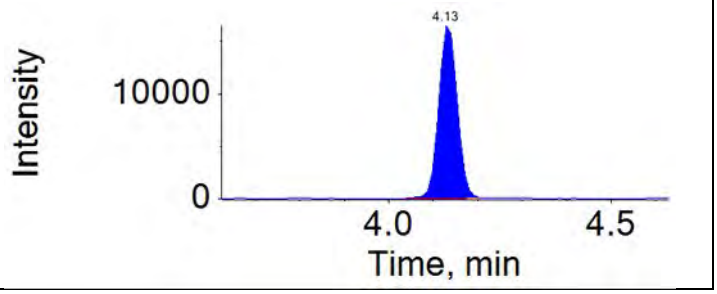

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



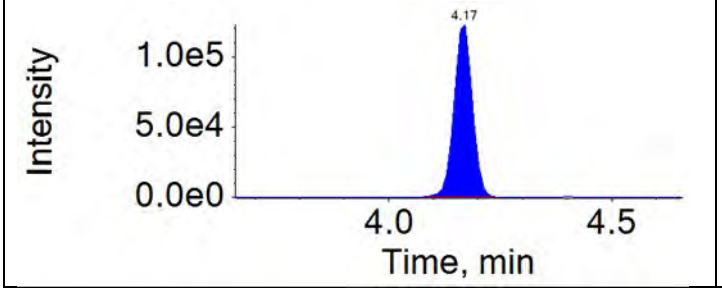

APPROVED
*By MCD at 6:33 pm, 11/12/18*

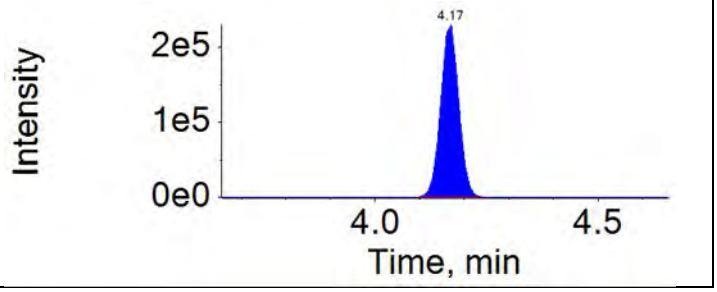


REVIEWED
*By HMK at 10:53 am, 11/13/18*

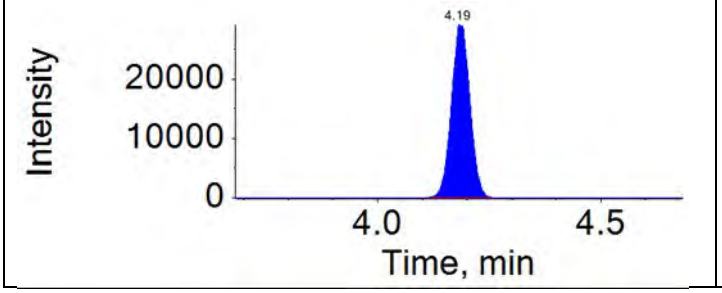
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

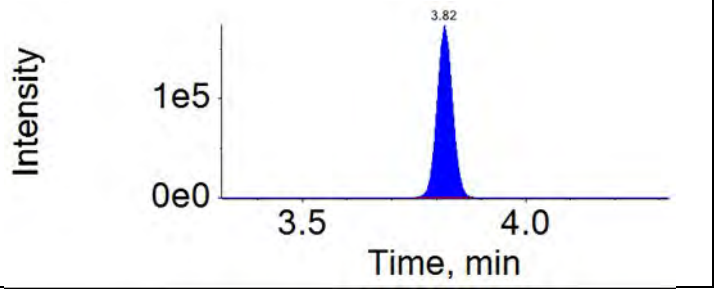
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



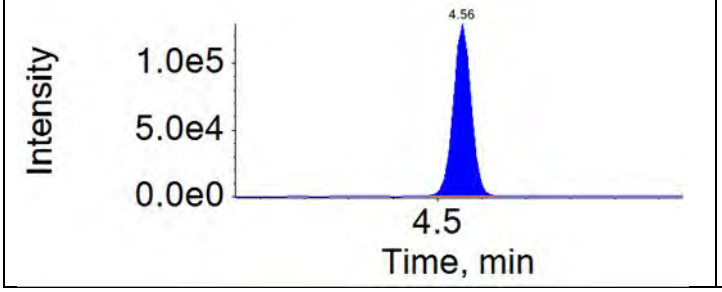



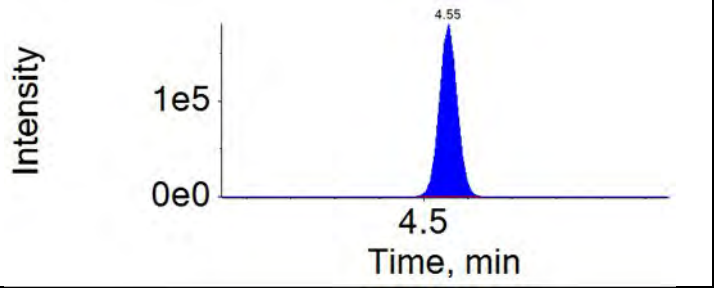

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



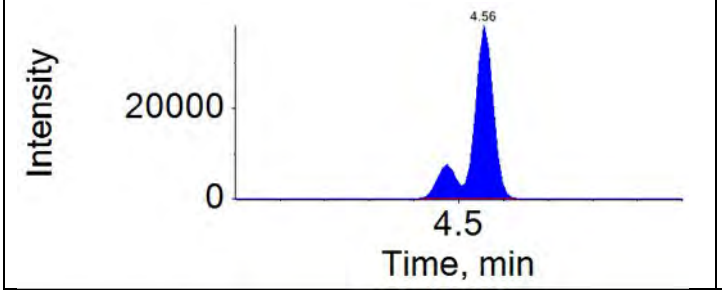



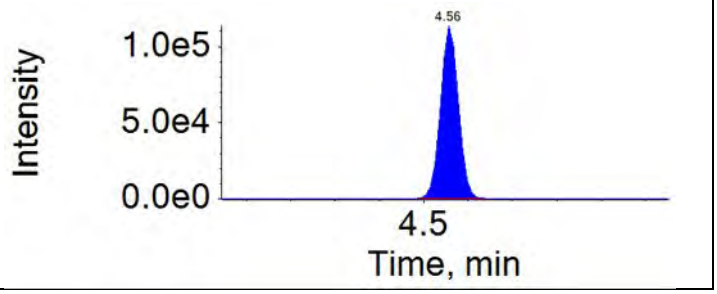

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



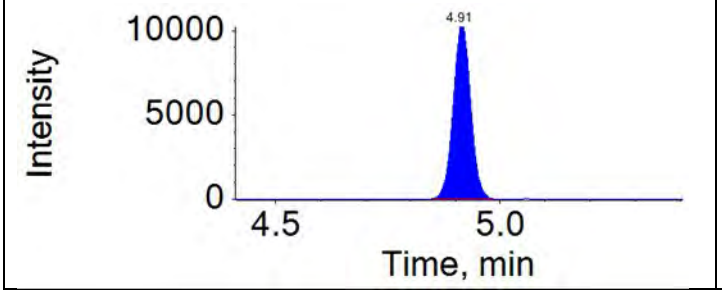

APPROVED
*By MCD at 6:33 pm, 11/12/18*

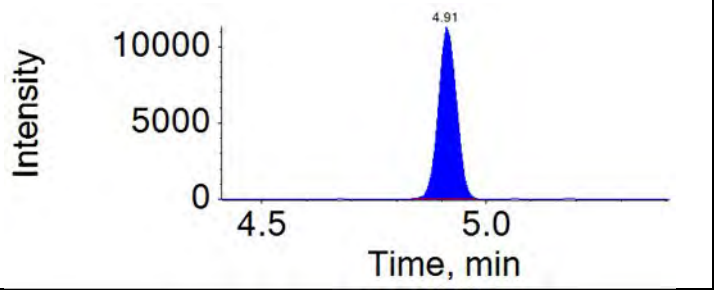


REVIEWED
*By HMK at 10:53 am, 11/13/18*

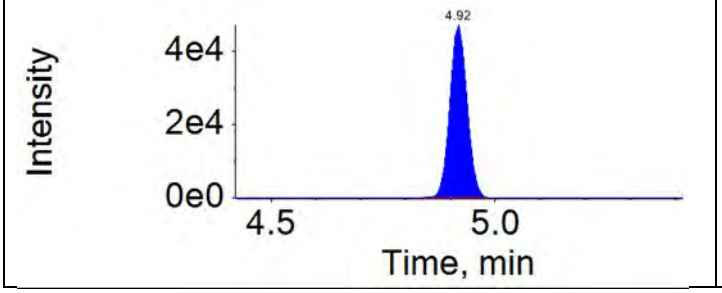
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

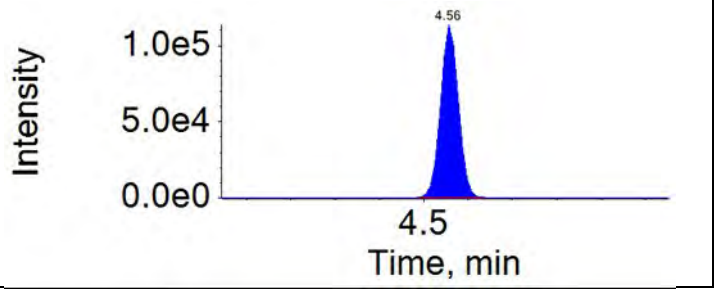
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



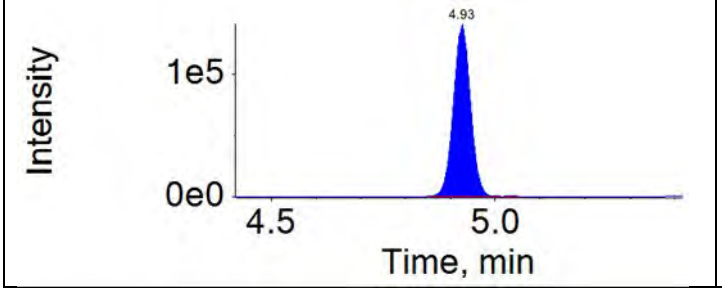



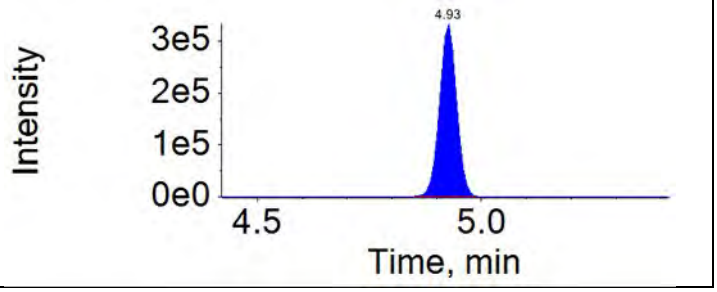

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



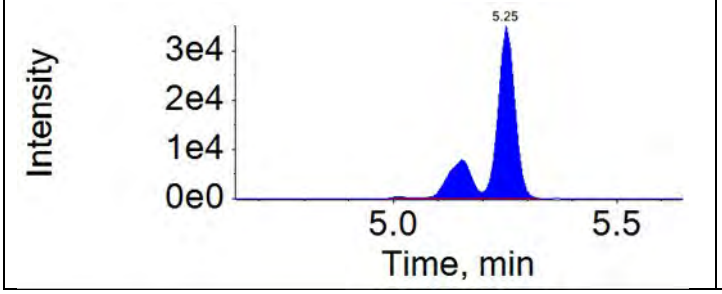



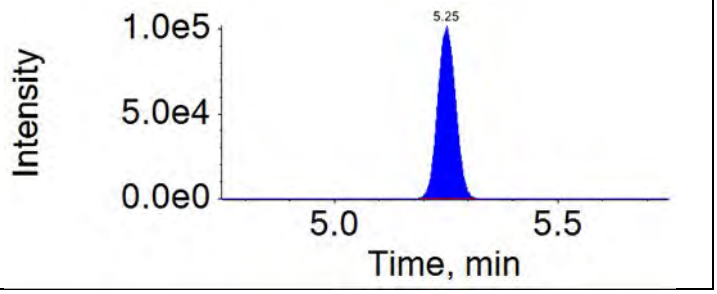

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



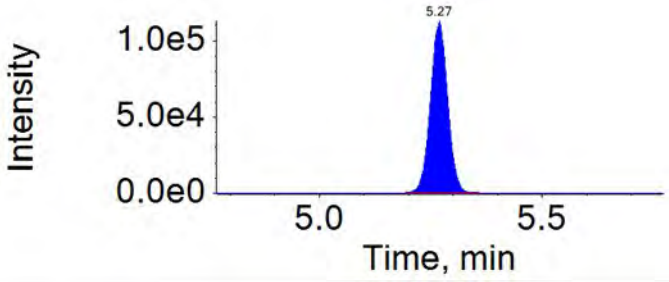
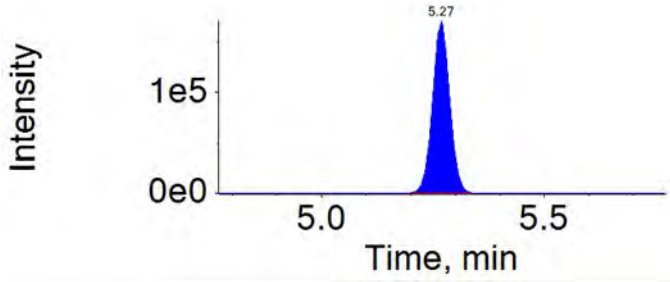




APPROVED
*By MCD at 6:33 pm, 11/12/18*



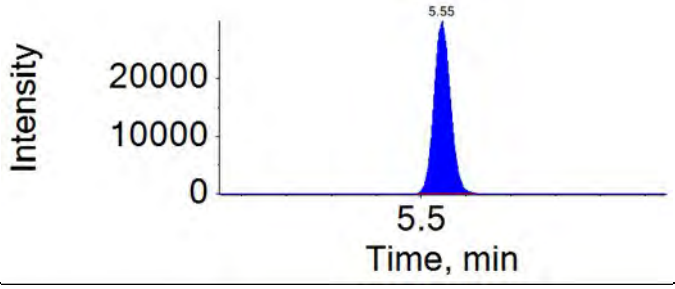
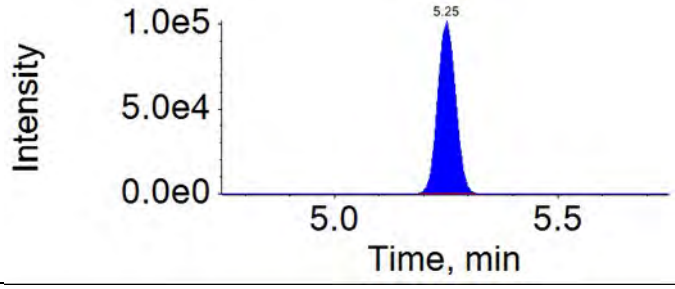
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

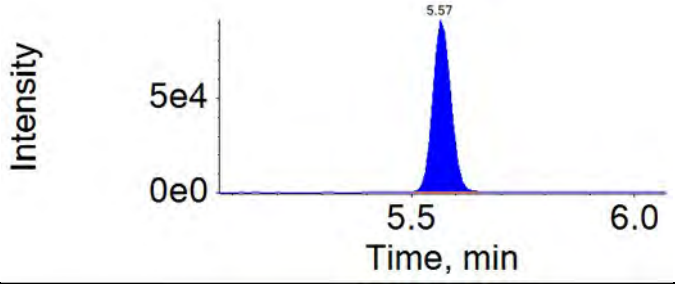
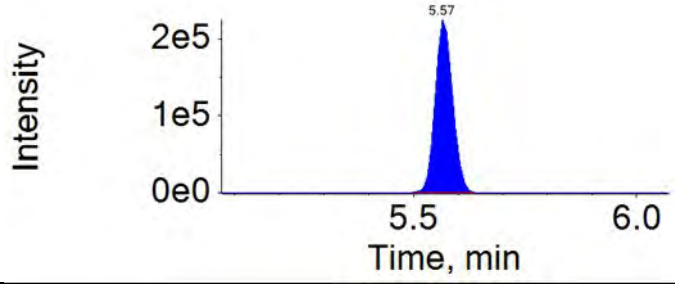




| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |
|  |  |

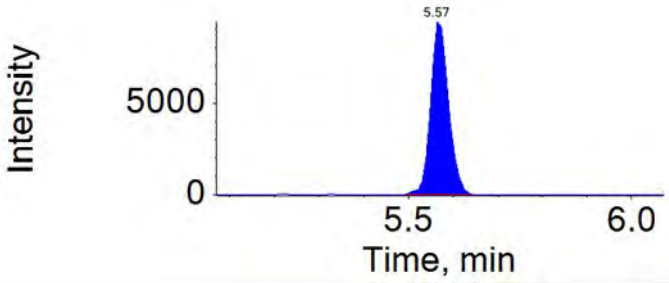
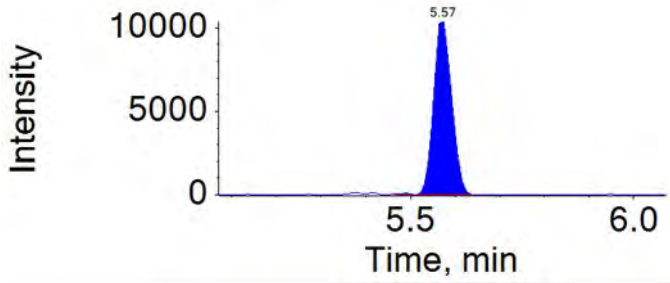




| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |
|  |  |





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





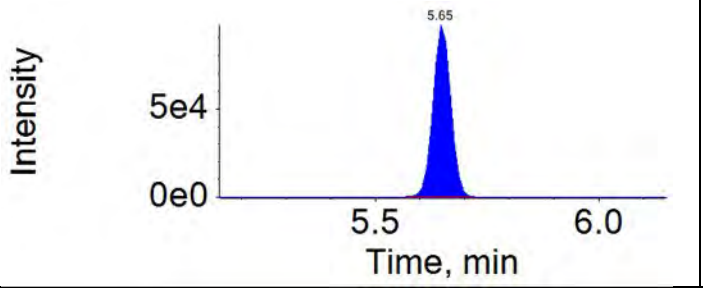
APPROVED
*By MCD at 6:33 pm, 11/12/18*

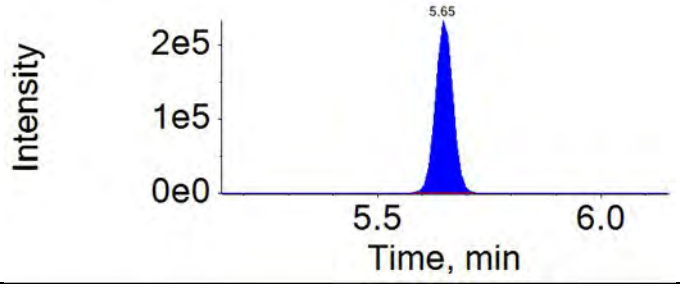


REVIEWED
*By HMK at 10:53 am, 11/13/18*

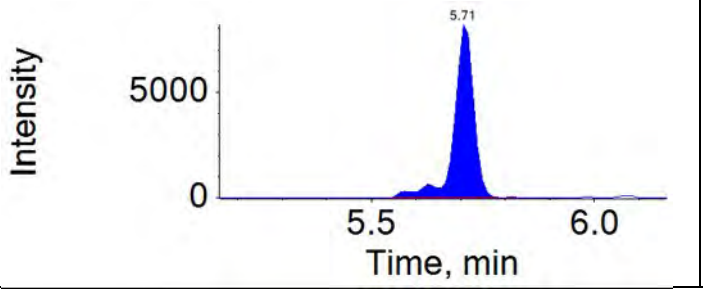
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

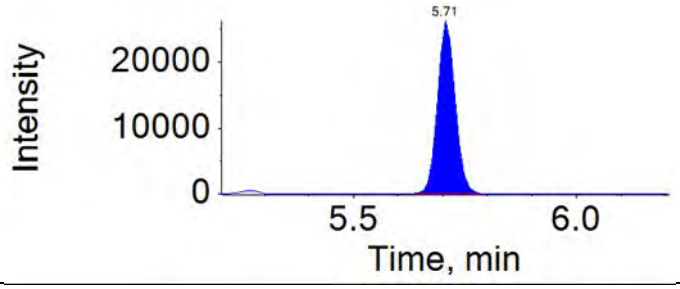
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



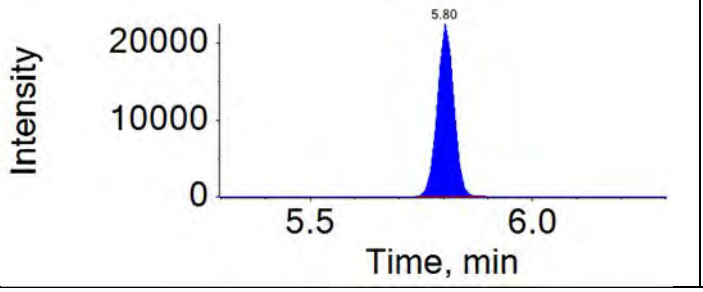



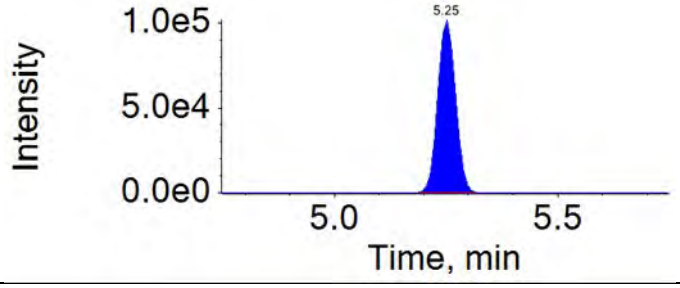

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



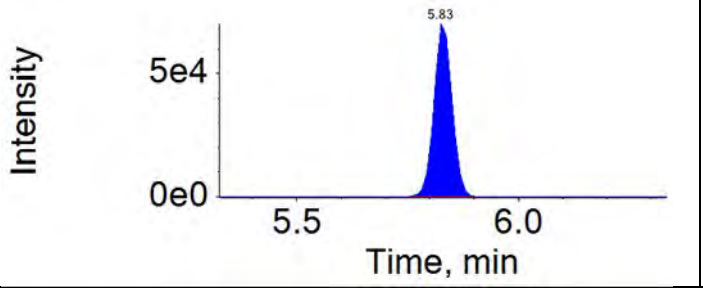



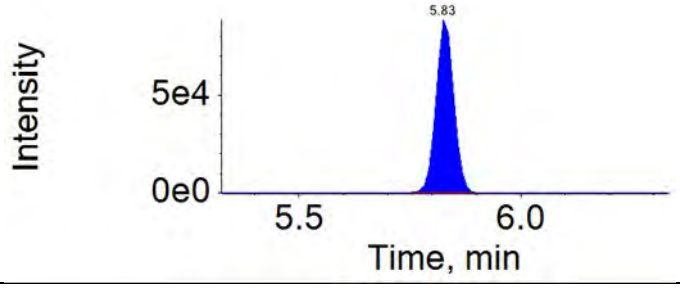

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



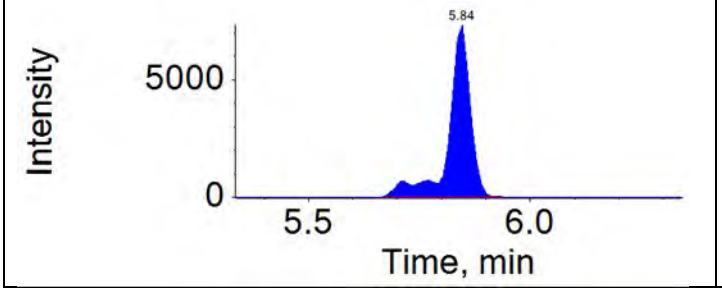

APPROVED
*By MCD at 6:33 pm, 11/12/18*

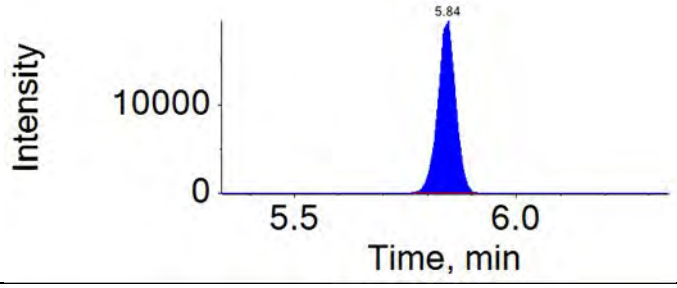


REVIEWED
*By HMK at 10:53 am, 11/13/18*

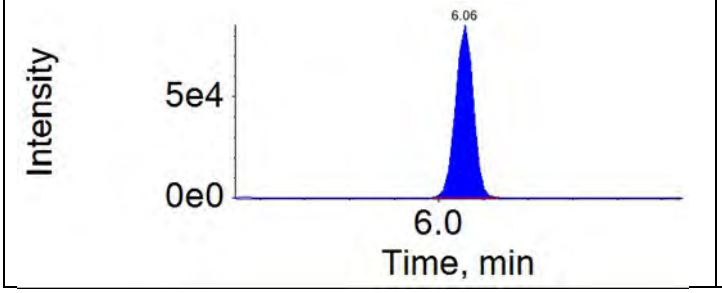
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

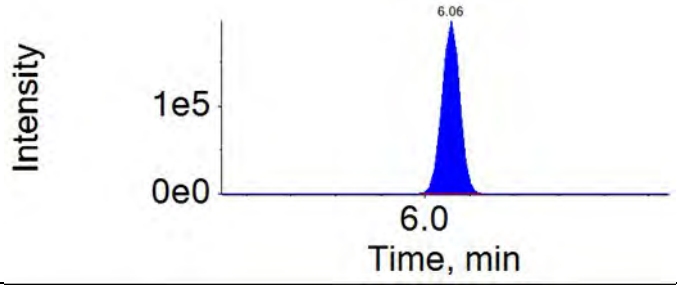
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



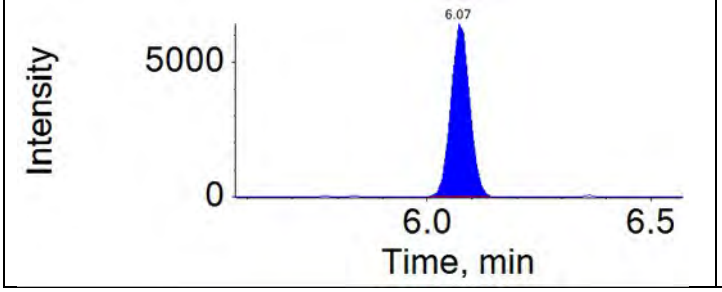



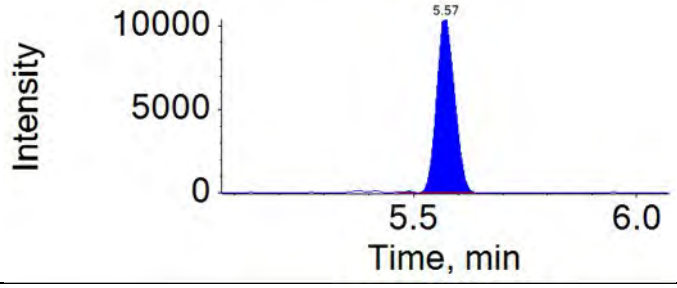

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



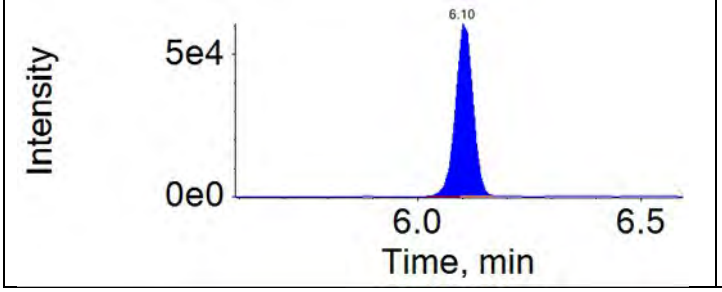



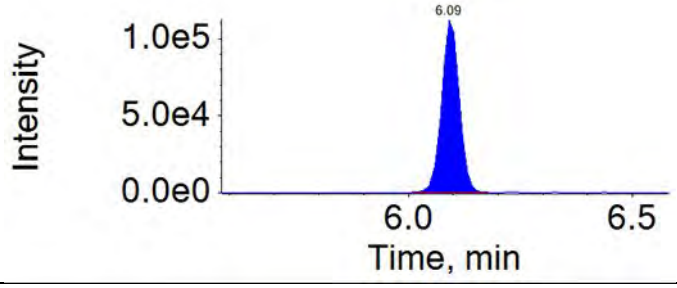

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



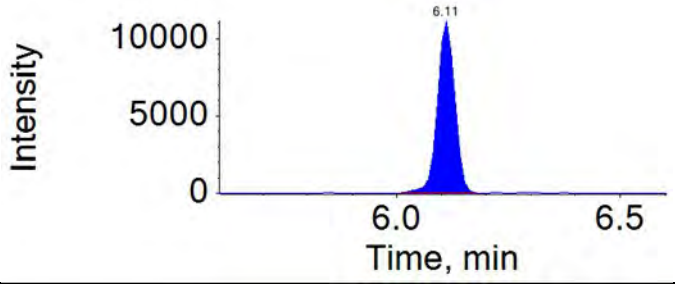

APPROVED
*By MCD at 6:33 pm, 11/12/18*

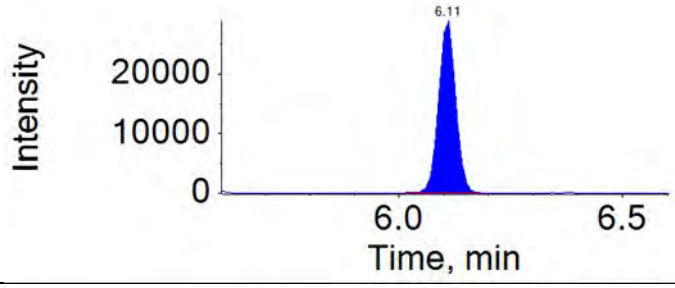


REVIEWED
*By HMK at 10:53 am, 11/13/18*

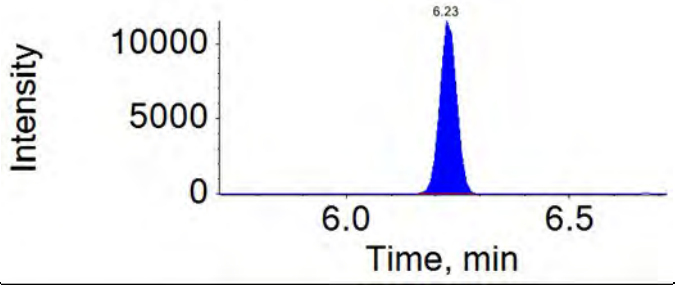
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

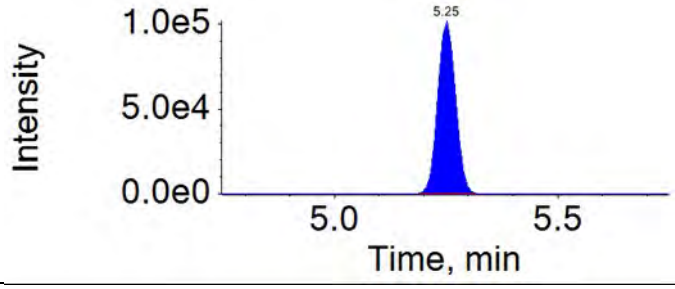
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



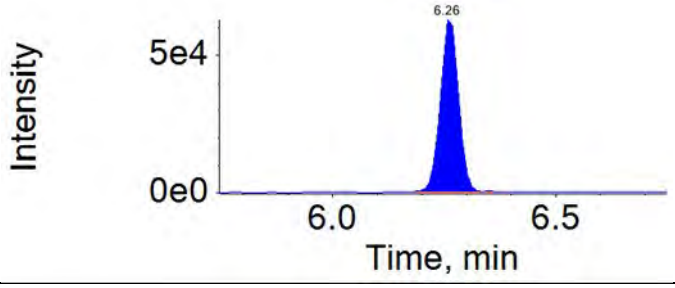



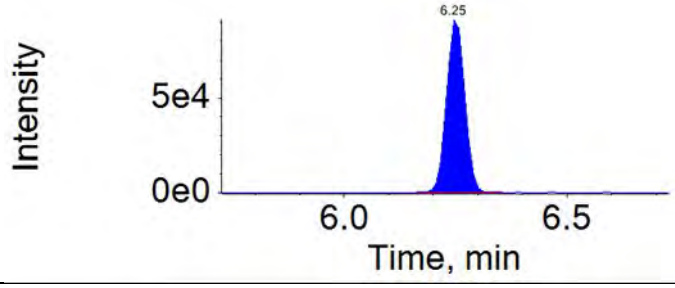

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



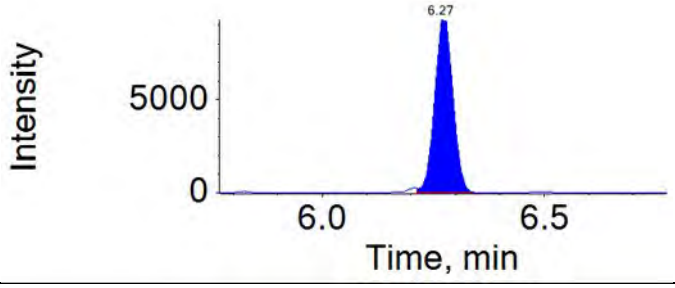



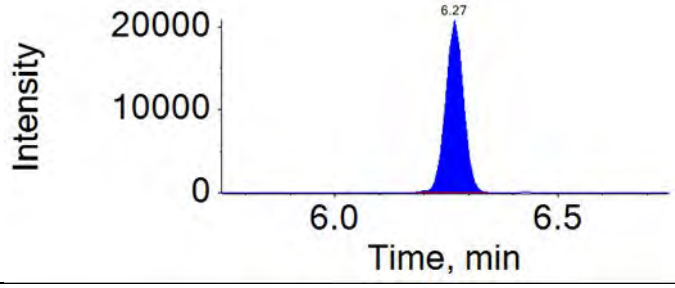

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



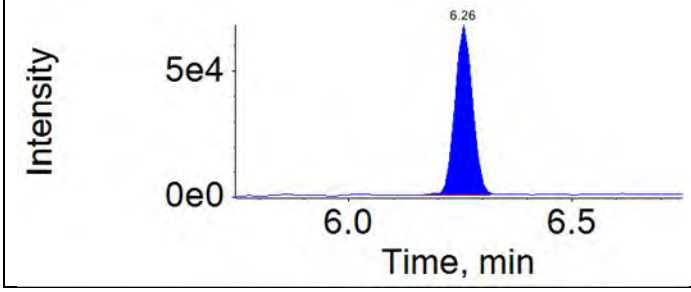
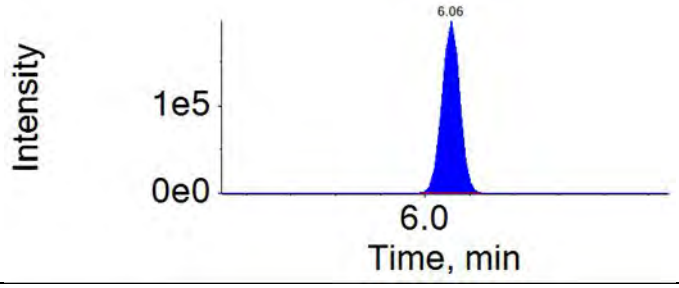




APPROVED
*By MCD at 6:33 pm, 11/12/18*



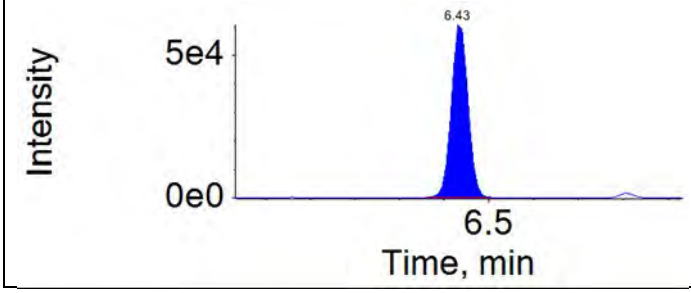
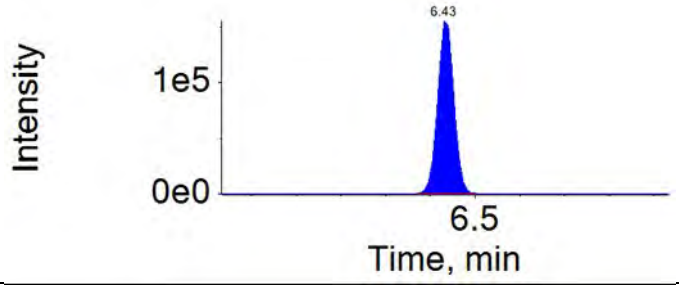
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

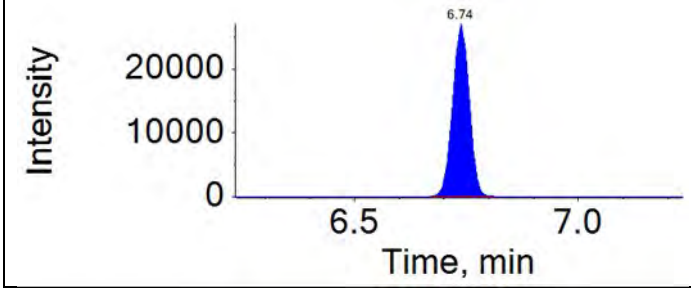
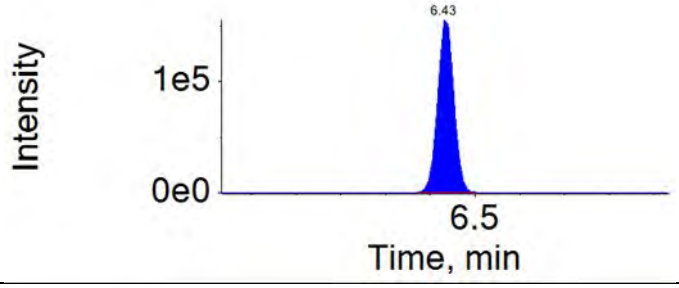




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

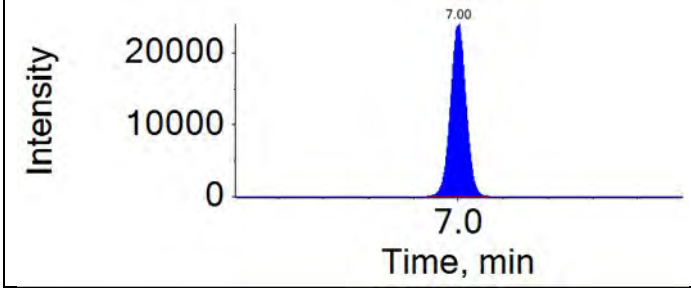
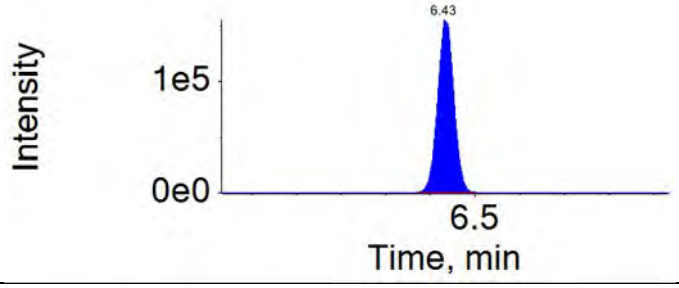




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





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





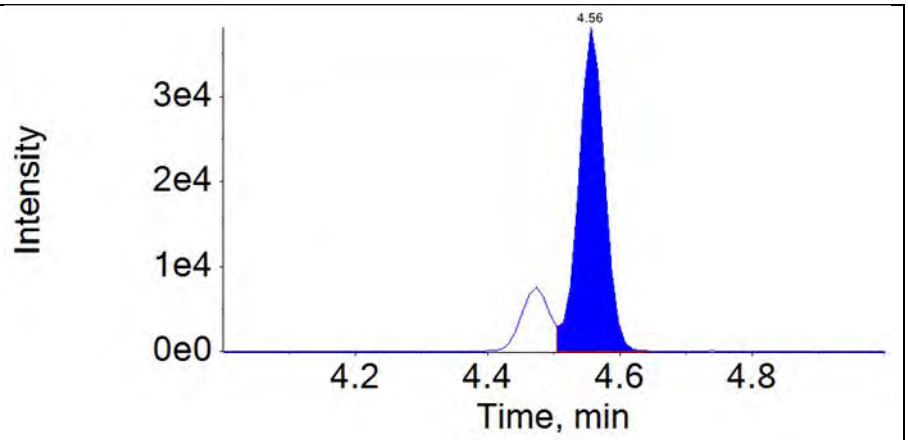
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

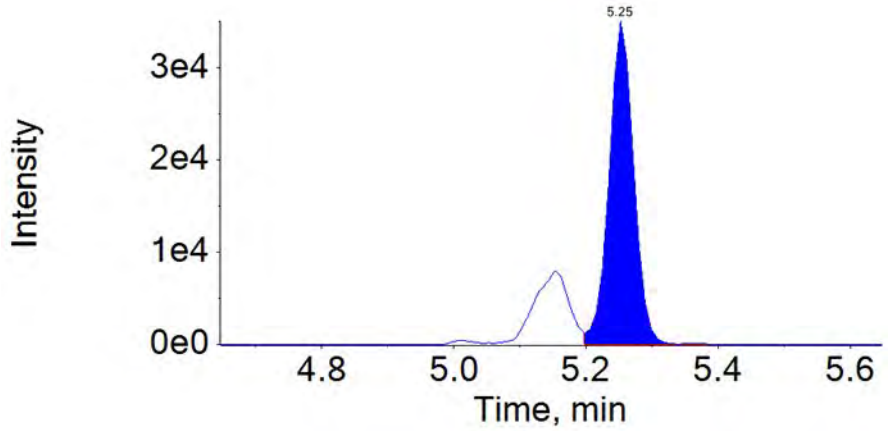
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS
**RT (min.):**
4.56
**Peak Area:**
103825.76
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV12DCAL-44.wiff
**Sample Name:**
CAL3



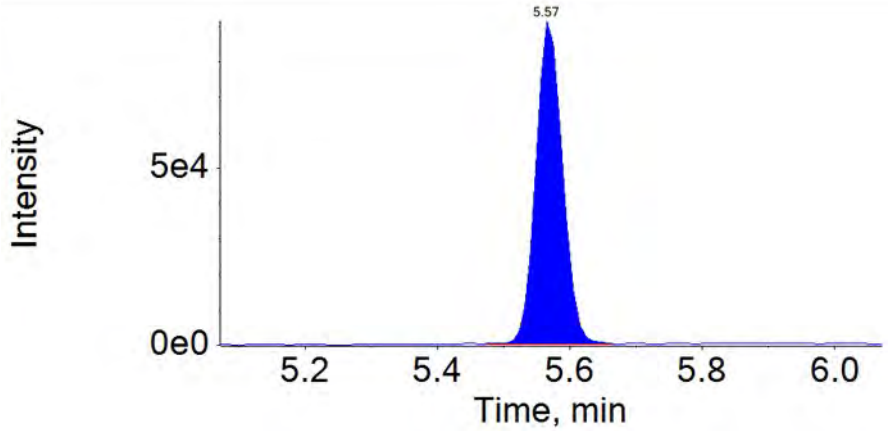

**Integration Comment:** incorrect integration

**Component Name:**
PFOS
**RT (min.):**
5.25
**Peak Area:**
90727.07
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-44.wiff
**Sample Name:**
CAL3




**Integration Comment:** incorrect integration

**Component Name:**
PFDA
**RT (min.):**
5.57
**Peak Area:**
254529.84
**Mass Range:**
513.0 / 469.0
**File Name:**
18NOV12DCAL-44.wiff
**Sample Name:**
CAL3



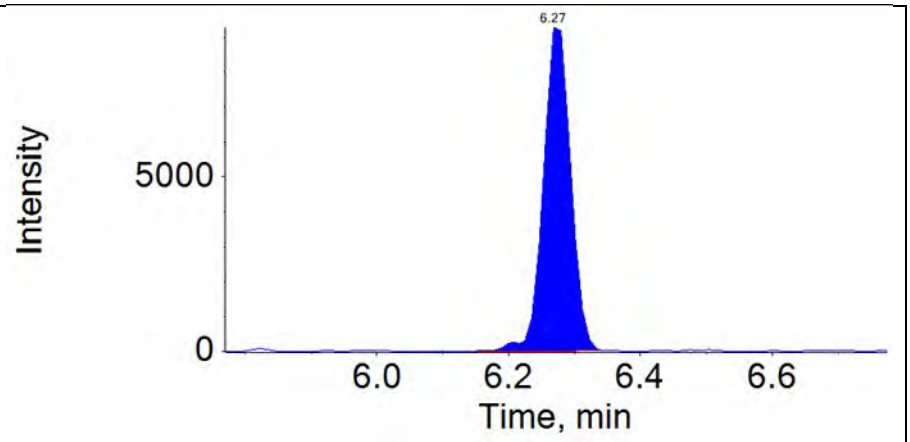

**Integration Comment:** incorrect integration

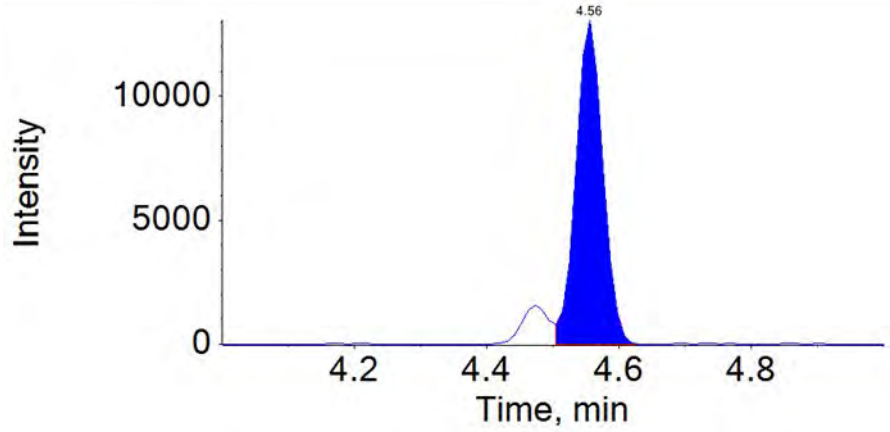
APPROVED
*By MCD at 6:33 pm, 11/12/18*

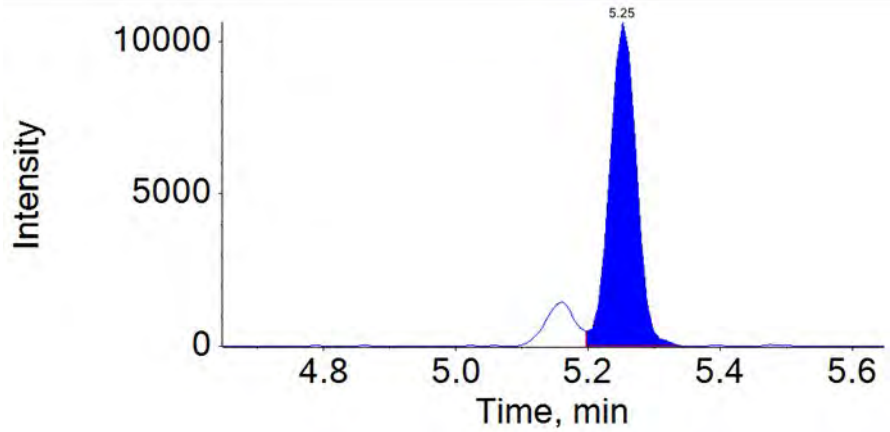


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** NEtPFOSA<br>**RT (min.):** 6.27<br>**Peak Area:** 26985.34<br>**Mass Range:** 526.0 / 169.0<br>**File Name:** 18NOV12DCAL-44.wiff<br>**Sample Name:** CAL3 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFHxS_2<br>**RT (min.):** 4.56<br>**Peak Area:** 37027.02<br>**Mass Range:** 399.0 / 99.0<br>**File Name:** 18NOV12DCAL-44.wiff<br>**Sample Name:** CAL3 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.25<br>**Peak Area:** 29768.90<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV12DCAL-44.wiff<br>**Sample Name:** CAL3 | <br>**Integration Comment:** incorrect integration |

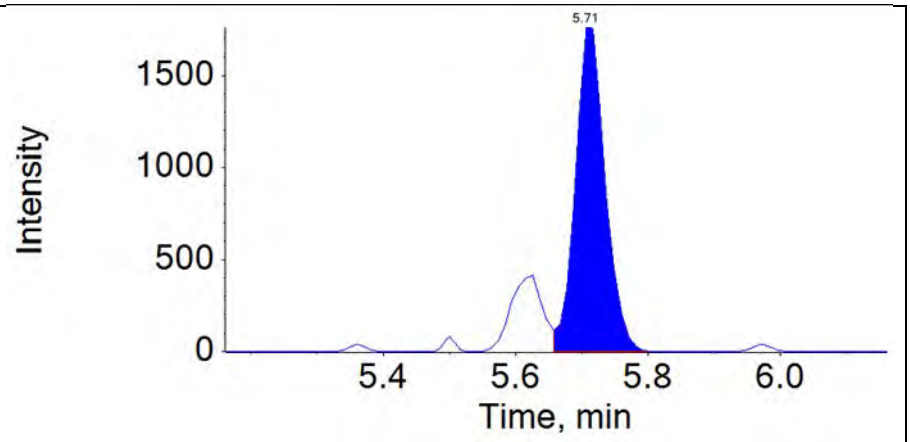
APPROVED
*By MCD at 6:33 pm, 11/12/18*



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*By HMK at 10:53 am, 11/13/18*

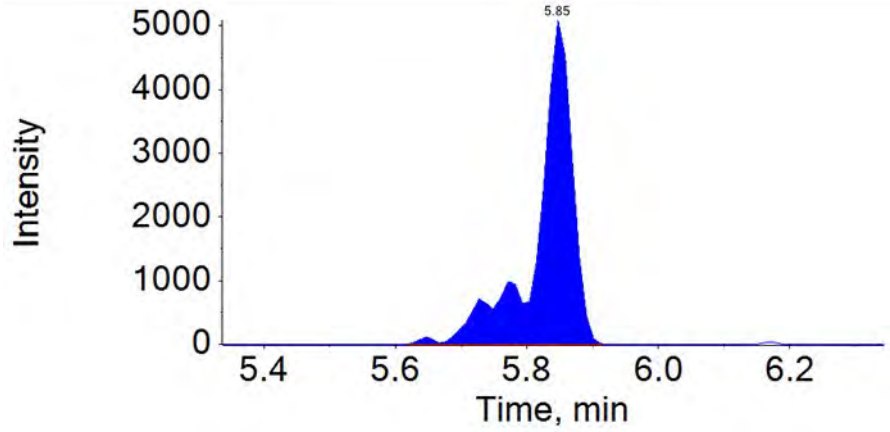
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NMeFOSAA_2
**RT (min.):**
5.71
**Peak Area:**
5548.71
**Mass Range:**
570.0 / 483.0
**File Name:**
18NOV12DCAL-44.wiff
**Sample Name:**
CAL3



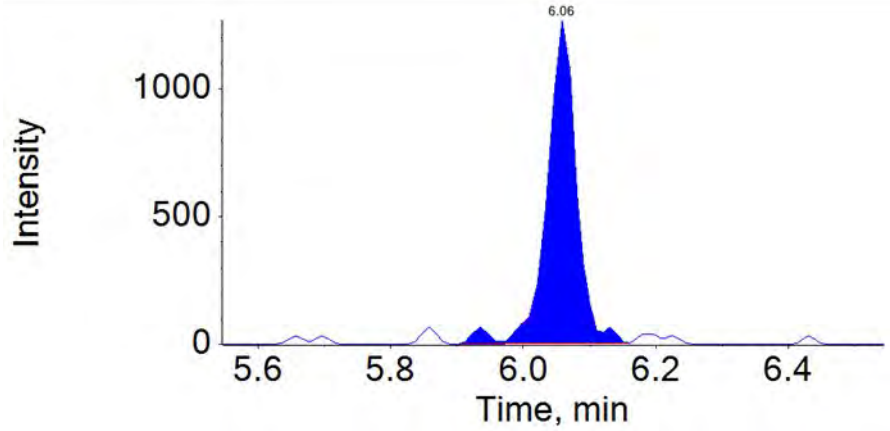

**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA_2
**RT (min.):**
5.85
**Peak Area:**
19243.29
**Mass Range:**
584.0 / 526.0
**File Name:**
18NOV12DCAL-44.wiff
**Sample Name:**
CAL3




**Integration Comment:** incorrect integration

**Component Name:**
PFDoDA_2
**RT (min.):**
6.06
**Peak Area:**
3956.45
**Mass Range:**
613.0 / 169.0
**File Name:**
18NOV12DCAL-44.wiff
**Sample Name:**
CAL3




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:33 pm, 11/12/18*

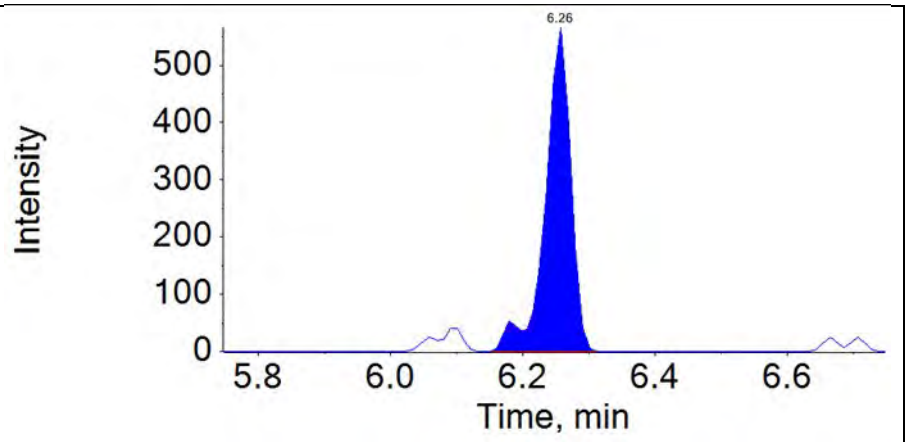


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

**Component Name:**
PFTrDA_2
**RT (min.):**
6.26
**Peak Area:**
1527.41
**Mass Range:**
663.0 / 169.0
**File Name:**
18NOV12DCAL-44.wiff
**Sample Name:**
CAL3




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

## Ion Ratio Report

**Sample Name:** CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-44.wiff

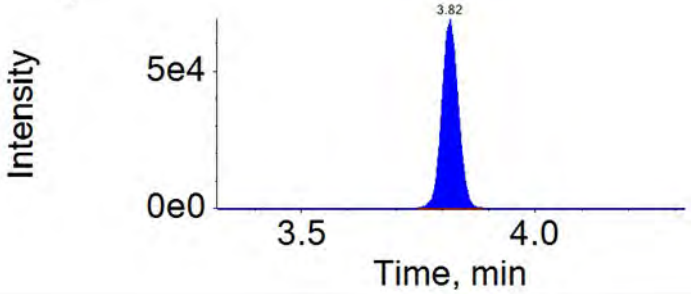
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.82 | 1.00 | 168144.64 | A | 0.3619 | 0.3569 | | | |
| PFBS_2 | 3.82 | 1.00 | 60008.36 | A | 0.3619 | 0.3569 | -1 | 50 | |
| 4:2-FTS | 4.13 | 1.00 | 34188.48 | A | 0.6730 | 0.6730 | | | |
| 4:2 FTS_2 | 4.13 | 1.00 | 23007.23 | A | 0.6730 | 0.6730 | | #NA! | |
| PFHxA | 4.17 | 1.00 | 352013.45 | A | 0.0117 | 0.0120 | | | |
| PFHxA_2 | 4.17 | 1.00 | 4207.12 | A | 0.0117 | 0.0120 | 3 | 50 | |
| PFPeS | 4.19 | 1.10 | 84071.24 | A | 0.5191 | 0.5304 | | | |
| PFPeS_2 | 4.19 | 1.10 | 44592.70 | A | 0.5191 | 0.5304 | 2 | 50 | |
| PFHpA | 4.56 | 1.00 | 355834.18 | A | 0.0563 | 0.0619 | | | |
| PFHpA_2 | 4.55 | 1.00 | 22030.36 | A | 0.0563 | 0.0619 | 10 | 50 | |
| PFHxS | 4.56 | 1.00 | 125622.02 | M | 0.3428 | 0.3304 | | | |
| PFHxS_2 | 4.56 | 1.00 | 41506.57 | M | 0.3428 | 0.3304 | -4 | 50 | |
| 6:2-FTS | 4.91 | 1.00 | 28084.91 | A | 0.6604 | 0.7337 | | | |
| 6:2 FTS_2 | 4.91 | 1.00 | 20606.67 | A | 0.6604 | 0.7337 | | #NA! | |
| PFHpS | 4.92 | 1.08 | 125907.86 | A | 0.4066 | 0.3838 | | | |
| PFHpS_2 | 4.92 | 1.08 | 48327.03 | A | 0.4066 | 0.3838 | -6 | 50 | |
| PFOA | 4.93 | 1.00 | 372258.90 | A | 0.0562 | 0.0567 | | | |
| PFOA_2 | 4.92 | 1.00 | 21118.14 | A | 0.0562 | 0.0567 | 1 | 50 | |
| PFOS | 5.25 | 1.00 | 120897.45 | M | 0.2968 | 0.2842 | | | |
| PFOS_2 | 5.25 | 1.00 | 34361.90 | M | 0.2968 | 0.2842 | -4 | 50 | |
| PFNA | 5.27 | 1.00 | 302323.82 | A | 0.0229 | 0.0192 | | | |
| PFNA_2 | 5.28 | 1.00 | 5790.58 | A | 0.0229 | 0.0192 | -16 | 50 | |
| PFNS | 5.55 | 1.06 | 76049.00 | A | 0.4828 | 0.4502 | | | |
| PFNS_2 | 5.54 | 1.06 | 34233.54 | A | 0.4828 | 0.4502 | -7 | 50 | |
| PFDA | 5.57 | 1.00 | 254047.79 | M | 0.0081 | 0.0044 | | | |
| PFDA_2 | 5.56 | 1.00 | 1125.96 | A | 0.0081 | 0.0044 | -45 | 50 | |
| 8:2-FTS | 5.57 | 1.00 | 26295.08 | A | 0.6814 | 0.5850 | | | |
| 8:2 FTS_2 | 5.57 | 1.00 | 15383.41 | A | 0.6814 | 0.5850 | | #NA! | |
| NMeFOSAA | 5.71 | 1.00 | 25147.65 | A | 0.2569 | 0.2754 | | | |
| NMeFOSAA_2 | 5.71 | 1.00 | 6926.51 | M | 0.2569 | 0.2754 | 7 | 50 | |
| PFDS | 5.80 | 1.11 | 57966.88 | A | 0.5144 | 0.5358 | | | |
| PFDS_2 | 5.80 | 1.11 | 31061.10 | A | 0.5144 | 0.5358 | 4 | 50 | |
| PFUnDA | 5.83 | 1.00 | 199061.83 | A | 0.0058 | 0.0049 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 975.19 | A | 0.0058 | 0.0049 | -16 | 50 | |
| NEtFOSAA | 5.84 | 1.00 | 25089.02 | A | 0.7253 | 0.7602 | | | |
| NEtFOSAA_2 | 5.85 | 1.00 | 19071.96 | M | 0.7253 | 0.7602 | 5 | 50 | |
| PFDoDA | 6.06 | 1.00 | 237252.63 | A | 0.0157 | 0.0159 | | | |
| PFDoDA_2 | 6.06 | 1.00 | 3761.16 | M | 0.0157 | 0.0159 | 1 | 50 | |
| 10:2-FTS | 6.07 | 1.09 | 18541.69 | A | 0.6356 | 0.6613 | | | |
| 10:2 FTS_2 | 6.08 | 1.09 | 12260.75 | A | 0.6356 | 0.6613 | | #NA! | |
| PFTrDA | 6.26 | 1.03 | 184322.87 | A | 0.0086 | 0.0079 | | | |
| PFTrDA_2 | 6.26 | 1.03 | 1447.70 | M | 0.0086 | 0.0079 | -8 | 50 | |
| PFTeDA | 6.43 | 1.00 | 156439.94 | A | 0.0062 | 0.0065 | | | |
| PFTeDA_2 | 6.44 | 1.00 | 1023.07 | A | 0.0062 | 0.0065 | 5 | 50 | |
| PFHxDA | 6.74 | 1.05 | 69655.07 | A | 0.0683 | 0.0690 | | | |
| PFHxDA_2 | 6.74 | 1.05 | 4808.92 | A | 0.0683 | 0.0690 | 1 | 50 | |
| PFODA | 7.00 | 1.09 | 57795.96 | A | 0.0277 | 0.0253 | | | |
| PFODA_2 | 7.00 | 1.09 | 1464.82 | A | 0.0277 | 0.0253 | -9 | 50 | |

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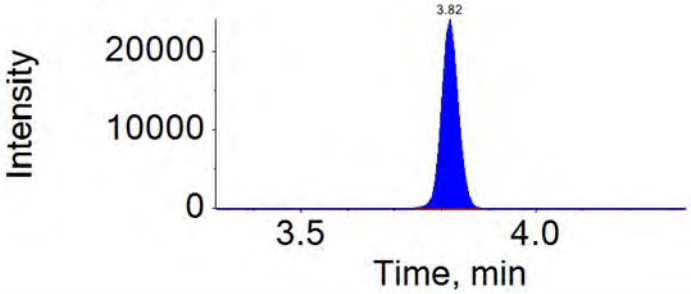


REVIEWED
*By HMK at 10:53 am, 11/13/18*

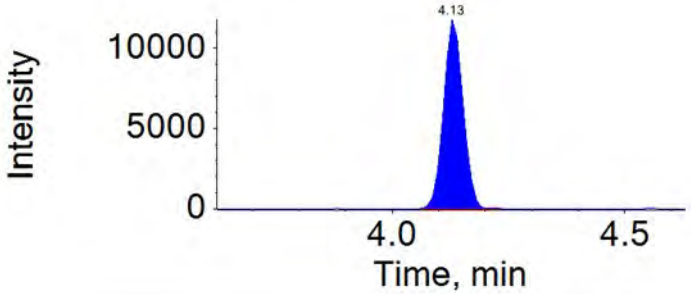
Component: PFBS
Primary Mass: 299.0 / 80.0



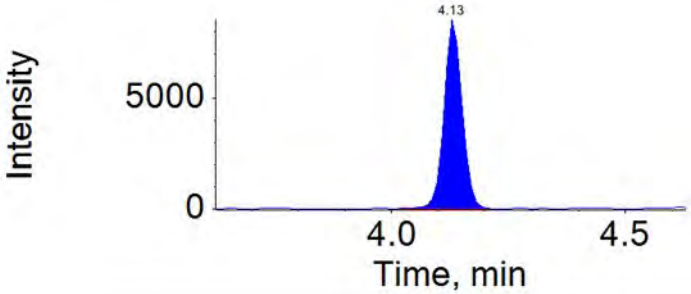

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



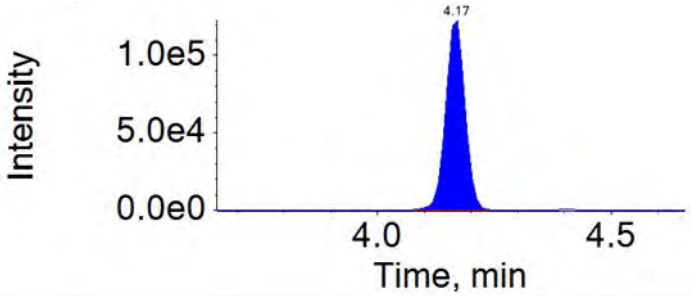

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



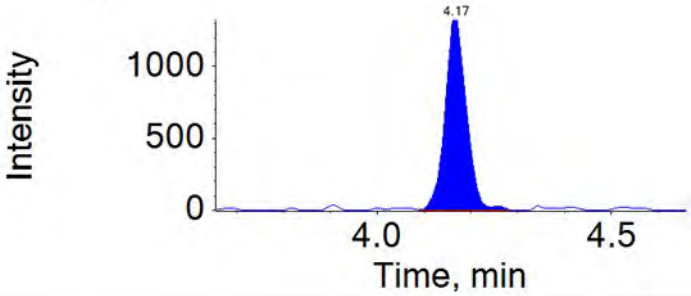

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



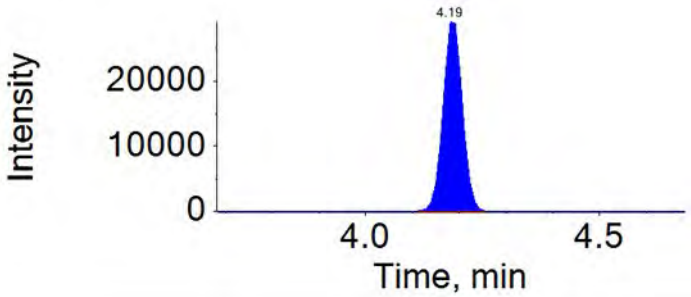

Component: PFHxA
Primary Mass: 313.0 / 269.0



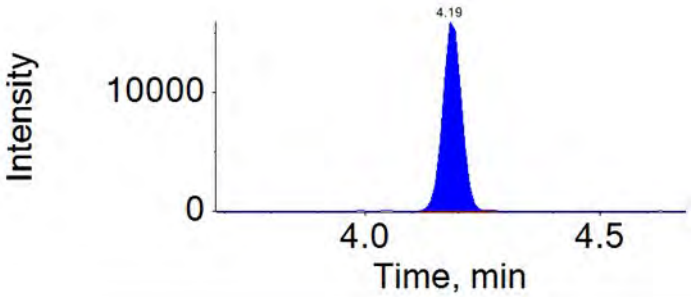

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

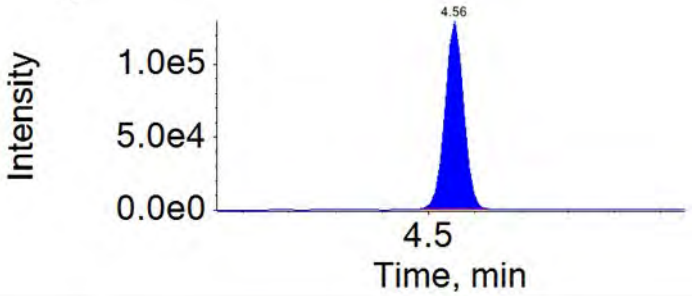



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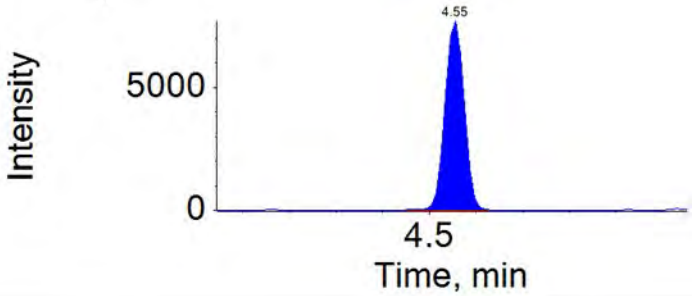


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*By HMK at 10:53 am, 11/13/18*

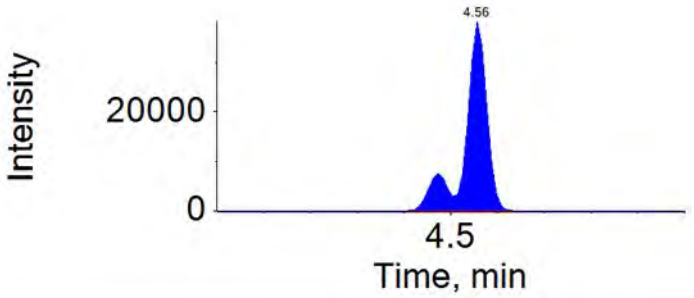
Component: PFHpA
Primary Mass: 363.0 / 319.0



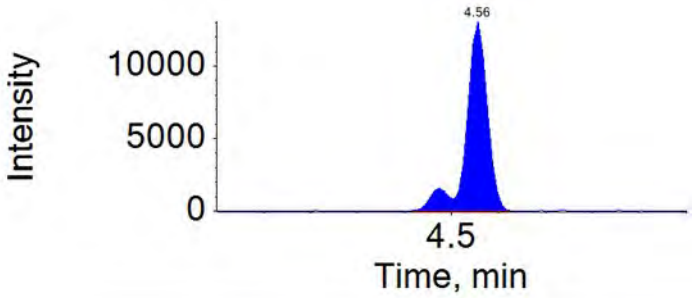

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



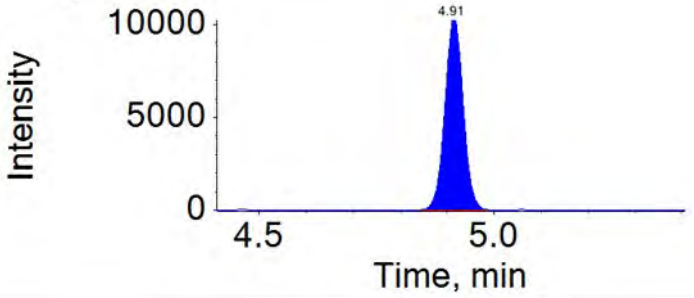

Component: PFHxS
Primary Mass: 399.0 / 80.0



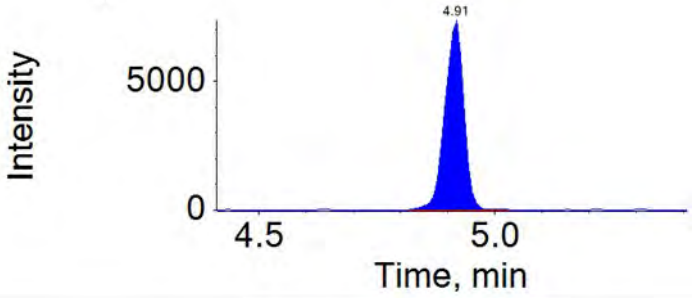

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



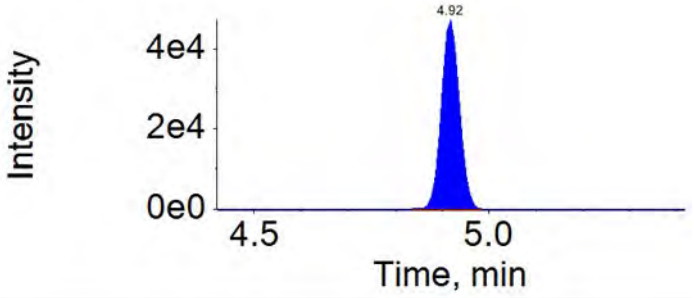

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



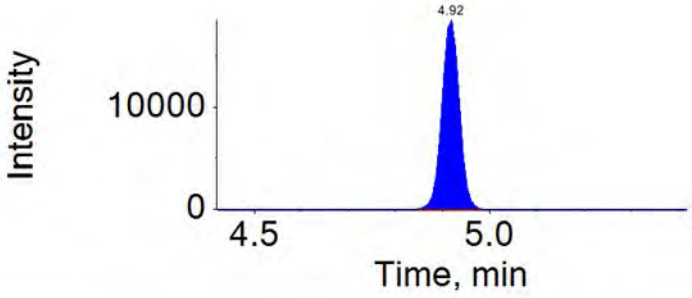

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

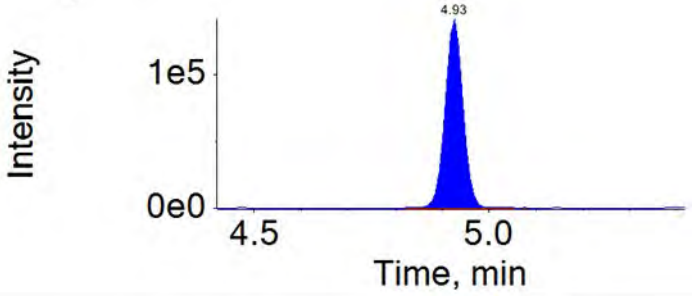



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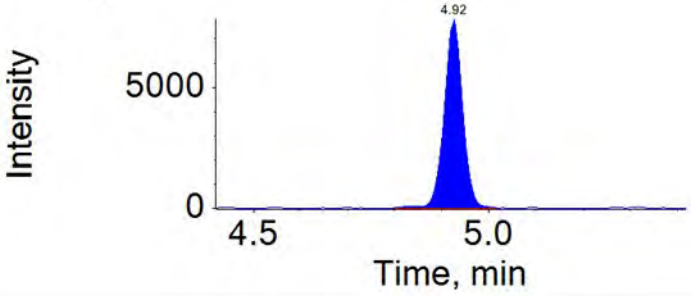


REVIEWED
*By HMK at 10:53 am, 11/13/18*

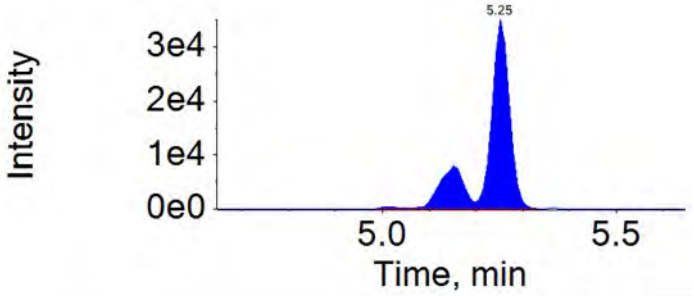
Component: PFOA
Primary Mass: 413.0 / 369.0



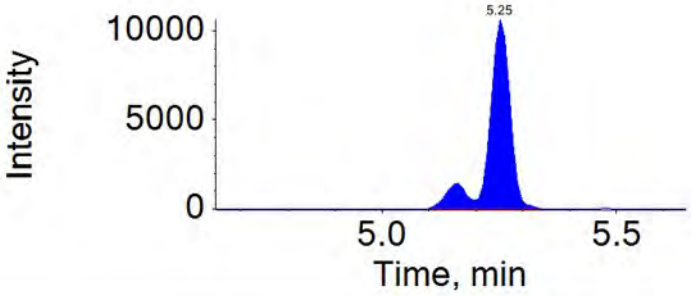

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



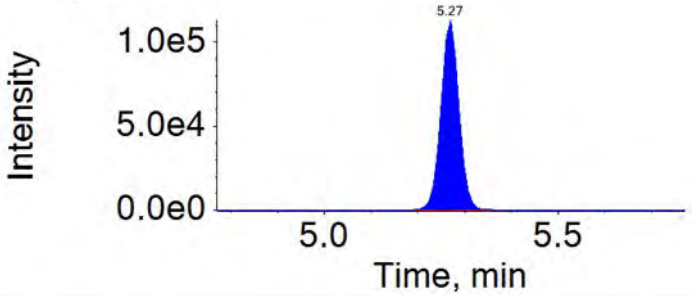

Component: PFOS
Primary Mass: 499.0 / 80.0



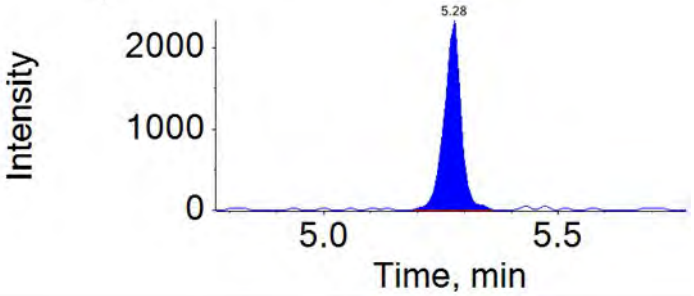

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



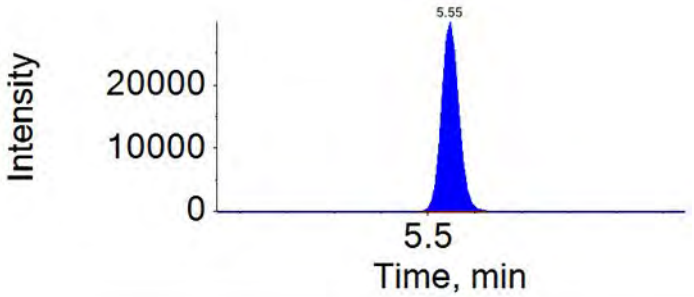

Component: PFNA
Primary Mass: 463.0 / 419.0



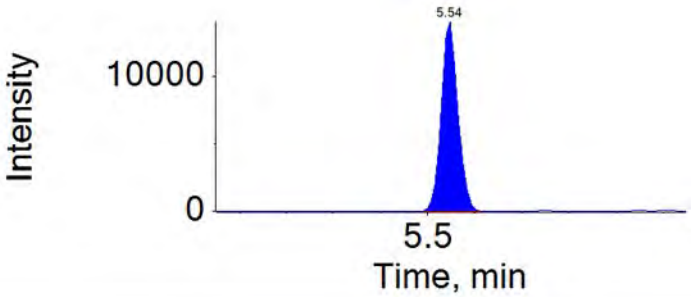

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

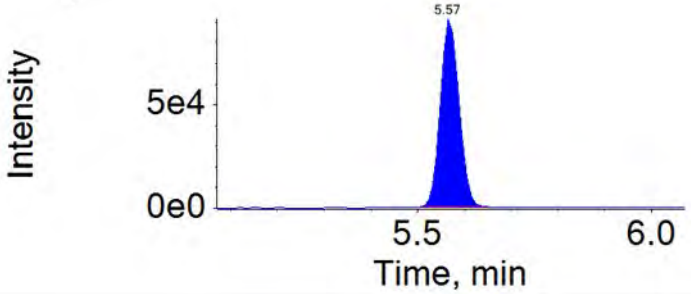



APPROVED
*By MCD at 6:33 pm, 11/12/18*

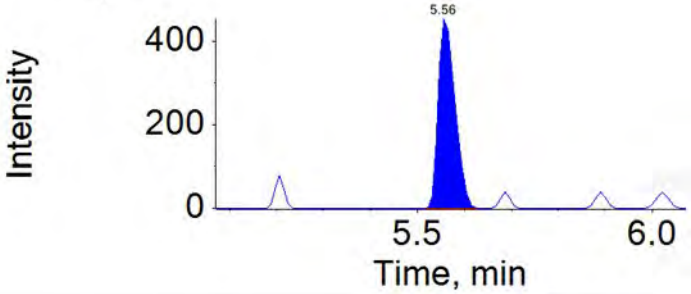


REVIEWED
*By HMK at 10:53 am, 11/13/18*

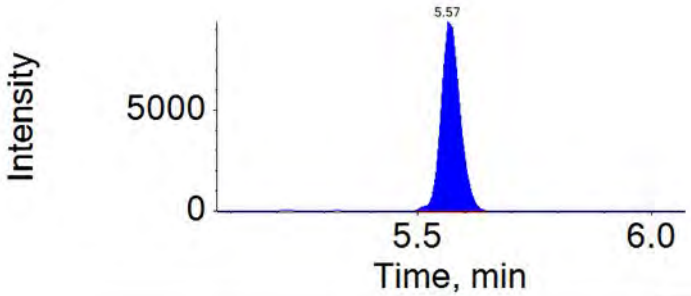
Component: PFDA
Primary Mass: 513.0 / 469.0



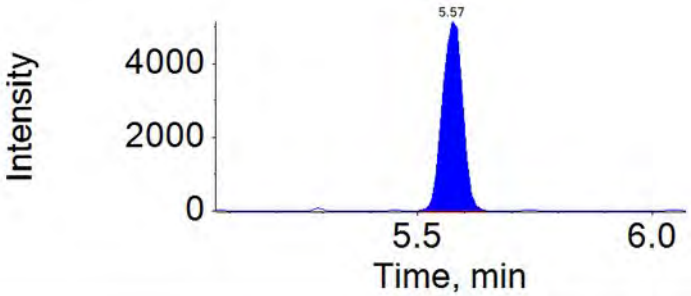

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



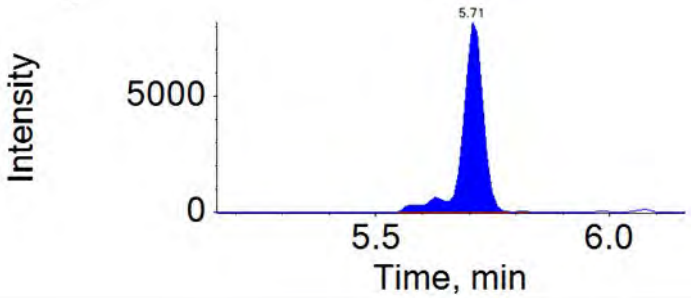

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



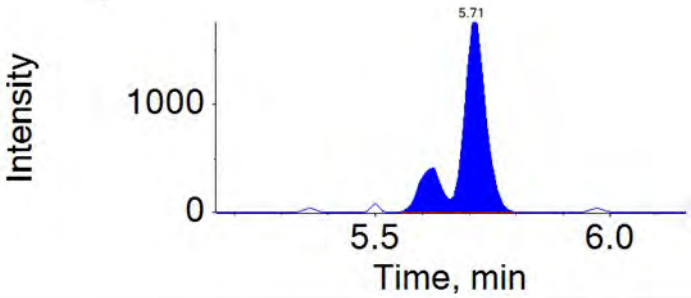

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



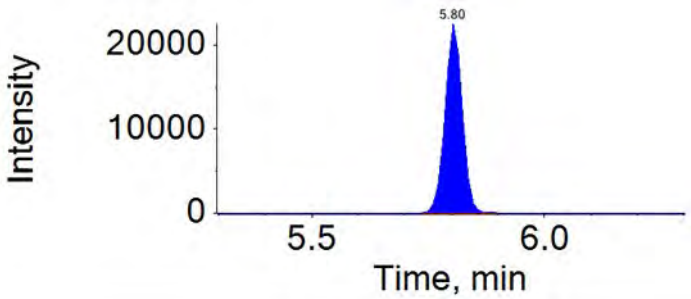

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



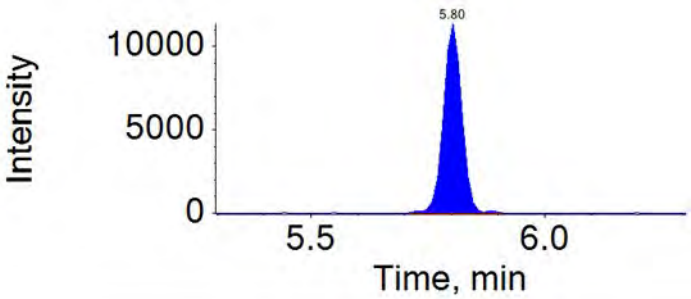

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

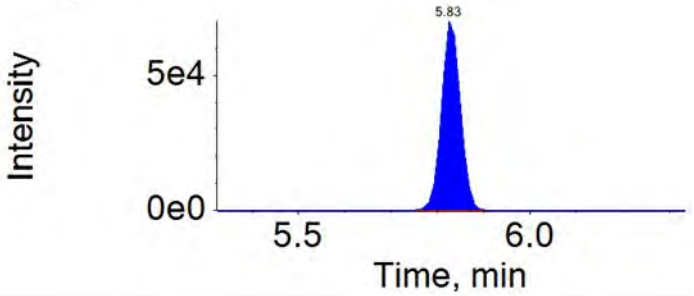



APPROVED
*By MCD at 6:33 pm, 11/12/18*

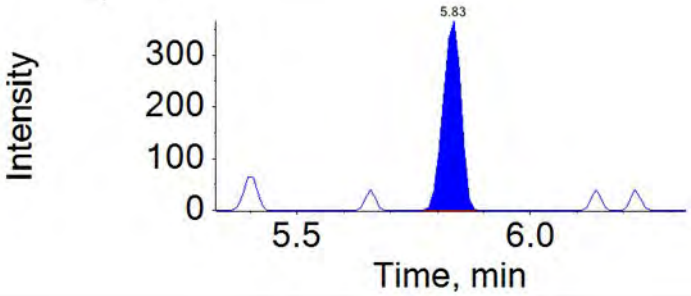


REVIEWED
*By HMK at 10:53 am, 11/13/18*

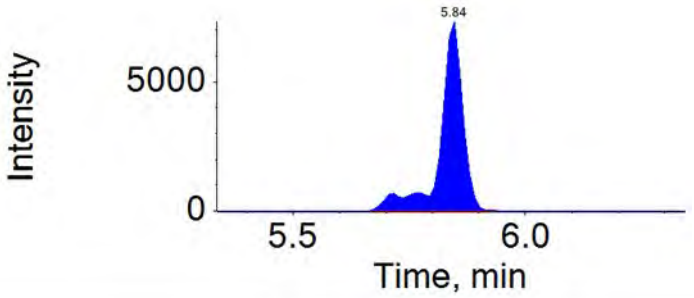
Component: PFUnDA
Primary Mass: 563.0 / 519.0



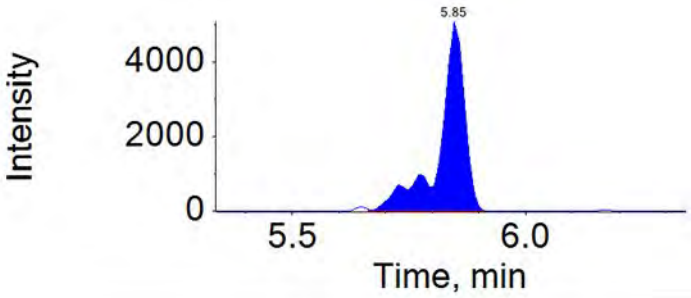

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



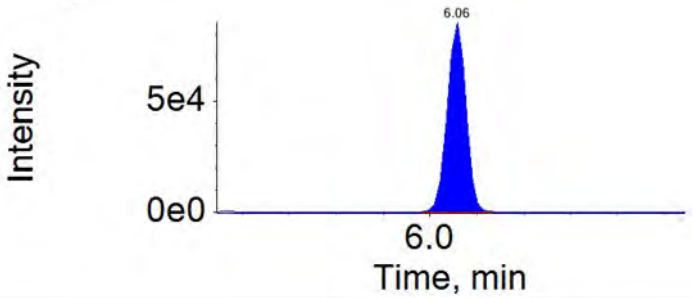

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



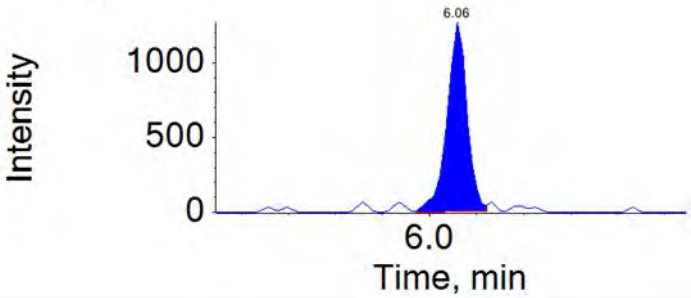

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



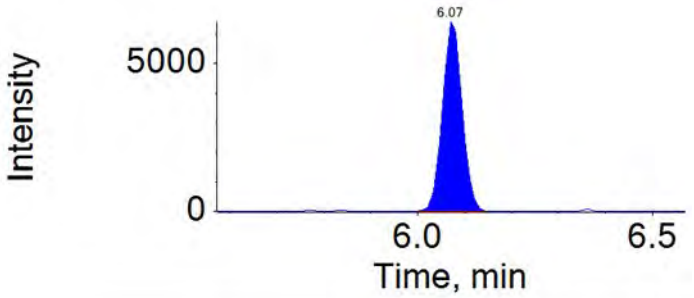

Component: PFDoDA
Primary Mass: 613.0 / 569.0



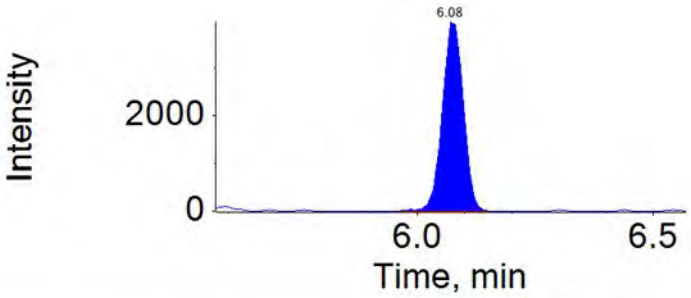

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

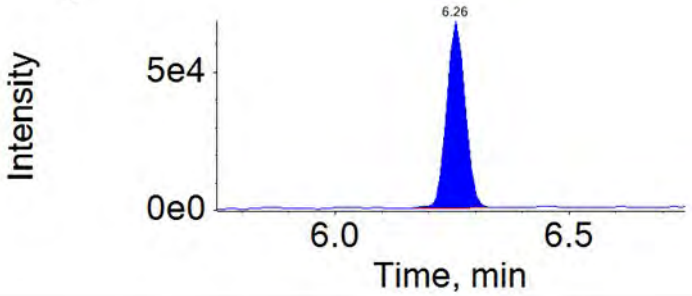



APPROVED
*By MCD at 6:33 pm, 11/12/18*

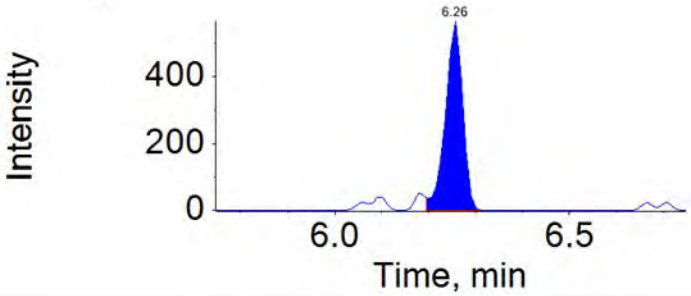


REVIEWED
*By HMK at 10:53 am, 11/13/18*

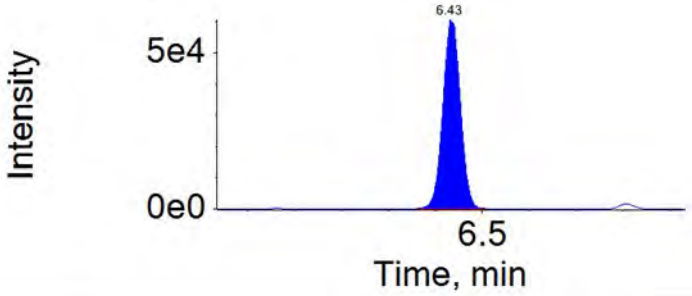
Component: PFTrDA
Primary Mass: 663.0 / 619.0



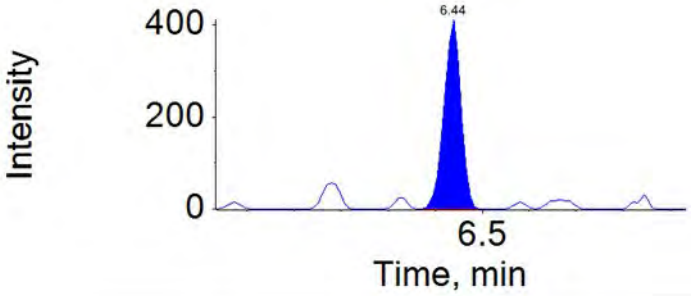

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



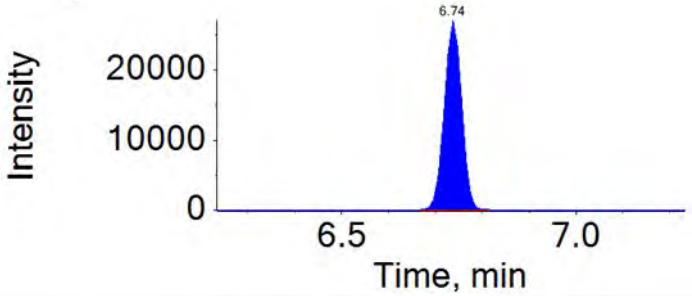

Component: PFTeDA
Primary Mass: 713.0 / 669.0



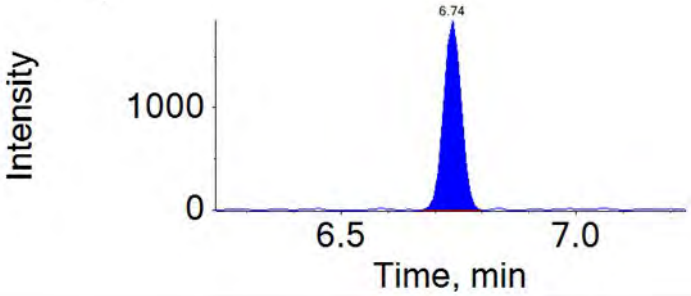

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



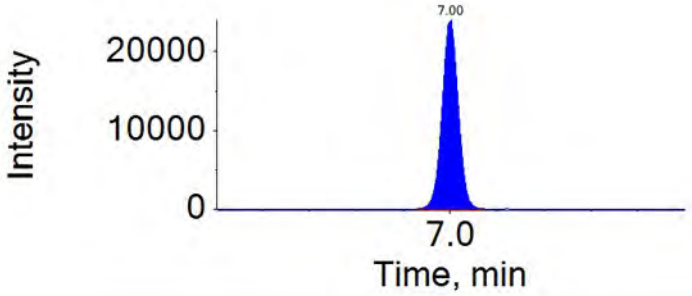

Component: PFHxDA
Primary Mass: 813.0 / 769.0



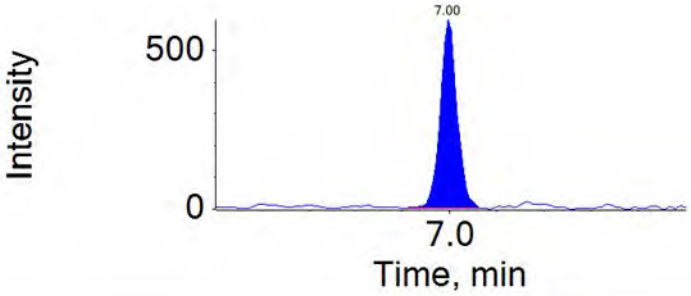

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CAL4 | | | **Data File:** | | 18NOV12DCAL-45.wiff |
| **Sample ID:** | CALBRN41833B | | | **Acquis Date:** | | 2018-11-12T15:33:03 |
| **Sample Type:** | Standard | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 6 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 671568.1 | 659926.2 | 2 | 50 | |
| 13C2-PFOA | 5.0 | 477519.7 | 450219.7 | 6 | 50 | |
| 13C4-PFOS | 4.8 | 256143.3 | 249205.8 | 3 | 50 | |
| 13C2-PFDA | 5.0 | 301327.2 | 278743.9 | 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 | 726396.0 | 13C3-PFBA | 671568.1 | 1.082 | 5.000 | 4.849 | 97 | 70-130 | |
| E13C5-PFPeA | 716206.9 | 13C3-PFBA | 671568.1 | 1.066 | 5.000 | 4.783 | 96 | 70-130 | |
| E13C3-PFBS | 425015.7 | 13C3-PFBA | 671568.1 | 0.633 | 4.650 | 4.468 | 96 | 70-130 | |
| E13C2-4:2-FTS | 47246.4 | 13C2-PFOA | 477519.7 | 0.099 | 4.670 | 4.407 | 94 | 70-130 | |
| E13C5-PFHxA | 641195.9 | 13C2-PFOA | 477519.7 | 1.343 | 5.000 | 4.851 | 97 | 70-130 | |
| E13C3-PFHxS | 315722.6 | 13C2-PFOA | 477519.7 | 0.661 | 4.730 | 4.537 | 96 | 70-130 | |
| E13C4-PFHpA | 509151.8 | 13C2-PFOA | 477519.7 | 1.066 | 5.000 | 4.804 | 96 | 70-130 | |
| E13C2-6:2-FTS | 31883.3 | 13C2-PFOA | 477519.7 | 0.067 | 4.750 | 4.467 | 94 | 70-130 | |
| E13C8-PFOA | 863597.3 | 13C2-PFOA | 477519.7 | 1.809 | 5.000 | 4.983 | 100 | 70-130 | |
| E13C8-PFOS | 267380.8 | 13C4-PFOS | 256143.3 | 1.044 | 4.780 | 4.625 | 97 | 70-130 | |
| E13C9-PFNA | 485570.4 | 13C4-PFOS | 256143.3 | 1.896 | 5.000 | 5.285 | 106 | 70-130 | |
| E13C6-PFDA | 612056.5 | 13C2-PFDA | 301327.2 | 2.031 | 5.000 | 4.740 | 95 | 70-130 | |
| E13C2-8:2-FTS | 27253.5 | 13C2-PFDA | 301327.2 | 0.090 | 4.790 | 4.511 | 94 | 70-130 | |
| E13C8-PFOSA | 607762.0 | 13C2-PFDA | 301327.2 | 2.017 | 5.000 | 4.472 | 89 | 70-130 | |
| Ed3-NMeFOSAA | 72788.0 | 13C2-PFDA | 301327.2 | 0.242 | 5.000 | 4.360 | 87 | 70-130 | |
| E13C7-PFUnDA | 232014.1 | 13C2-PFDA | 301327.2 | 0.770 | 5.000 | 4.470 | 89 | 70-130 | |
| Ed5-NEtFOSAA | 65478.0 | 13C2-PFDA | 301327.2 | 0.217 | 5.000 | 4.597 | 92 | 70-130 | |
| E13C2-PFDoDA | 521514.1 | 13C2-PFDA | 301327.2 | 1.731 | 5.000 | 4.494 | 90 | 70-130 | |
| Ed7-NMePFOSAE | 327796.4 | 13C2-PFDA | 301327.2 | 1.088 | 5.000 | 4.708 | 94 | 70-130 | |
| Ed3-NMePFOSA | 70122.5 | 13C2-PFDA | 301327.2 | 0.233 | 5.000 | 4.228 | 85 | 70-130 | |
| Ed9-NEtPFOSAE | 259467.4 | 13C2-PFDA | 301327.2 | 0.861 | 5.000 | 4.479 | 90 | 70-130 | |
| Ed5-NEtPFOSA | 55177.3 | 13C2-PFDA | 301327.2 | 0.183 | 5.000 | 4.296 | 86 | 70-130 | |
| E13C2-PFTeDA | 392356.6 | 13C2-PFDA | 301327.2 | 1.302 | 5.000 | 4.571 | 91 | 70-130 | |

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

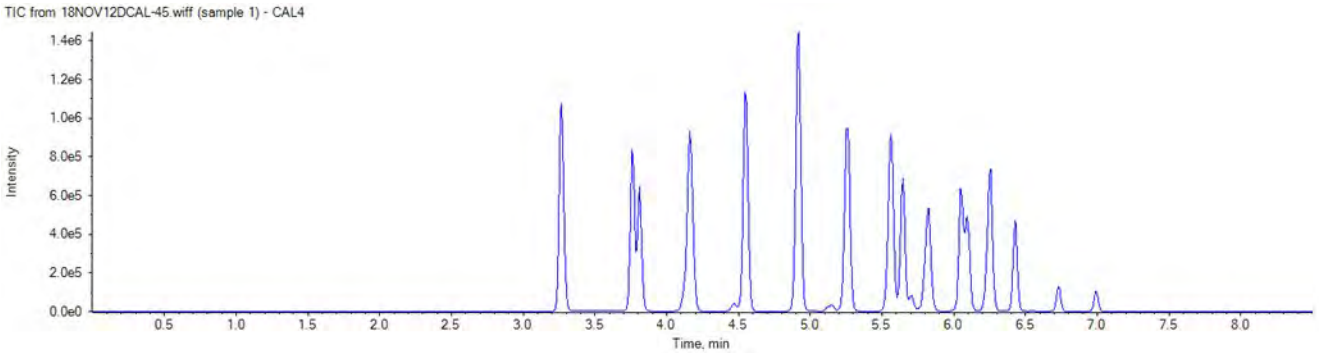
## Analyte Quantitation Peak Table

**Sample Name:** CAL4 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-45.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 | 1068414.9 | | A | 13C4-PFBA | 3.26 | 726396.0 | 1.471 | 8.148 |
| PFPeA | 3.76 | 1.000 | 1075643.5 | | A | 13C5-PFPeA | 3.76 | 716206.9 | 1.502 | 8.694 |
| PFBS | 3.81 | 1.000 | 617045.6 | | A | 13C3-PFBS | 3.81 | 425015.7 | 1.452 | 6.906 |
| 4:2-FTS | 4.13 | 1.000 | 126396.5 | | A | 13C2-4:2-FTS | 4.13 | 47246.4 | 2.675 | 7.263 |
| PFHxA | 4.16 | 1.000 | 1265231.1 | | A | 13C5-PFHxA | 4.16 | 641195.9 | 1.973 | 8.239 |
| PFPeS | 4.18 | 1.100 | 328681.7 | | A | 13C3-PFBS | 3.81 | 425015.7 | 0.773 | 7.508 |
| PFHpA | 4.55 | 1.000 | 1318774.5 | | A | 13C4-PFHpA | 4.55 | 509151.8 | 2.590 | 8.586 |
| PFHxS | 4.55 | 1.000 | 479291.0 | | M | 13C3-PFHxS | 4.55 | 315722.6 | 1.518 | 7.361 |
| 6:2-FTS | 4.91 | 1.000 | 107470.6 | | A | 13C2-6:2-FTS | 4.91 | 31883.3 | 3.371 | 8.157 |
| PFHpS | 4.91 | 1.080 | 434949.2 | | A | 13C3-PFHxS | 4.55 | 315722.6 | 1.378 | 7.252 |
| PFOA | 4.92 | 1.000 | 1327086.1 | | A | 13C8-PFOA | 4.92 | 863597.3 | 1.537 | 8.207 |
| PFOS | 5.25 | 1.000 | 448833.8 | | M | 13C8-PFOS | 5.25 | 267380.8 | 1.679 | 7.341 |
| PFNA | 5.26 | 1.000 | 1106664.2 | | A | 13C9-PFNA | 5.26 | 485570.4 | 2.279 | 8.218 |
| PFNS | 5.54 | 1.060 | 269712.3 | | A | 13C8-PFOS | 5.25 | 267380.8 | 1.009 | 7.057 |
| PFDA | 5.56 | 1.000 | 941985.3 | | M | 13C6-PFDA | 5.56 | 612056.5 | 1.539 | 8.159 |
| 8:2-FTS | 5.57 | 1.000 | 80922.6 | | A | 13C2-8:2-FTS | 5.57 | 27253.5 | 2.969 | 6.923 |
| PFOSA | 5.64 | 1.000 | 927660.5 | | A | 13C8-PFOSA | 5.64 | 607762.0 | 1.526 | 7.455 |
| NMeFOSAA | 5.70 | 1.000 | 103649.1 | | A | d3-NMeFOSAA | 5.70 | 72788.0 | 1.424 | 8.048 |
| PFDS | 5.80 | 1.110 | 224031.2 | | A | 13C8-PFOS | 5.25 | 267380.8 | 0.838 | 7.592 |
| PFUnDA | 5.82 | 1.000 | 768010.8 | | A | 13C7-PFUnDA | 5.82 | 232014.1 | 3.310 | 8.654 |
| NEtFOSAA | 5.84 | 1.000 | 94877.8 | | A | d5-NEtFOSAA | 5.83 | 65478.0 | 1.449 | 7.596 |
| PFDoDA | 6.05 | 1.000 | 803646.8 | | A | 13C2-PFDoDA | 6.05 | 521514.1 | 1.541 | 7.847 |
| 10:2-FTS | 6.07 | 1.090 | 56040.8 | | A | 13C2-8:2-FTS | 5.57 | 27253.5 | 2.056 | 6.849 |
| NMePFOSAE | 6.10 | 1.000 | 618314.4 | | M | d7-NMePFOSAE | 6.09 | 327796.4 | 1.886 | 7.850 |
| NMePFOSA | 6.10 | 1.000 | 114415.9 | | M | d3-NMePFOSA | 6.10 | 70122.5 | 1.632 | 8.049 |
| PFDoS | 6.22 | 1.190 | 117663.3 | | A | 13C8-PFOS | 5.25 | 267380.8 | 0.440 | 7.707 |
| NEtPFOSAE | 6.25 | 1.000 | 673196.1 | | A | d9-NEtPFOSAE | 6.24 | 259467.4 | 2.595 | 8.324 |
| NEtPFOSA | 6.27 | 1.000 | 99354.1 | | M | d5-NEtPFOSA | 6.26 | 55177.3 | 1.801 | 8.269 |
| PFTrDA | 6.25 | 1.030 | 674140.3 | | A | 13C2-PFDoDA | 6.05 | 521514.1 | 1.293 | 8.159 |
| PFTeDA | 6.43 | 1.000 | 571926.7 | | A | 13C2-PFTeDA | 6.43 | 392356.6 | 1.458 | 8.171 |
| PFHxDA | 6.73 | 1.050 | 256654.3 | | A | 13C2-PFTeDA | 6.43 | 392356.6 | 0.654 | 7.793 |
| PFODA | 6.99 | 1.090 | 219359.6 | | A | 13C2-PFTeDA | 6.43 | 392356.6 | 0.559 | 7.786 |

## Total Ion Chromatogram



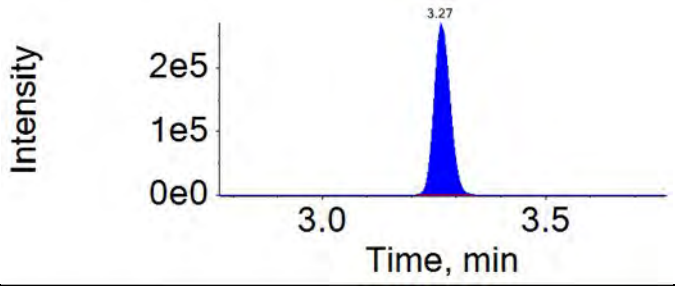

APPROVED
*By MCD at 6:33 pm, 11/12/18*



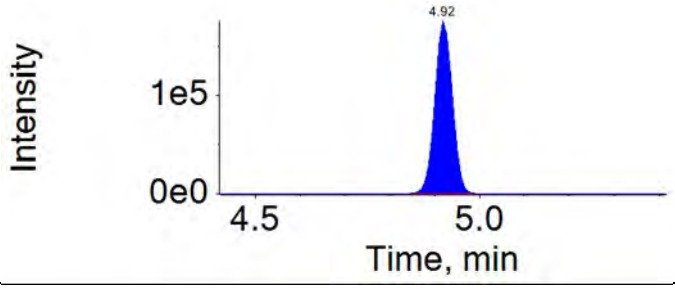
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

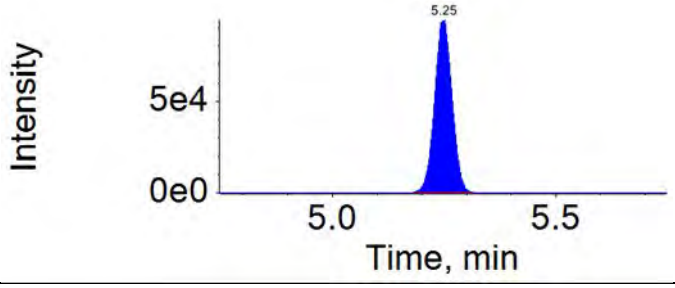
Injection Standard: 13C3-PFBA
216.0 / 172.0



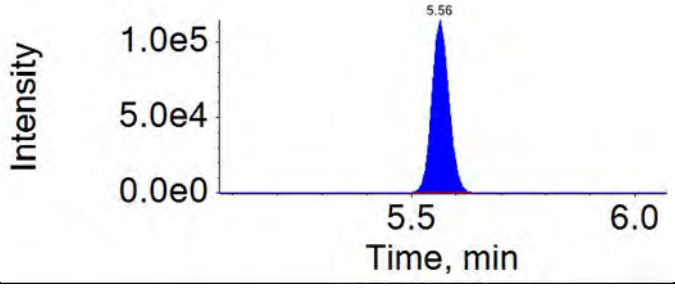

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



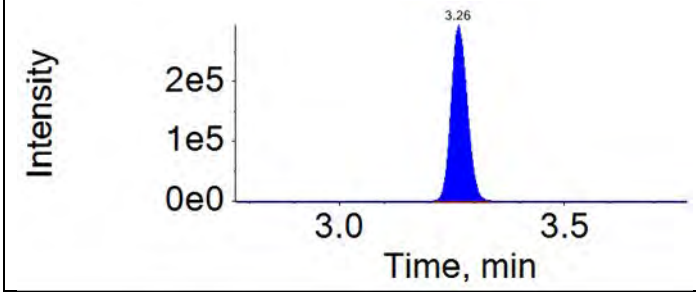

APPROVED
*By MCD at 6:33 pm, 11/12/18*

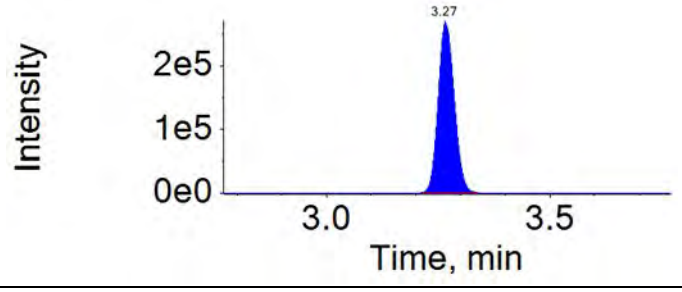


REVIEWED
*By HMK at 10:53 am, 11/13/18*

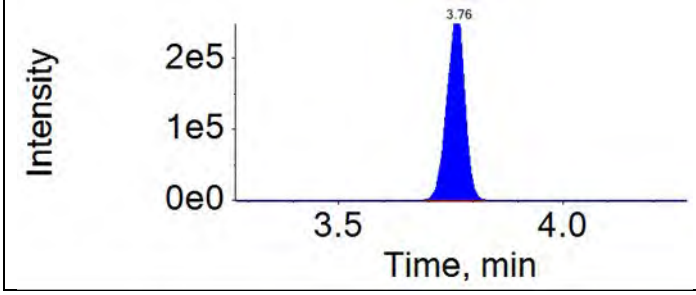
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

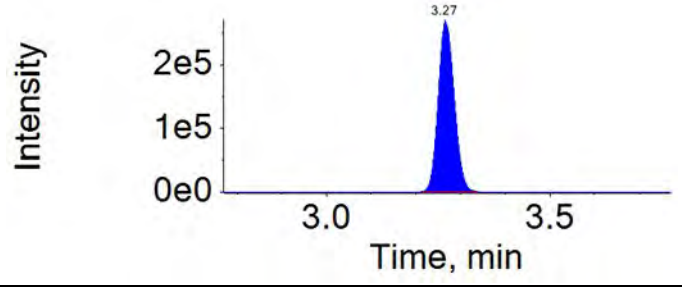
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



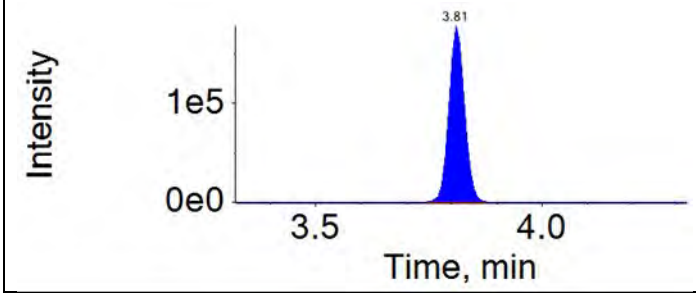



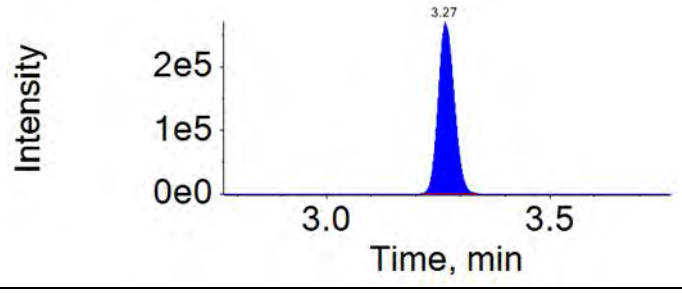

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



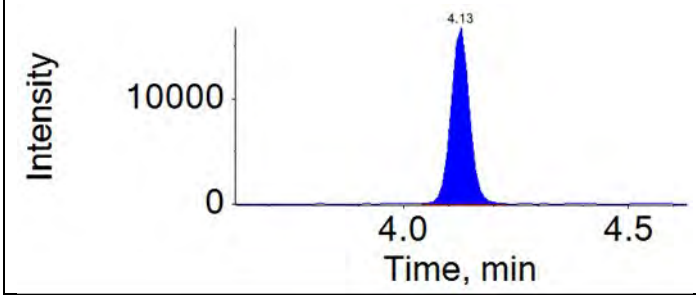



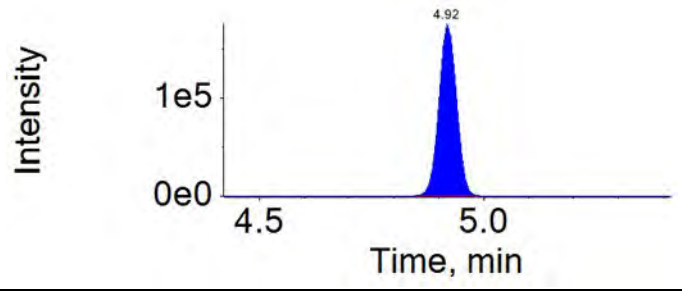

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |



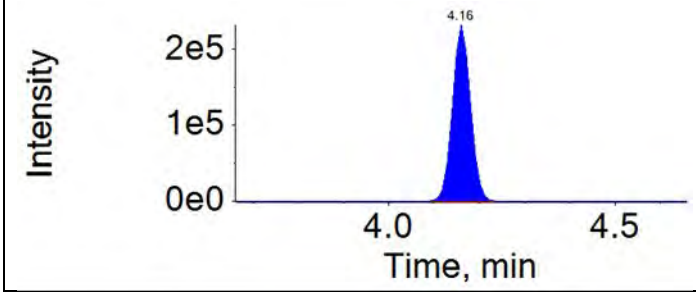

| Extraction Standard: E13C2-4:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 329.0 / 81.0 | 415.0 / 370.0 |

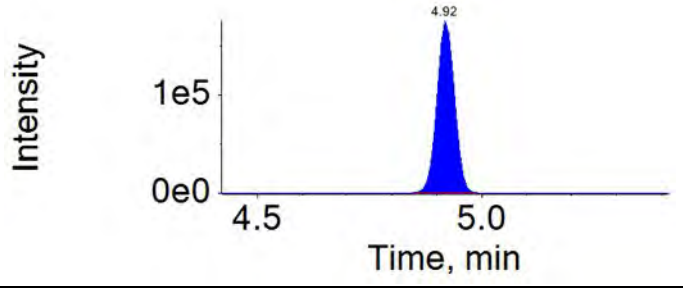


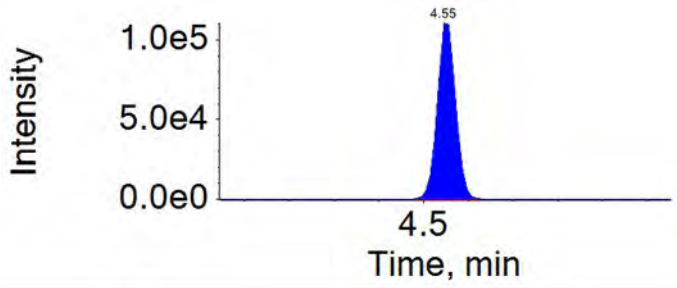
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

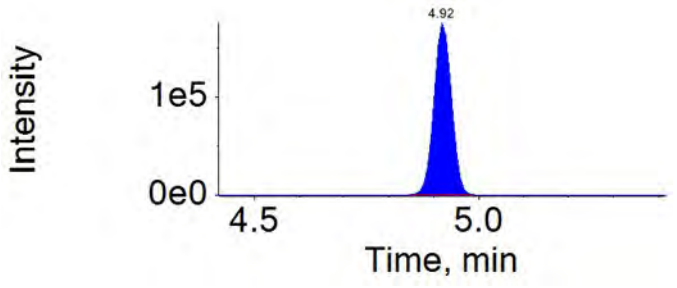
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



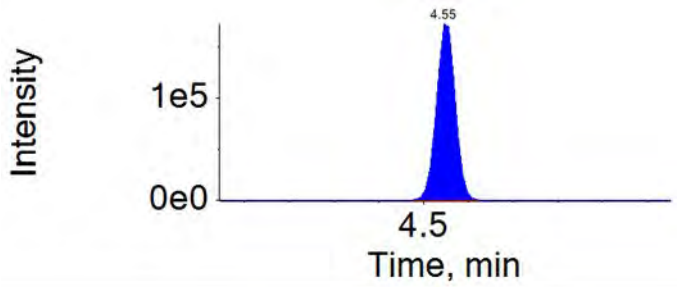



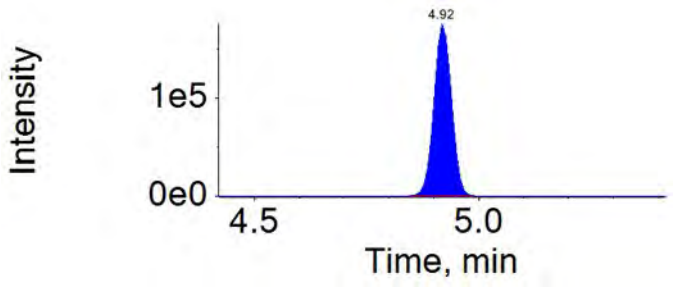

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



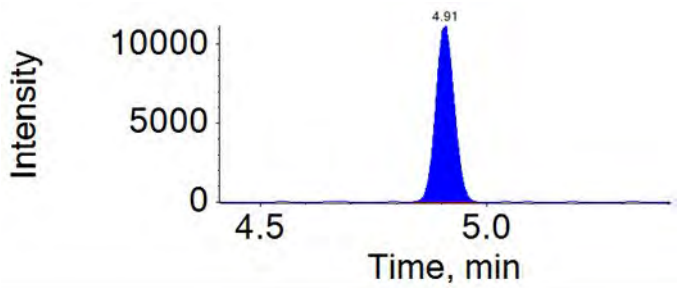



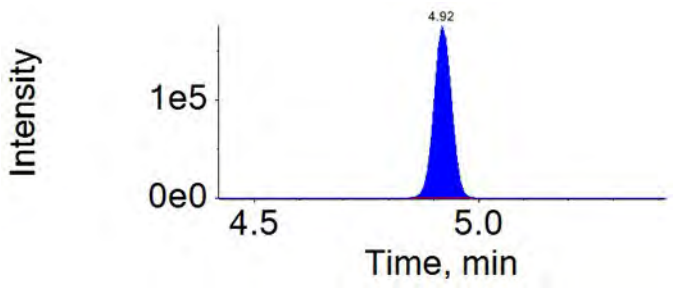

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



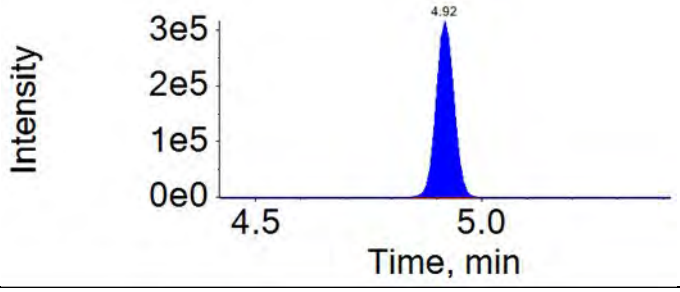
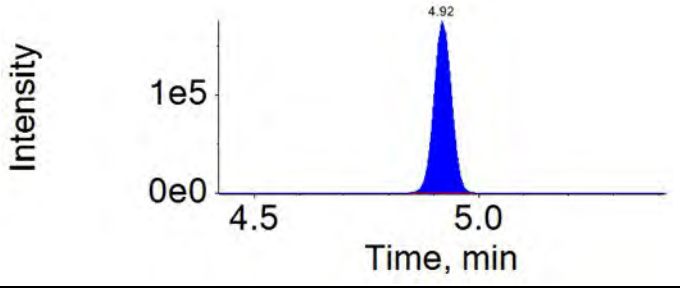




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By MCD at 6:33 pm, 11/12/18



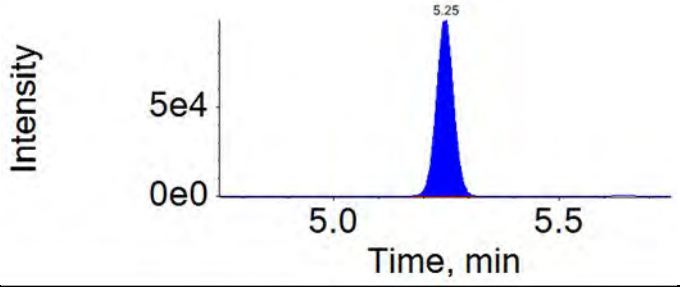
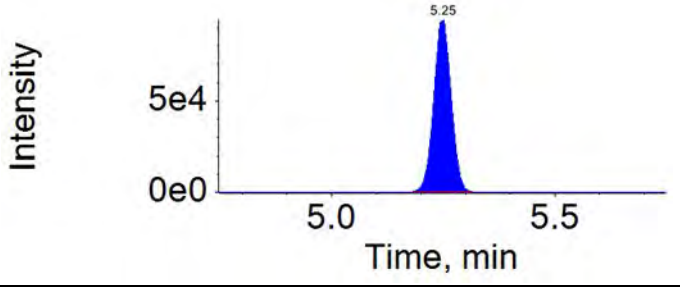
REVIEWED
By HMK at 10:53 am, 11/13/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

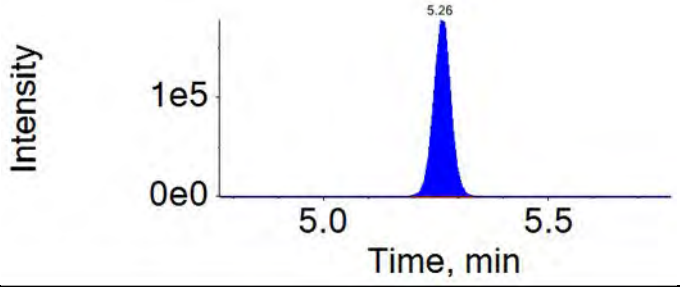
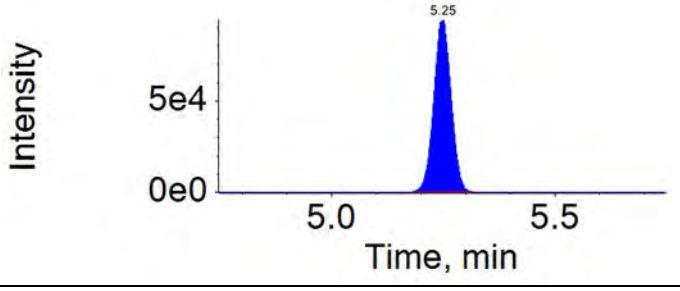




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

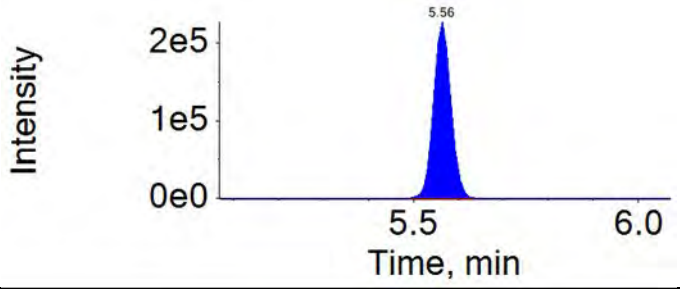
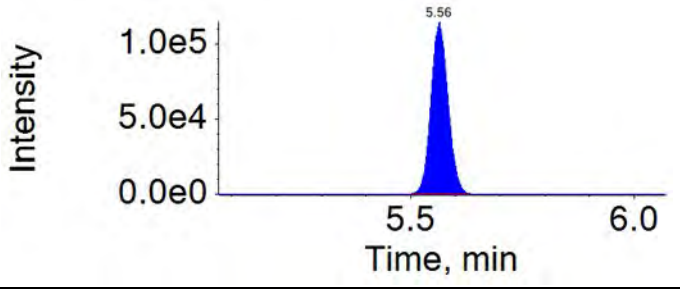




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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



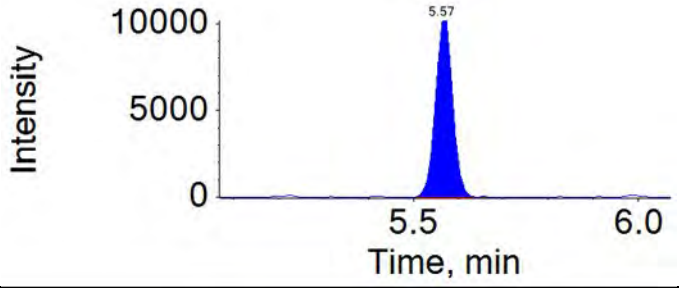
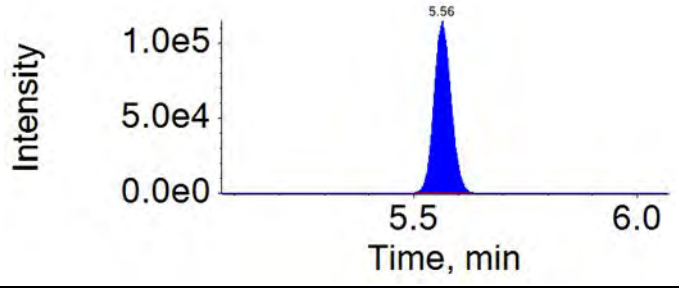


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*By MCD at 6:33 pm, 11/12/18*



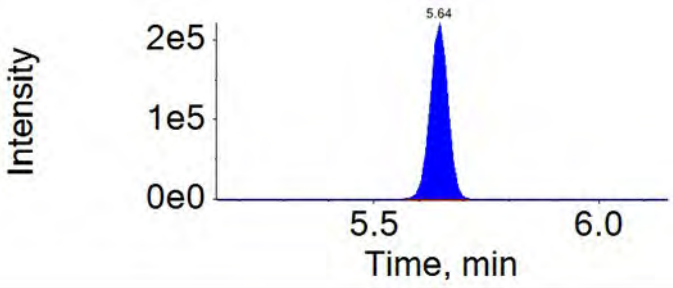
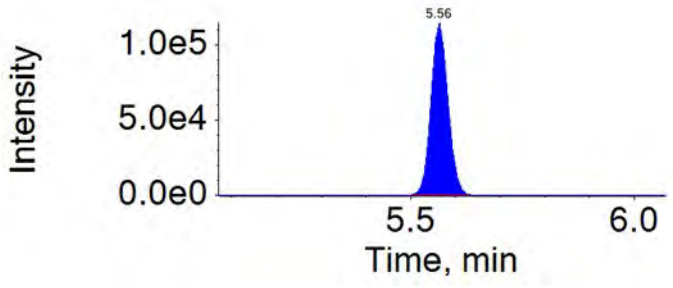
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

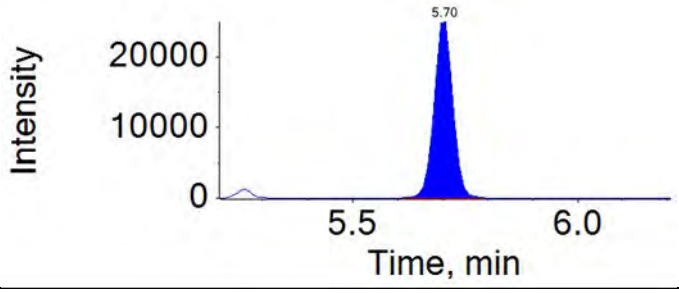
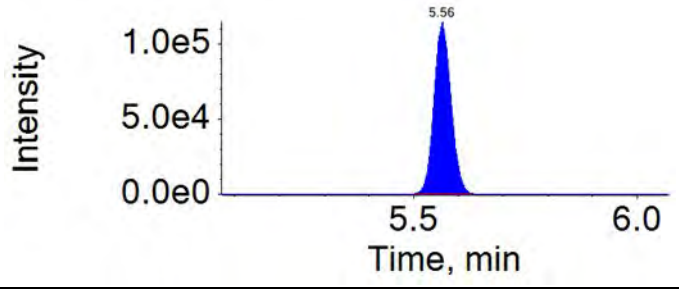




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
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|  |  |

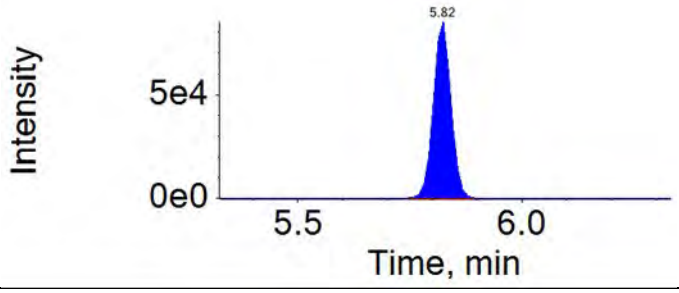
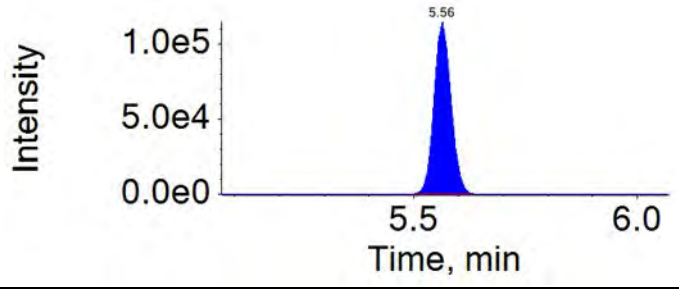




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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



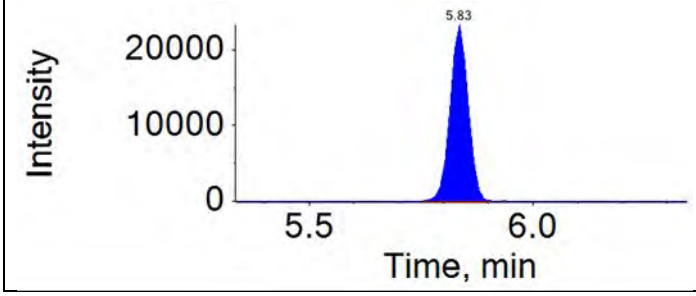
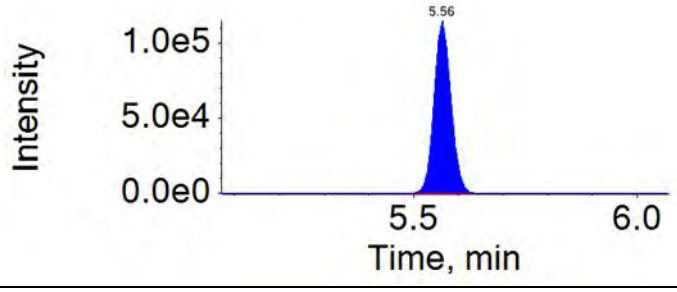


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*By MCD at 6:33 pm, 11/12/18*



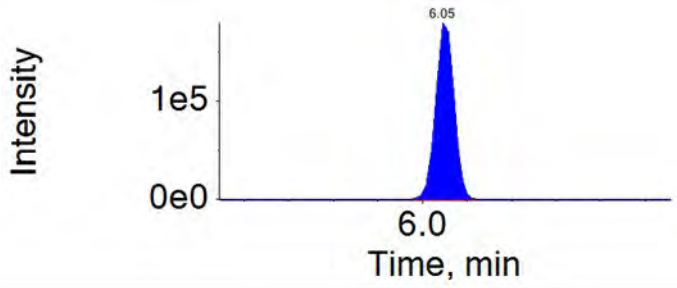
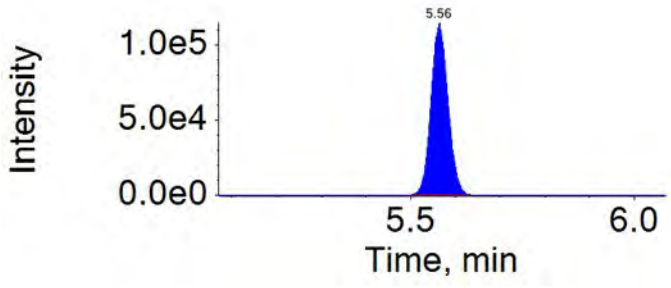
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

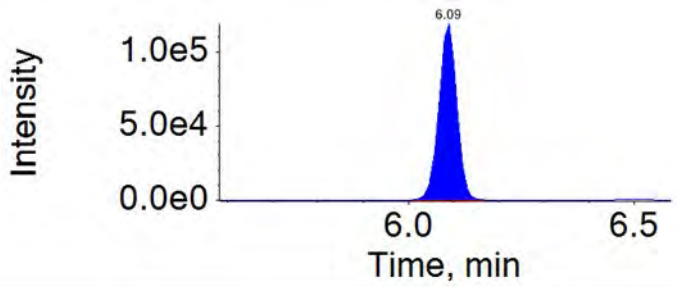
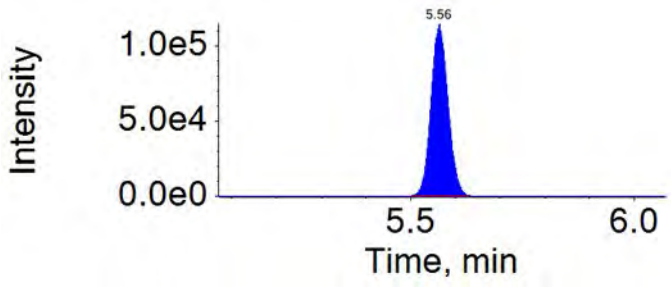




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

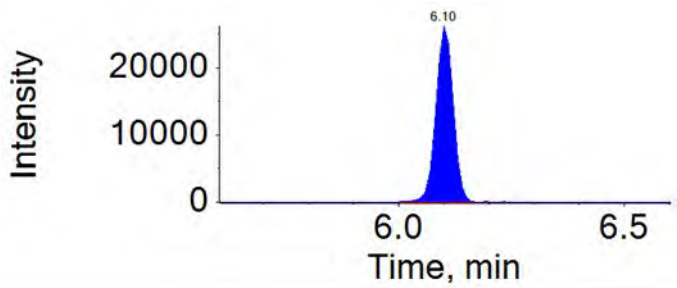
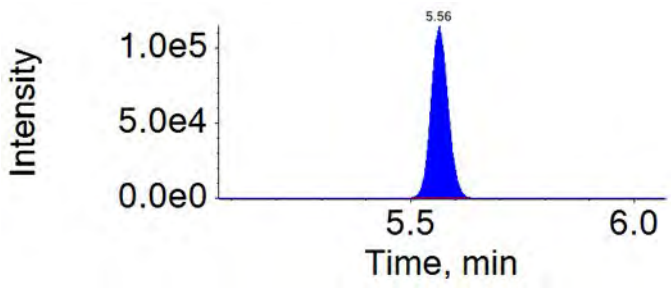




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





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





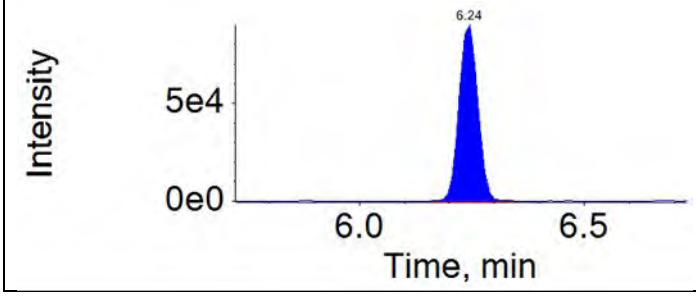
APPROVED
*By MCD at 6:33 pm, 11/12/18*

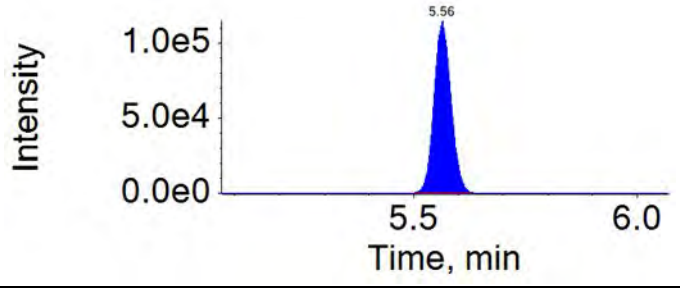


REVIEWED
*By HMK at 10:53 am, 11/13/18*

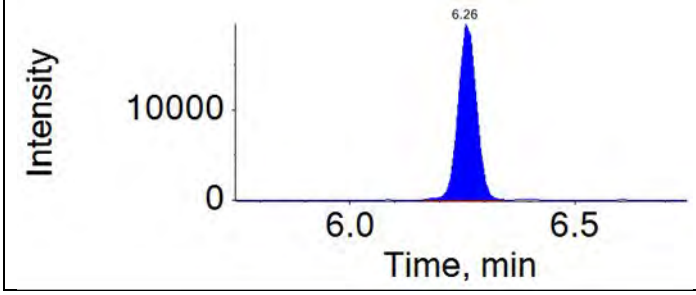
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

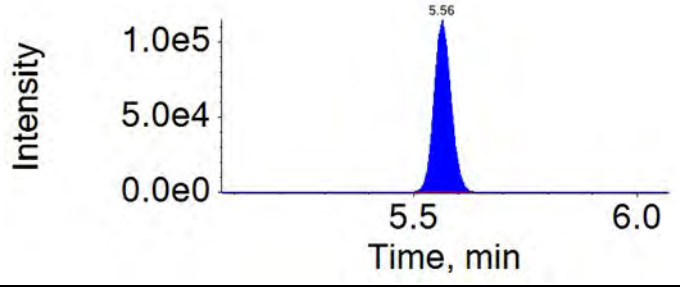
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



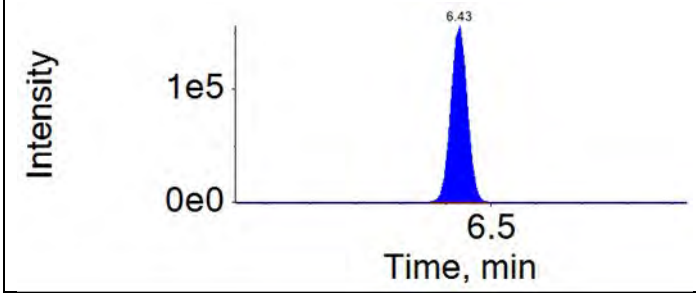



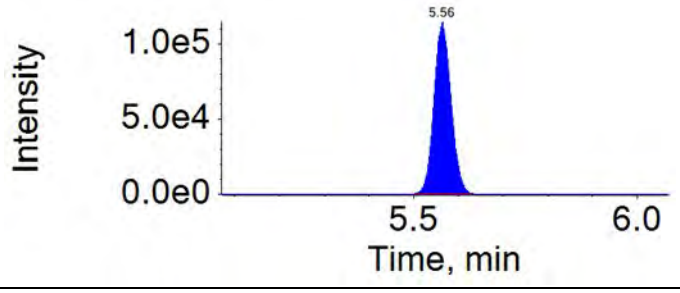

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



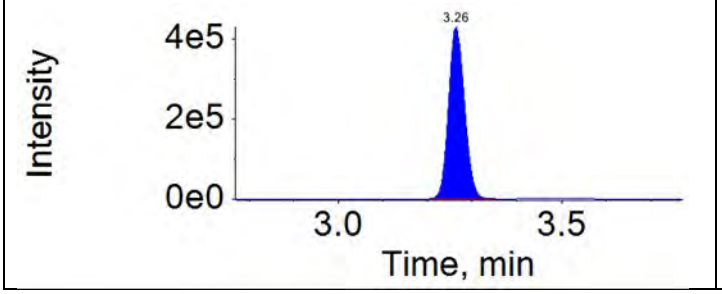

APPROVED
*By MCD at 6:33 pm, 11/12/18*

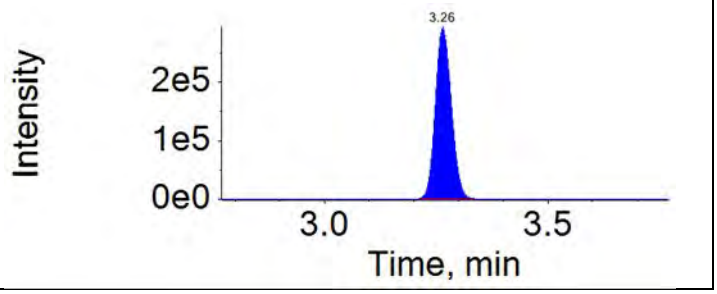


REVIEWED
*By HMK at 10:53 am, 11/13/18*

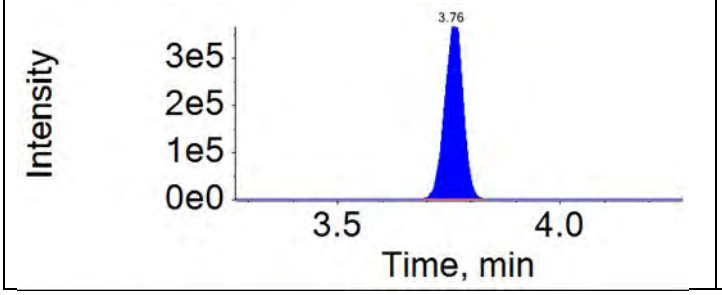
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

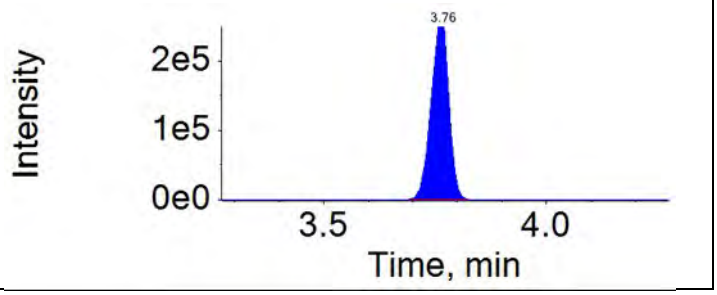
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



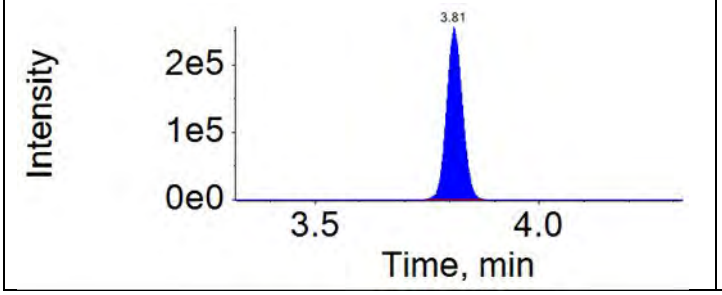



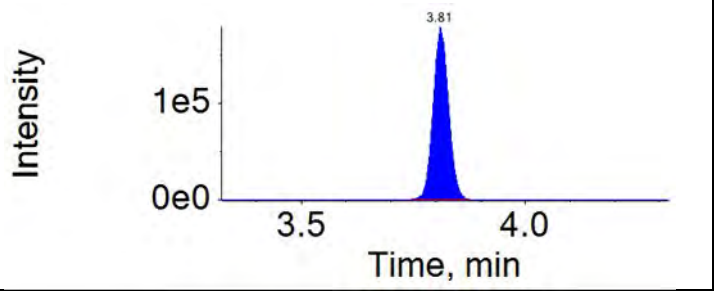

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



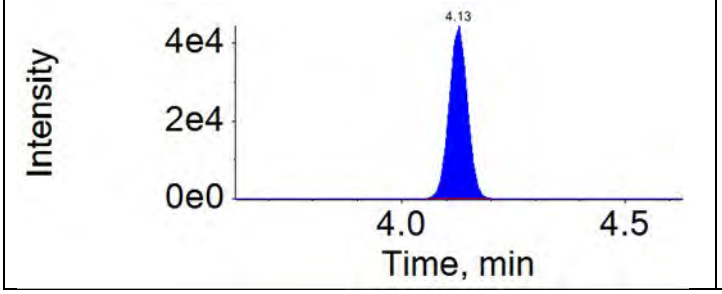



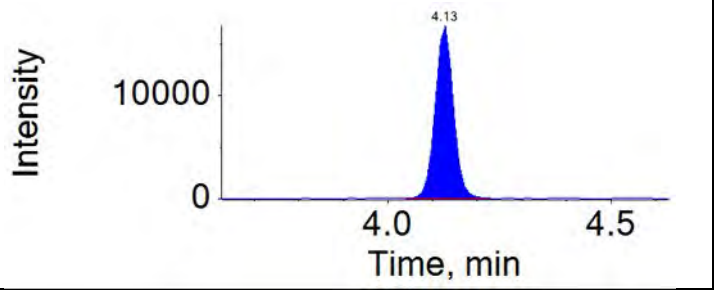

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



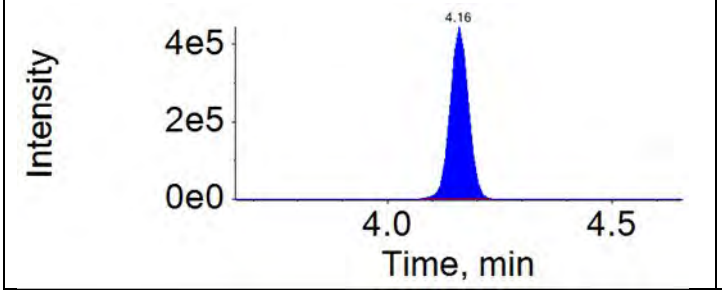

APPROVED
*By MCD at 6:33 pm, 11/12/18*

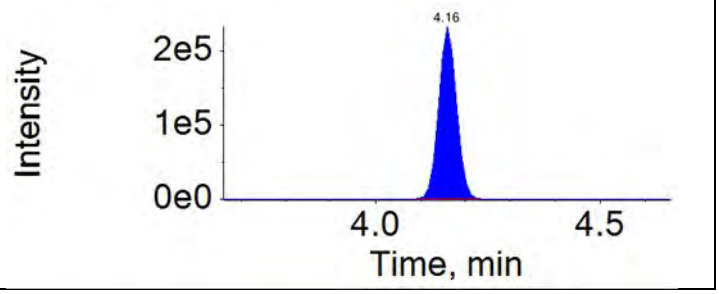


REVIEWED
*By HMK at 10:53 am, 11/13/18*

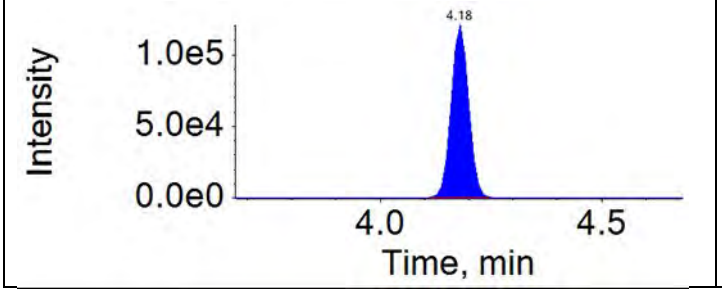
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

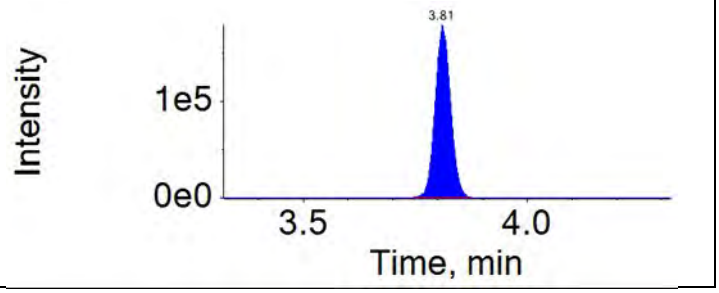
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



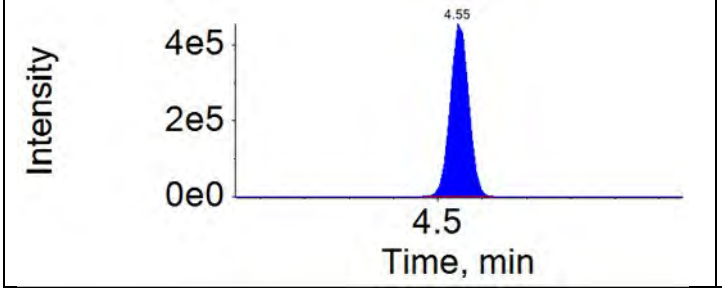



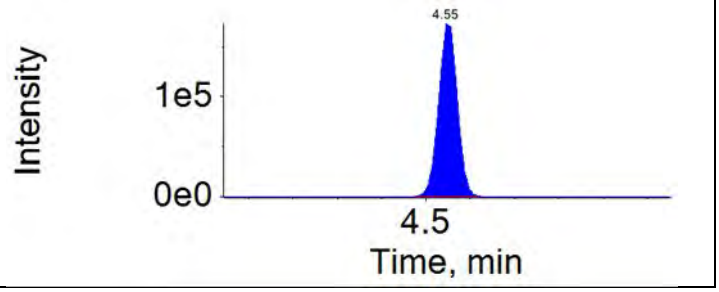

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



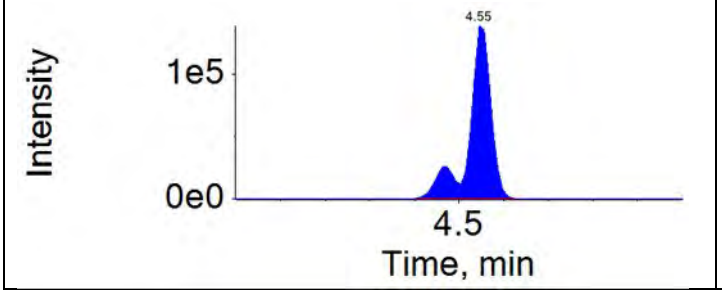



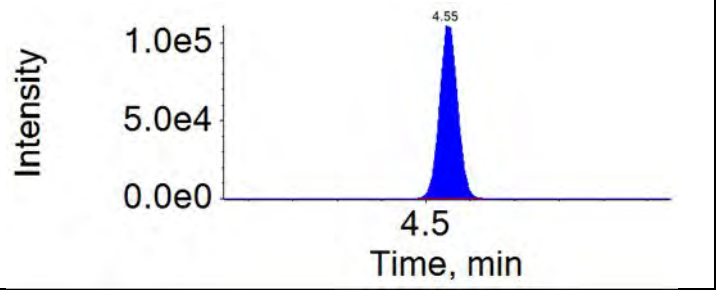

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



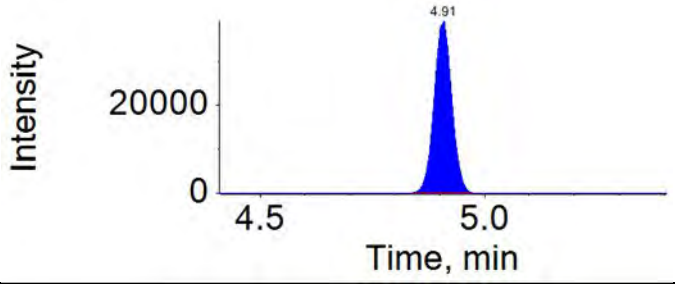
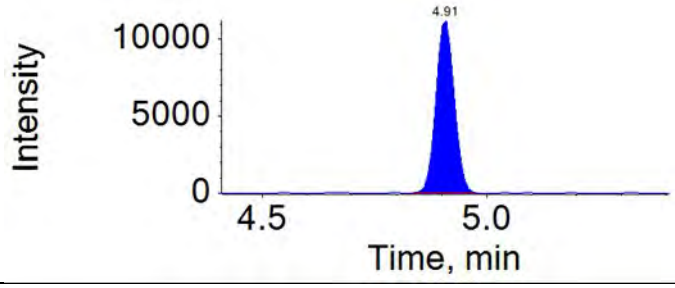




APPROVED
*By MCD at 6:33 pm, 11/12/18*



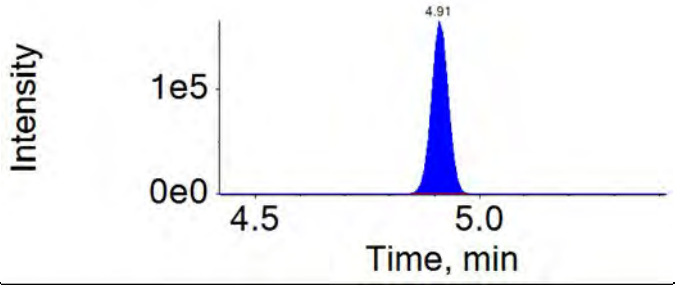
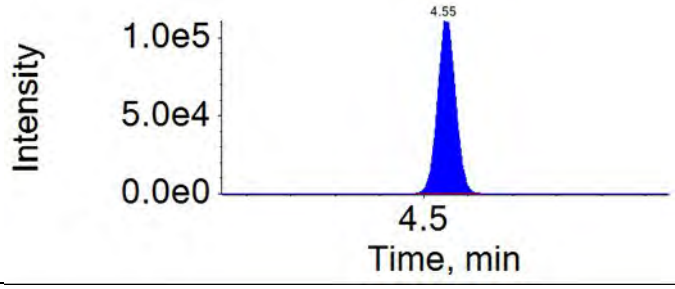
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |
|  |  |

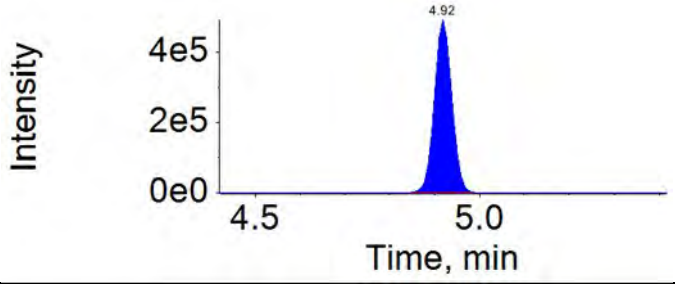
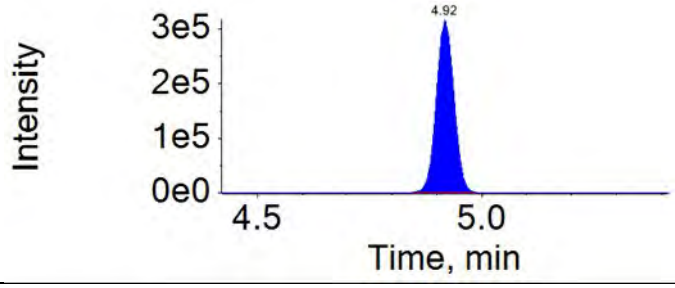




| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |
|  |  |

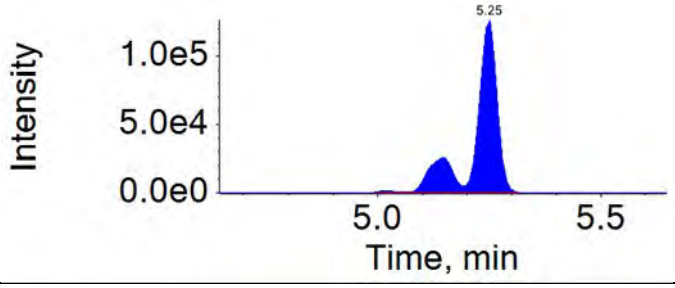
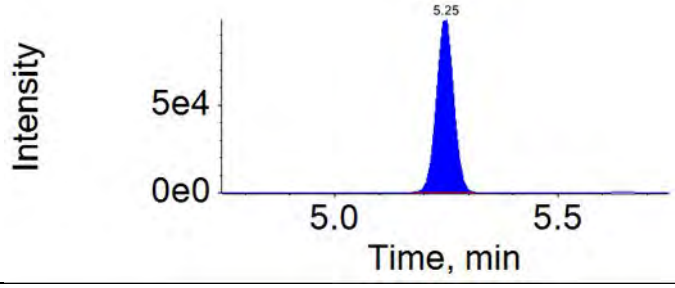




| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |
|  |  |





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





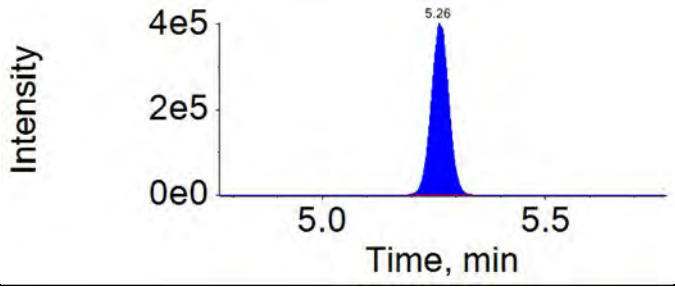
APPROVED
*By MCD at 6:33 pm, 11/12/18*

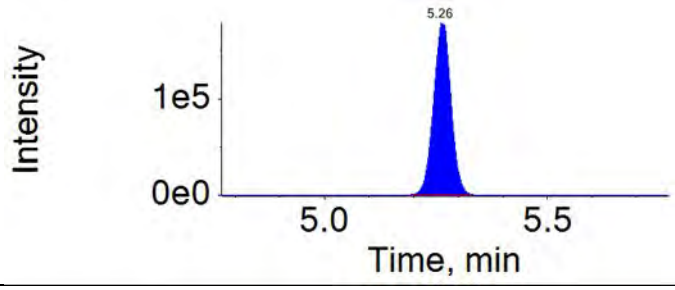


REVIEWED
*By HMK at 10:53 am, 11/13/18*

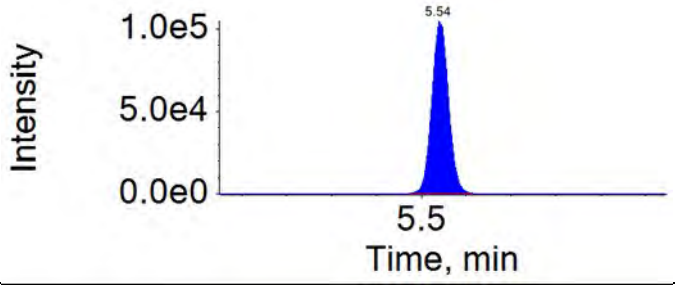
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

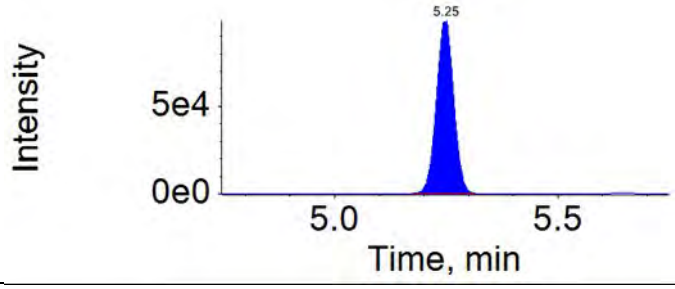
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



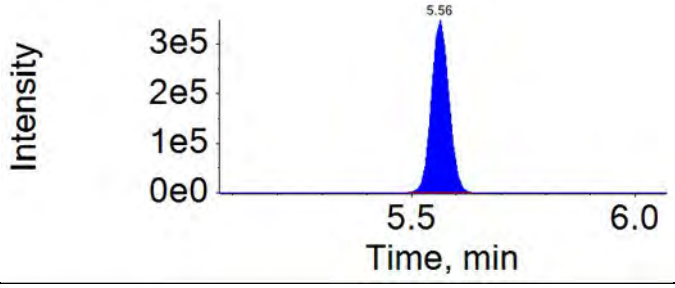



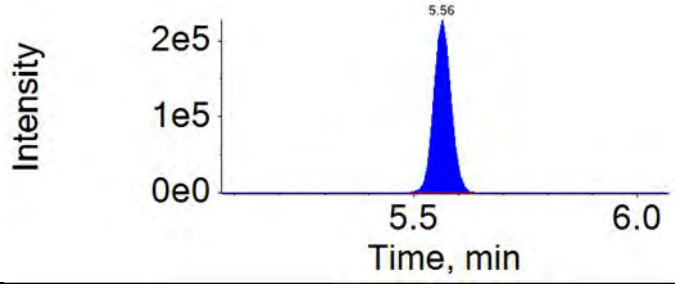

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



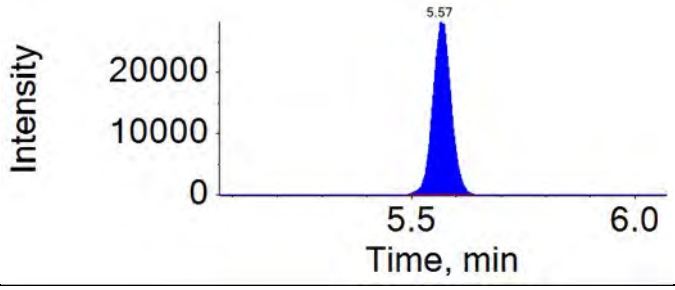



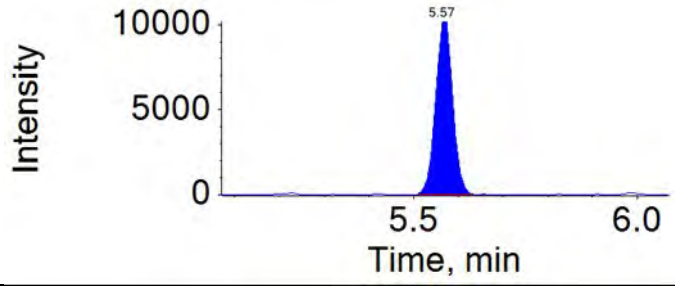

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



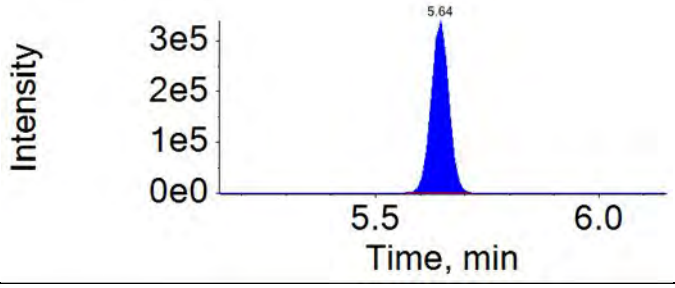
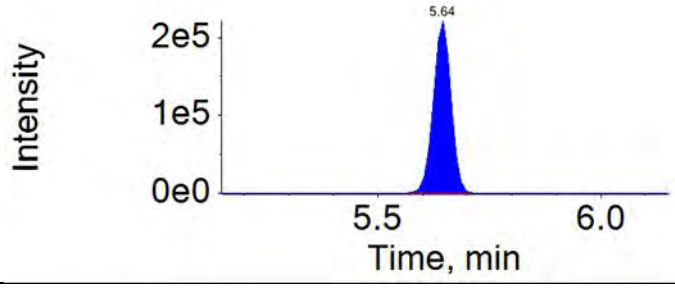




APPROVED
*By MCD at 6:33 pm, 11/12/18*



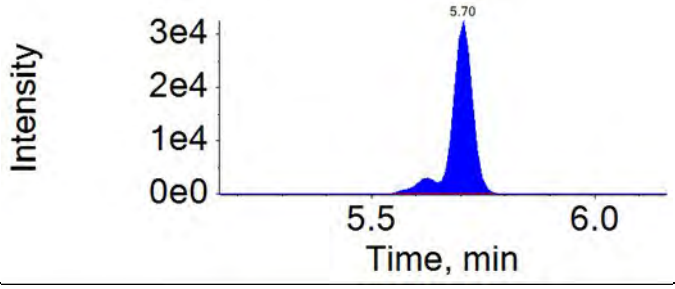
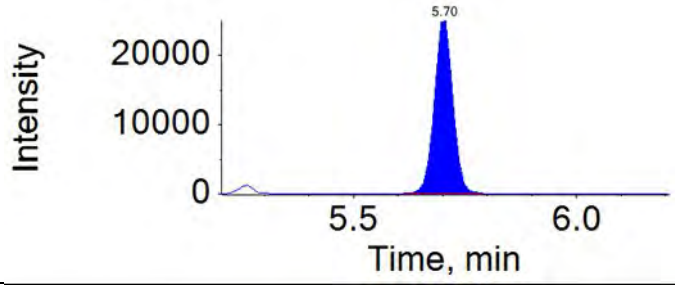
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |
|  |  |

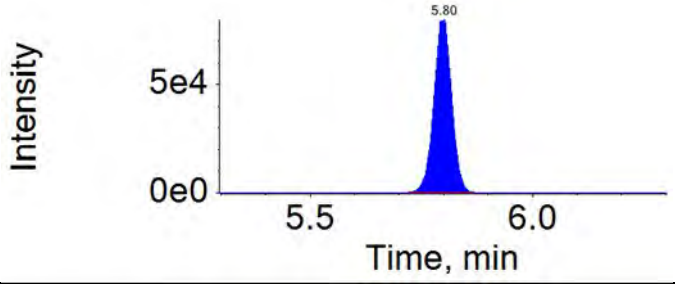
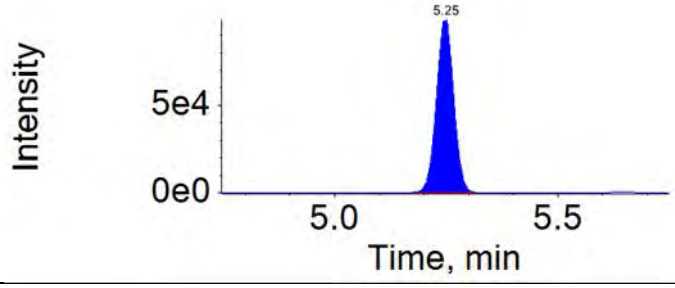




| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |
|  |  |

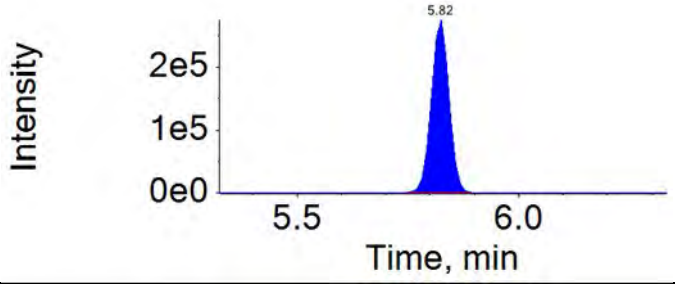
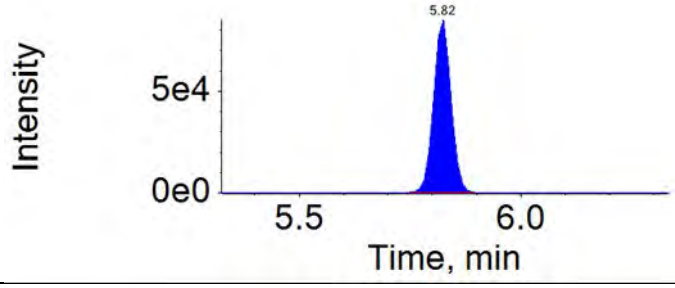




| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |
|  |  |





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





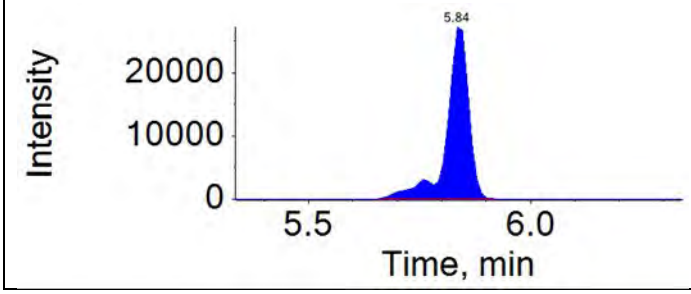
APPROVED
*By MCD at 6:33 pm, 11/12/18*

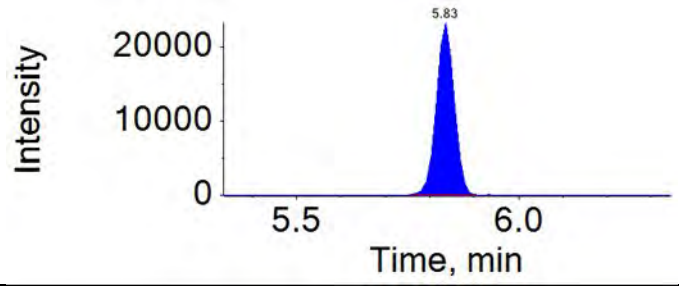


REVIEWED
*By HMK at 10:53 am, 11/13/18*

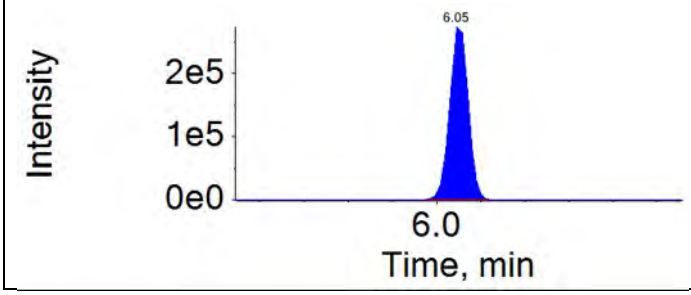
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

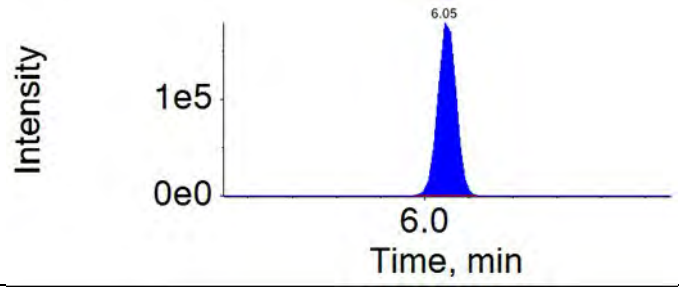
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



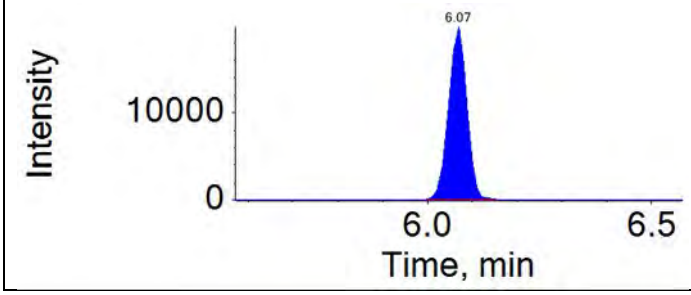



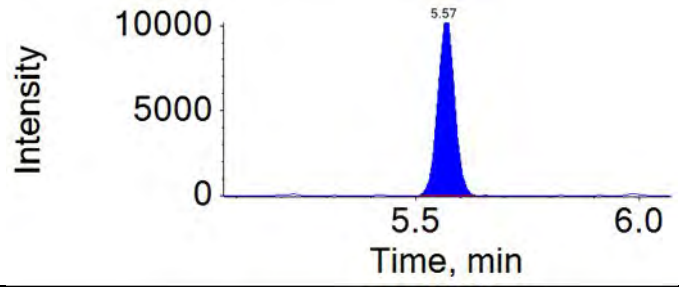

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



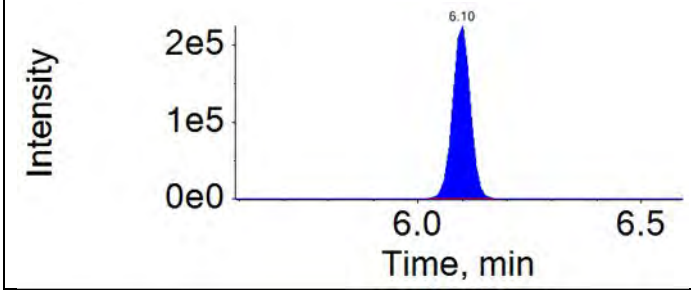



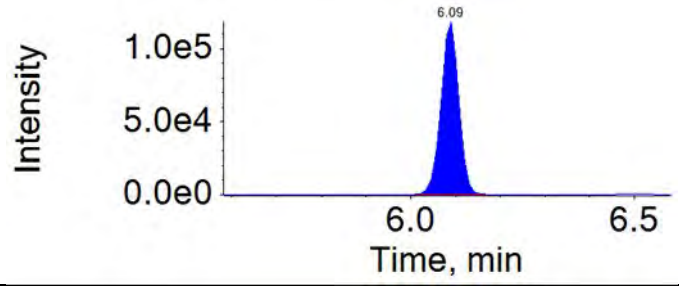

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



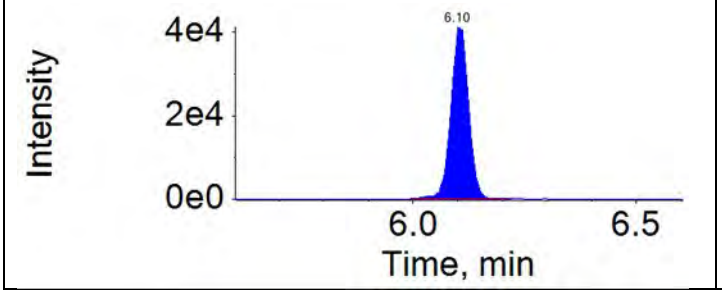

APPROVED
*By MCD at 6:33 pm, 11/12/18*

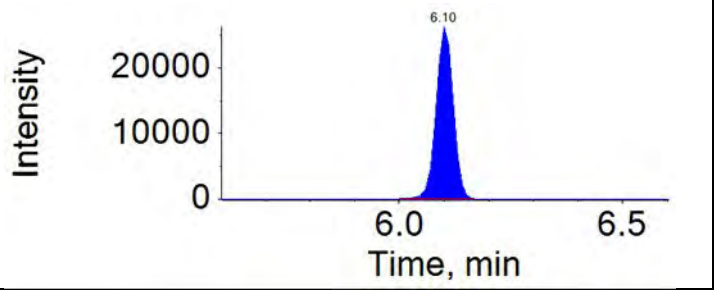


REVIEWED
*By HMK at 10:53 am, 11/13/18*

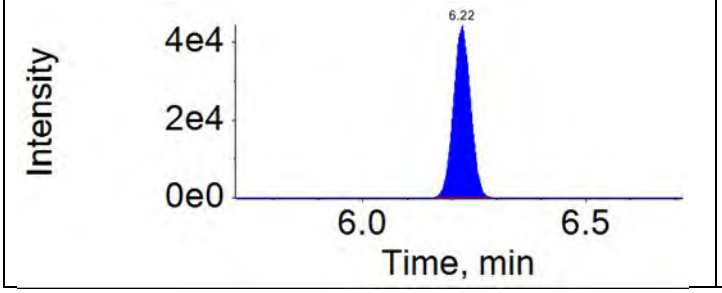
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

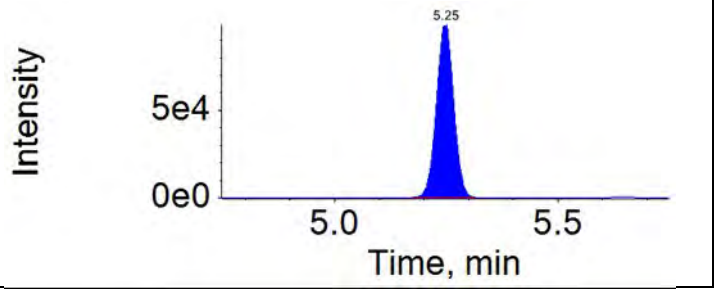
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



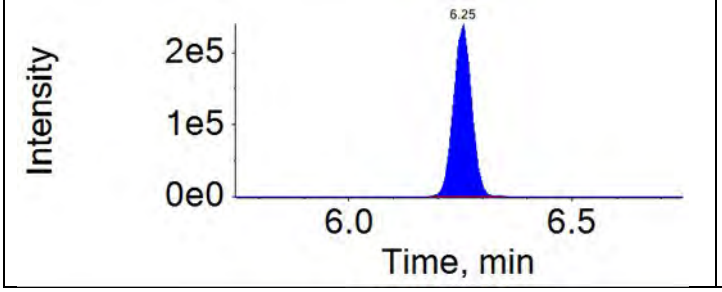



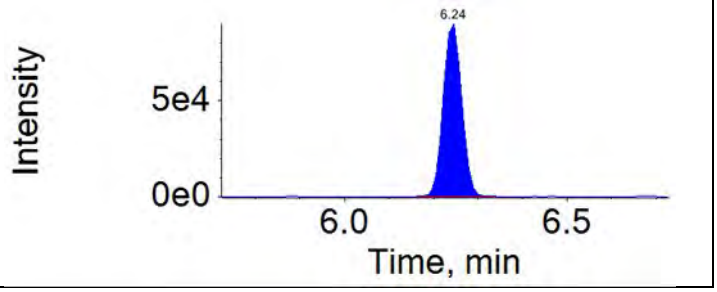

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



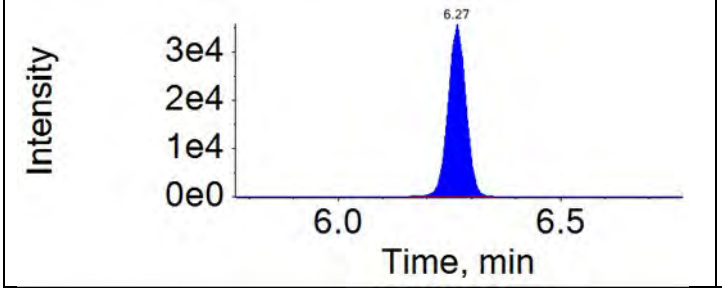



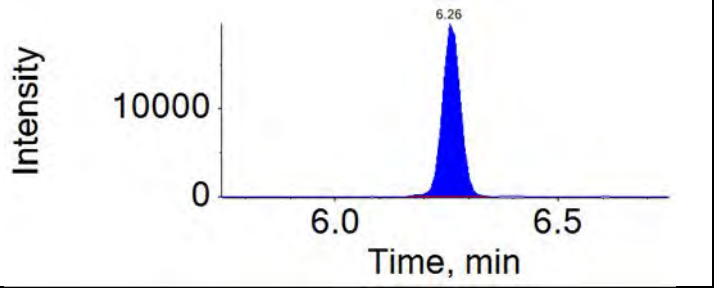

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



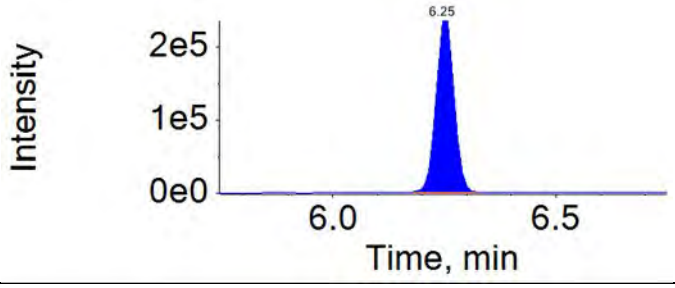
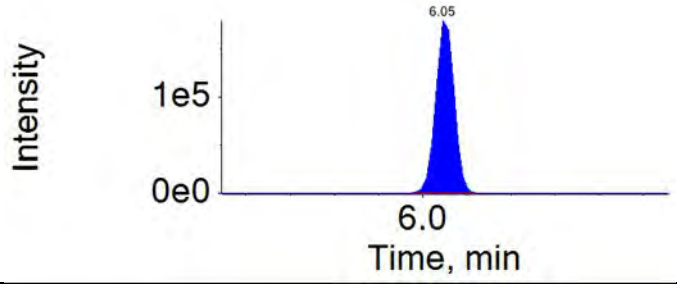




APPROVED
*By MCD at 6:33 pm, 11/12/18*



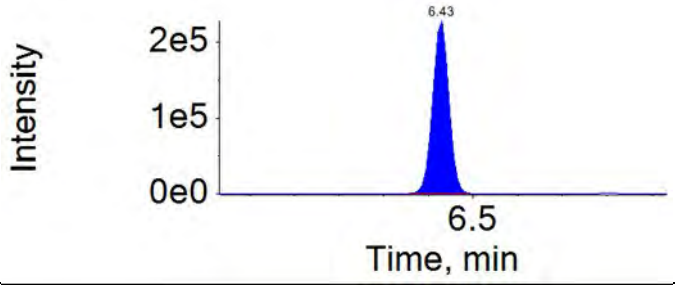
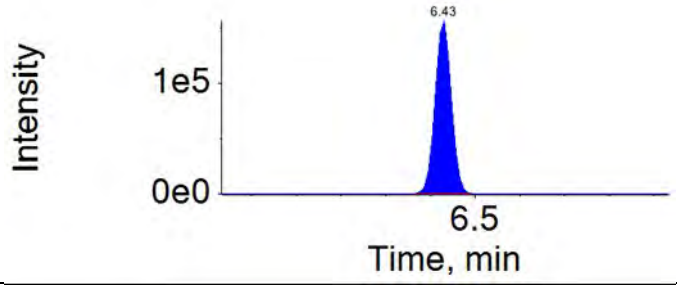
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

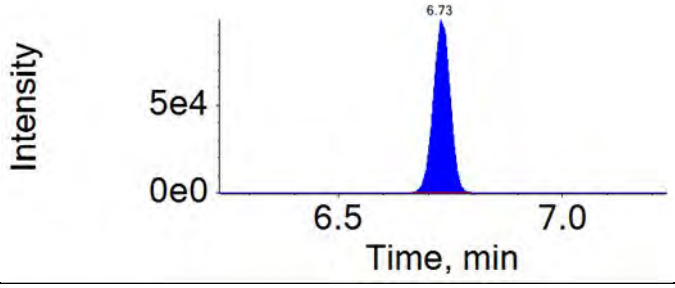
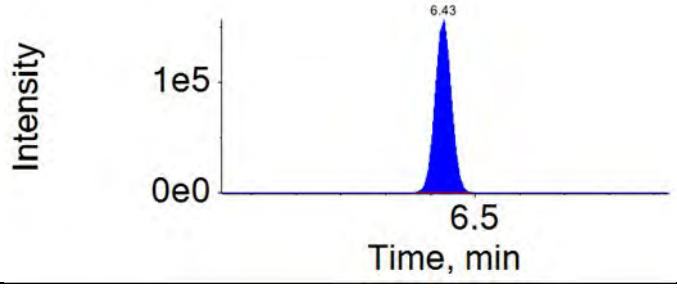




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

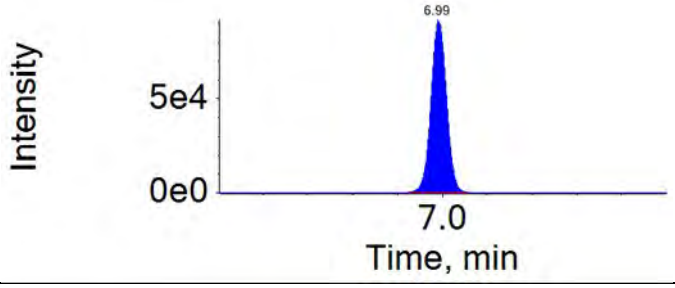
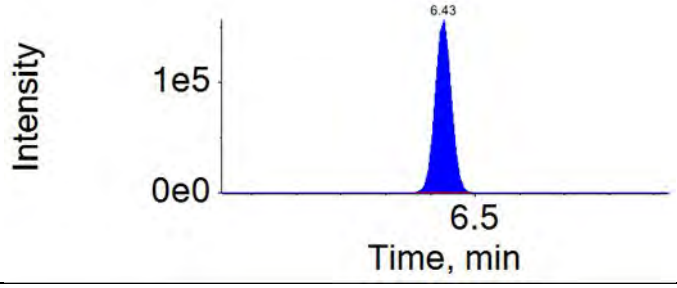




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





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





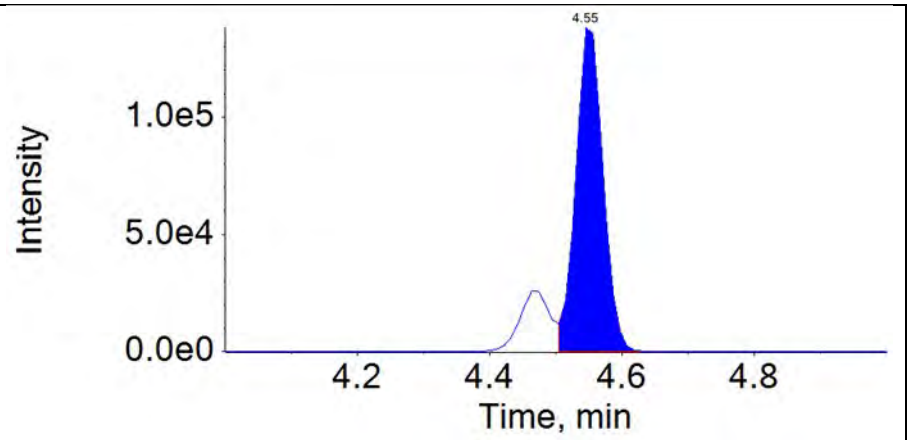
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

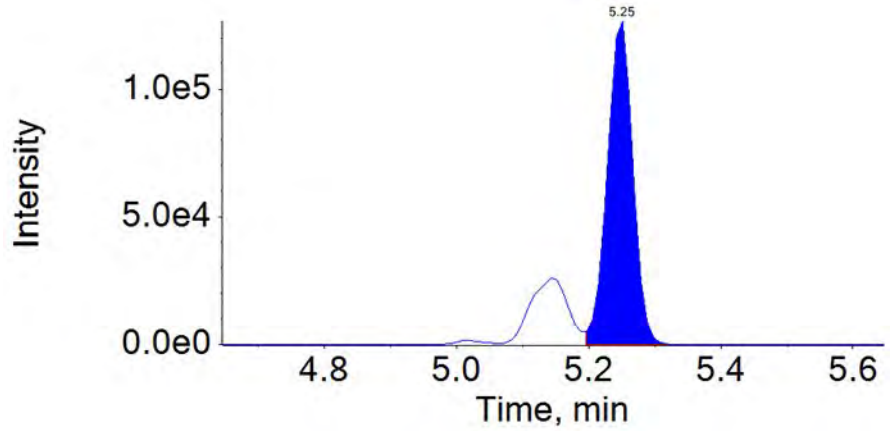
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS
**RT (min.):**
4.55
**Peak Area:**
397028.39
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV12DCAL-45.wiff
**Sample Name:**
CAL4



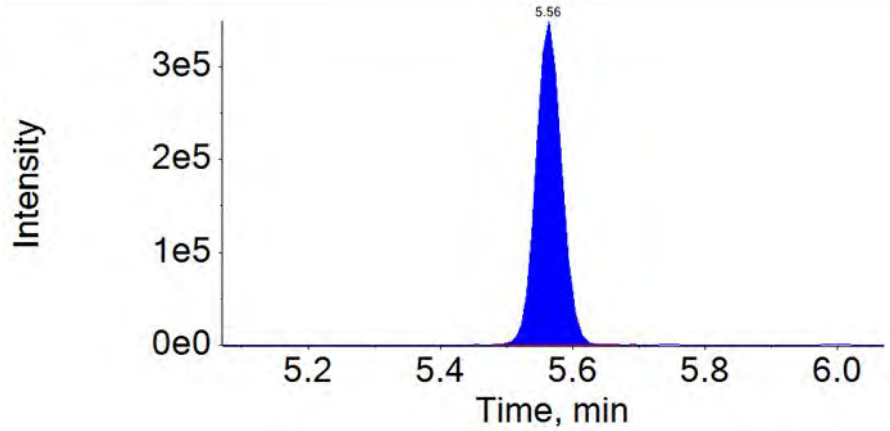

**Integration Comment:** incorrect integration

**Component Name:**
PFOS
**RT (min.):**
5.25
**Peak Area:**
340529.09
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-45.wiff
**Sample Name:**
CAL4




**Integration Comment:** incorrect integration

**Component Name:**
PFDA
**RT (min.):**
5.56
**Peak Area:**
942897.11
**Mass Range:**
513.0 / 469.0
**File Name:**
18NOV12DCAL-45.wiff
**Sample Name:**
CAL4



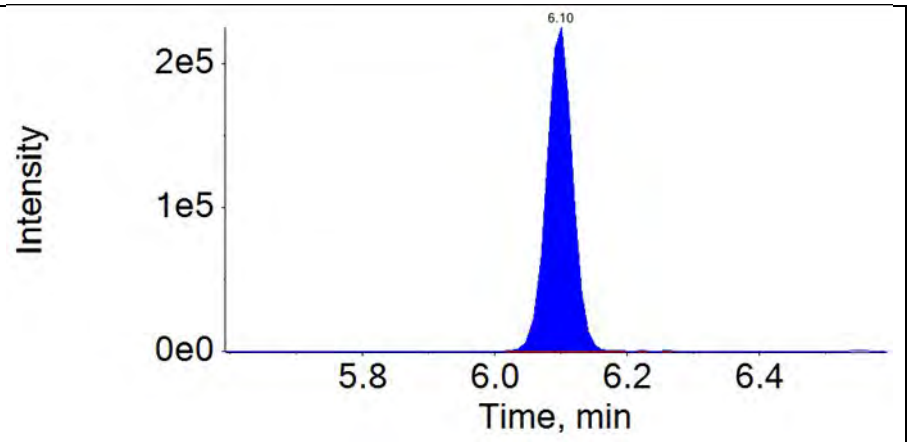

**Integration Comment:** incorrect integration

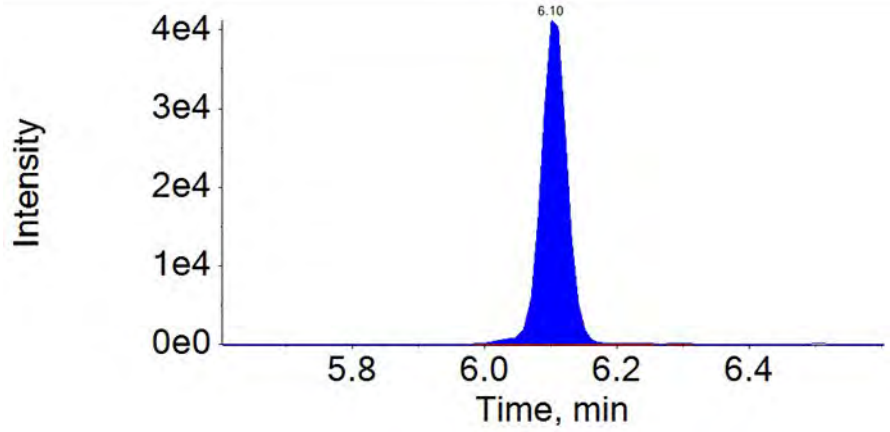
APPROVED
*By MCD at 6:33 pm, 11/12/18*

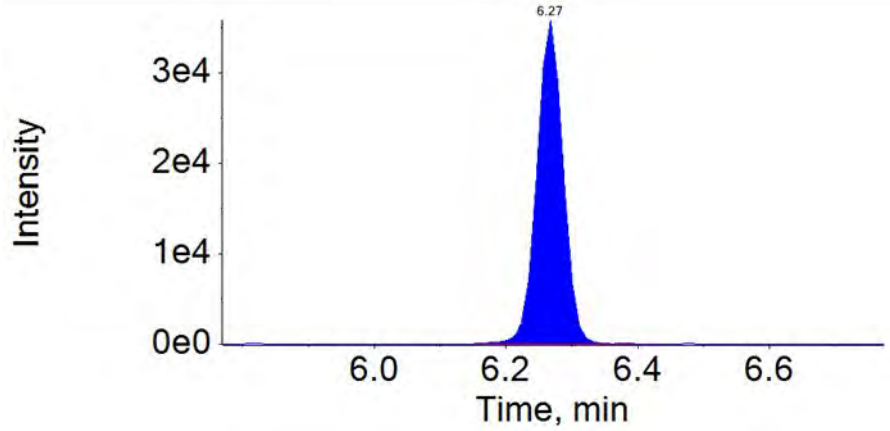


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** NMePFOSAE<br>**RT (min.):** 6.10<br>**Peak Area:** 620009.05<br>**Mass Range:** 616.0 / 59.0<br>**File Name:** 18NOV12DCAL-45.wiff<br>**Sample Name:** CAL4 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NMePFOSA<br>**RT (min.):** 6.10<br>**Peak Area:** 115018.95<br>**Mass Range:** 512.0 / 169.0<br>**File Name:** 18NOV12DCAL-45.wiff<br>**Sample Name:** CAL4 | <br>**Integration Comment:** incorrect integration |

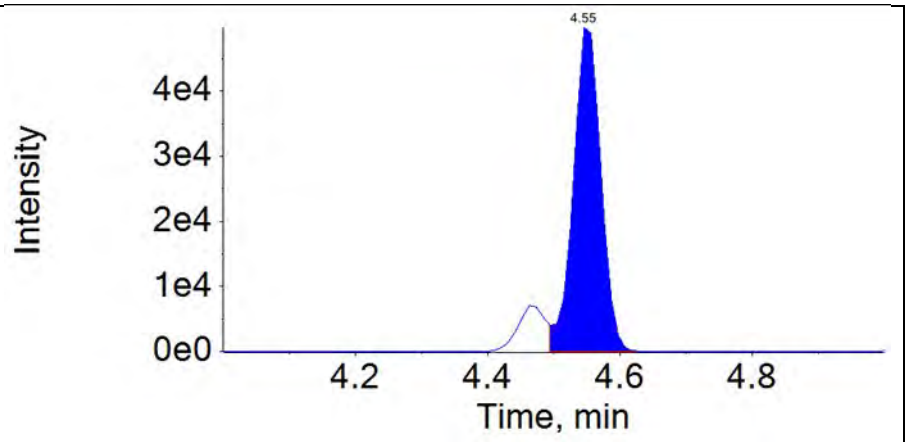
| | |
|---|---|
| **Component Name:** NEtPFOSA<br>**RT (min.):** 6.27<br>**Peak Area:** 99550.21<br>**Mass Range:** 526.0 / 169.0<br>**File Name:** 18NOV12DCAL-45.wiff<br>**Sample Name:** CAL4 | <br>**Integration Comment:** incorrect integration |

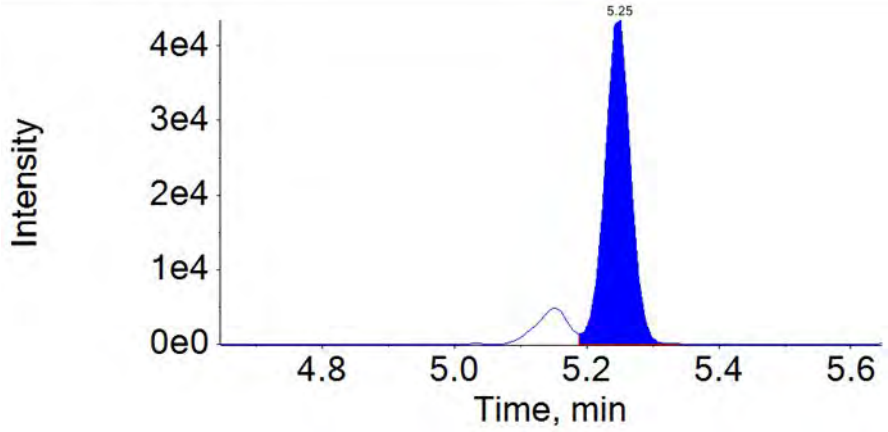
APPROVED
*By MCD at 6:33 pm, 11/12/18*

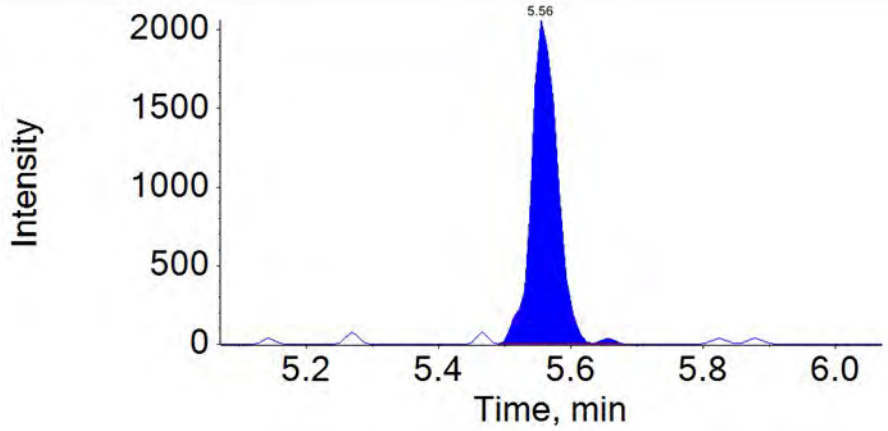


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFHxS_2<br>**RT (min.):** 4.55<br>**Peak Area:** 144906.99<br>**Mass Range:** 399.0 / 99.0<br>**File Name:** 18NOV12DCAL-45.wiff<br>**Sample Name:** CAL4 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.25<br>**Peak Area:** 119086.74<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV12DCAL-45.wiff<br>**Sample Name:** CAL4 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFDA_2<br>**RT (min.):** 5.56<br>**Peak Area:** 5673.40<br>**Mass Range:** 513.0 / 169.0<br>**File Name:** 18NOV12DCAL-45.wiff<br>**Sample Name:** CAL4 | <br>**Integration Comment:** incorrect integration |

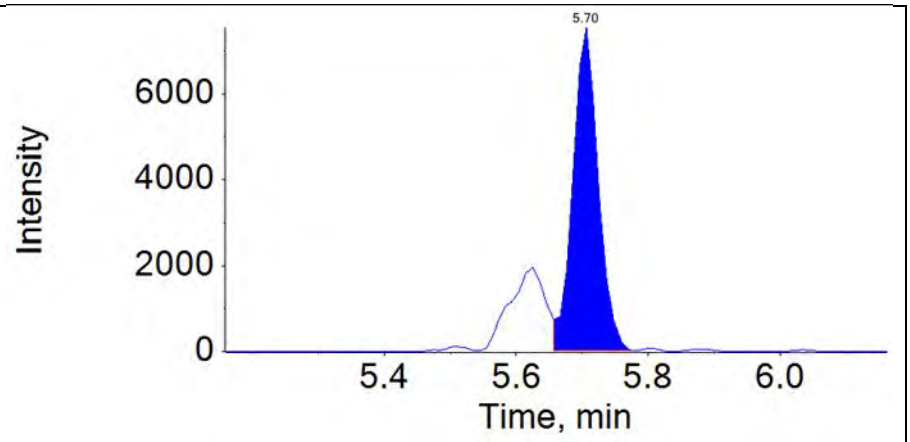
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

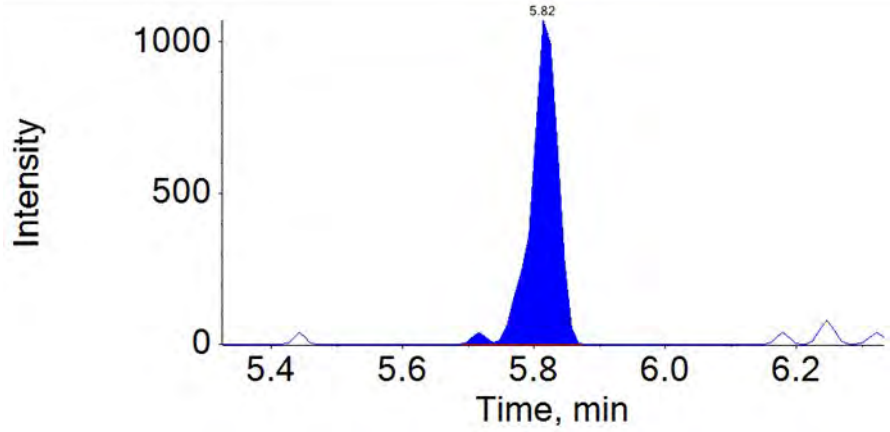
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NMeFOSAA_2
**RT (min.):**
5.70
**Peak Area:**
20115.54
**Mass Range:**
570.0 / 483.0
**File Name:**
18NOV12DCAL-45.wiff
**Sample Name:**
CAL4



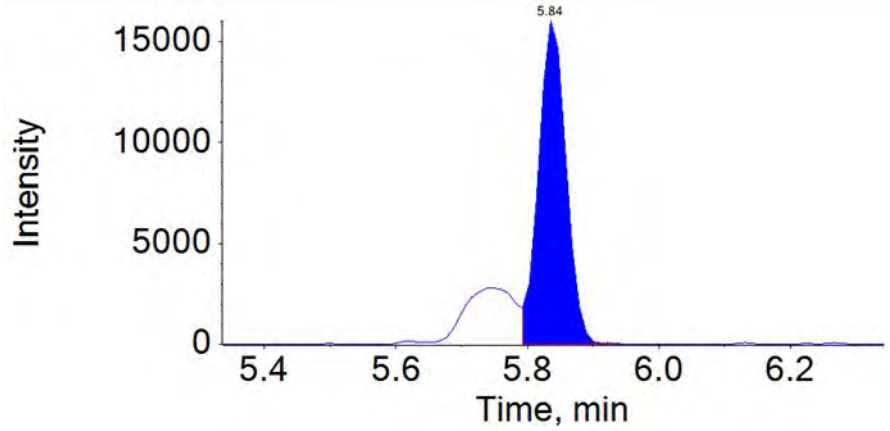

**Integration Comment:** incorrect integration

**Component Name:**
PFUnDA_2
**RT (min.):**
5.82
**Peak Area:**
3055.95
**Mass Range:**
563.0 / 169.0
**File Name:**
18NOV12DCAL-45.wiff
**Sample Name:**
CAL4




**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA_2
**RT (min.):**
5.84
**Peak Area:**
46742.13
**Mass Range:**
584.0 / 526.0
**File Name:**
18NOV12DCAL-45.wiff
**Sample Name:**
CAL4




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

## Ion Ratio Report

**Sample Name:** CAL4 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-45.wiff

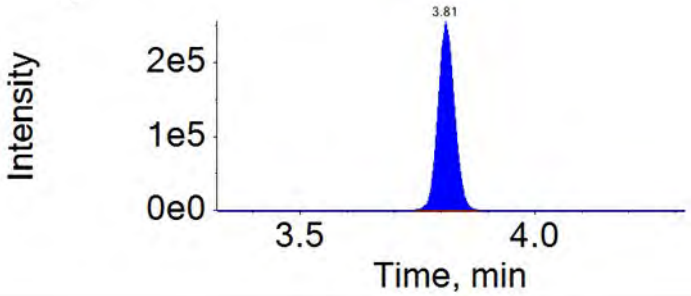
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 617045.58 | A | 0.3619 | 0.3710 | | | |
| PFBS_2 | 3.81 | 1.00 | 228894.51 | A | 0.3619 | 0.3710 | 3 | 50 | |
| 4:2-FTS | 4.13 | 1.00 | 126396.51 | A | 0.6730 | 0.6813 | | | |
| 4:2 FTS_2 | 4.12 | 1.00 | 86110.06 | A | 0.6730 | 0.6813 | | #NA! | |
| PFHxA | 4.16 | 1.00 | 1265231.12 | A | 0.0117 | 0.0101 | | | |
| PFHxA_2 | 4.16 | 1.00 | 12793.78 | A | 0.0117 | 0.0101 | -13 | 50 | |
| PFPeS | 4.18 | 1.10 | 328681.66 | A | 0.5191 | 0.5078 | | | |
| PFPeS_2 | 4.18 | 1.10 | 166890.99 | A | 0.5191 | 0.5078 | -2 | 50 | |
| PFHpA | 4.55 | 1.00 | 1318774.50 | A | 0.0563 | 0.0555 | | | |
| PFHpA_2 | 4.55 | 1.00 | 73135.24 | A | 0.0563 | 0.0555 | -2 | 50 | |
| PFHxS | 4.55 | 1.00 | 479290.97 | M | 0.3428 | 0.3441 | | | |
| PFHxS_2 | 4.55 | 1.00 | 164902.13 | M | 0.3428 | 0.3441 | 0 | 50 | |
| 6:2-FTS | 4.91 | 1.00 | 107470.62 | A | 0.6604 | 0.6264 | | | |
| 6:2 FTS_2 | 4.91 | 1.00 | 67319.96 | A | 0.6604 | 0.6264 | | #NA! | |
| PFHpS | 4.91 | 1.08 | 434949.18 | A | 0.4066 | 0.4089 | | | |
| PFHpS_2 | 4.91 | 1.08 | 177851.23 | A | 0.4066 | 0.4089 | 1 | 50 | |
| PFOA | 4.92 | 1.00 | 1327086.09 | A | 0.0562 | 0.0557 | | | |
| PFOA_2 | 4.92 | 1.00 | 73867.47 | A | 0.0562 | 0.0557 | -1 | 50 | |
| PFOS | 5.25 | 1.00 | 448833.83 | M | 0.2968 | 0.3022 | | | |
| PFOS_2 | 5.25 | 1.00 | 135652.81 | M | 0.2968 | 0.3022 | 2 | 50 | |
| PFNA | 5.26 | 1.00 | 1106664.23 | A | 0.0229 | 0.0210 | | | |
| PFNA_2 | 5.26 | 1.00 | 23205.90 | A | 0.0229 | 0.0210 | -8 | 50 | |
| PFNS | 5.54 | 1.06 | 269712.27 | A | 0.4828 | 0.4818 | | | |
| PFNS_2 | 5.54 | 1.06 | 129941.05 | A | 0.4828 | 0.4818 | 0 | 50 | |
| PFDA | 5.56 | 1.00 | 941985.31 | M | 0.0081 | 0.0060 | | | |
| PFDA_2 | 5.56 | 1.00 | 5626.45 | M | 0.0081 | 0.0060 | -26 | 50 | |
| 8:2-FTS | 5.57 | 1.00 | 80922.57 | A | 0.6814 | 0.6947 | | | |
| 8:2 FTS_2 | 5.57 | 1.00 | 56219.65 | A | 0.6814 | 0.6947 | | #NA! | |
| NMeFOSAA | 5.70 | 1.00 | 103649.07 | A | 0.2569 | 0.2651 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 27472.86 | M | 0.2569 | 0.2651 | 3 | 50 | |
| PFDS | 5.80 | 1.11 | 224031.22 | A | 0.5144 | 0.4482 | | | |
| PFDS_2 | 5.80 | 1.10 | 100404.30 | A | 0.5144 | 0.4482 | -13 | 50 | |
| PFUnDA | 5.82 | 1.00 | 768010.80 | A | 0.0058 | 0.0039 | | | |
| PFUnDA_2 | 5.82 | 1.00 | 2997.45 | M | 0.0058 | 0.0039 | -33 | 50 | |
| NEtFOSAA | 5.84 | 1.00 | 94877.84 | A | 0.7253 | 0.6488 | | | |
| NEtFOSAA_2 | 5.84 | 1.00 | 61554.78 | M | 0.7253 | 0.6488 | -11 | 50 | |
| PFDoDA | 6.05 | 1.00 | 803646.84 | A | 0.0157 | 0.0099 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 7981.38 | A | 0.0157 | 0.0099 | -37 | 50 | |
| 10:2-FTS | 6.07 | 1.09 | 56040.80 | A | 0.6356 | 0.7371 | | | |
| 10:2 FTS_2 | 6.07 | 1.09 | 41308.18 | A | 0.6356 | 0.7371 | | #NA! | |
| PFTrDA | 6.25 | 1.03 | 674140.32 | A | 0.0086 | 0.0101 | | | |
| PFTrDA_2 | 6.25 | 1.03 | 6830.51 | A | 0.0086 | 0.0101 | 18 | 50 | |
| PFTeDA | 6.43 | 1.00 | 571926.74 | A | 0.0062 | 0.0068 | | | |
| PFTeDA_2 | 6.43 | 1.00 | 3881.08 | A | 0.0062 | 0.0068 | 9 | 50 | |
| PFHxDA | 6.73 | 1.05 | 256654.28 | A | 0.0683 | 0.0616 | | | |
| PFHxDA_2 | 6.73 | 1.05 | 15804.20 | A | 0.0683 | 0.0616 | -10 | 50 | |
| PFODA | 6.99 | 1.09 | 219359.64 | A | 0.0277 | 0.0258 | | | |
| PFODA_2 | 6.99 | 1.09 | 5669.48 | A | 0.0277 | 0.0258 | -7 | 50 | |

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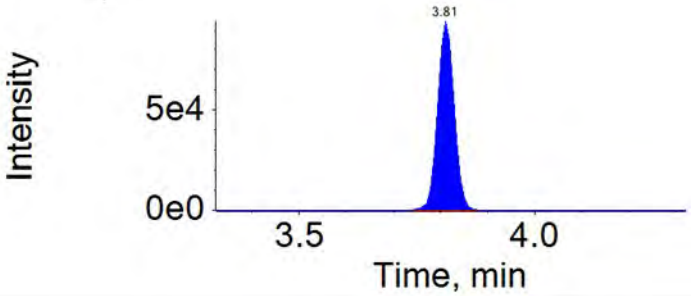


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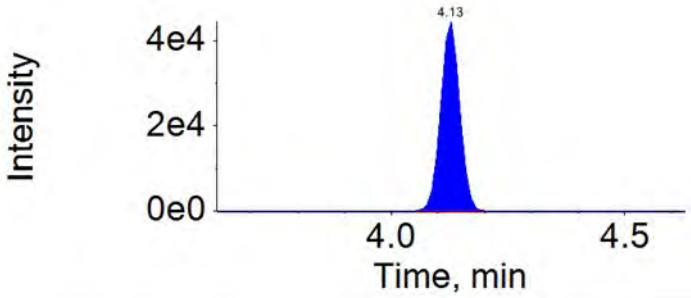
Component: PFBS
Primary Mass: 299.0 / 80.0



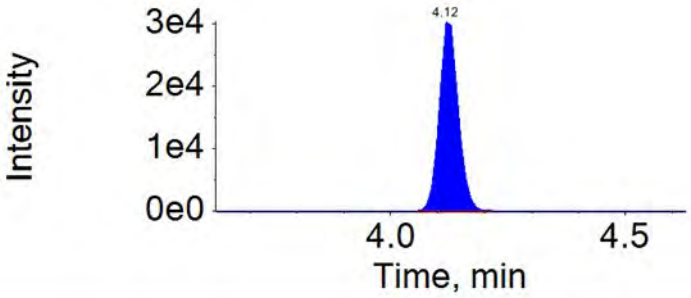

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



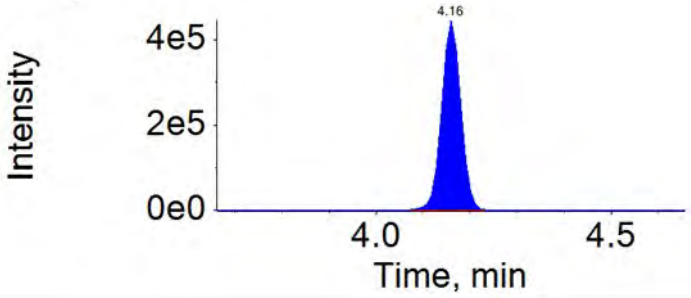

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



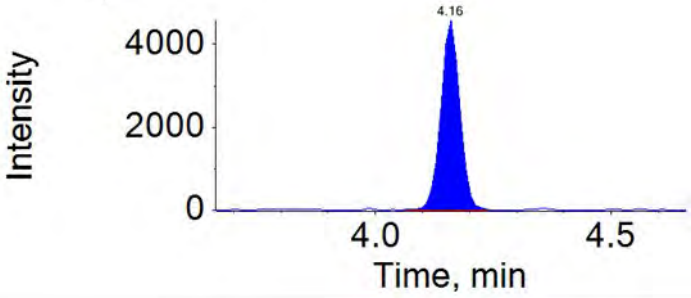

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



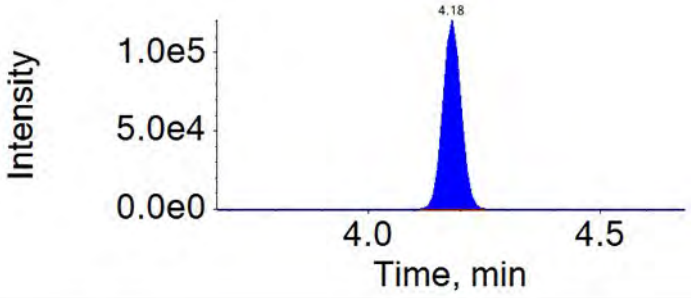

Component: PFHxA
Primary Mass: 313.0 / 269.0



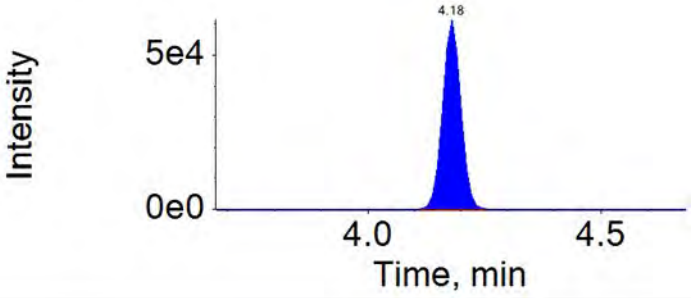

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

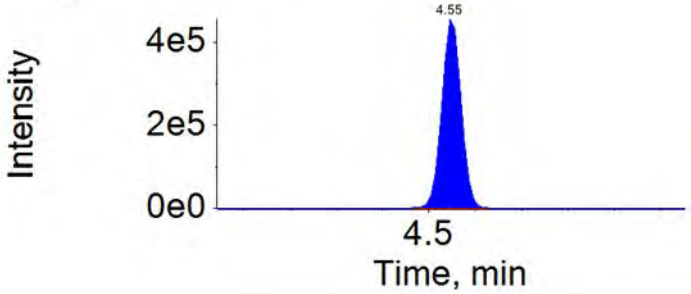



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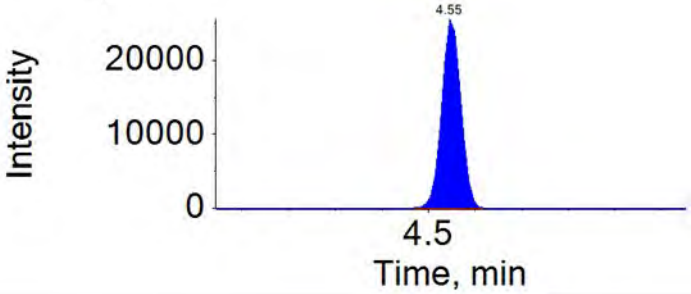


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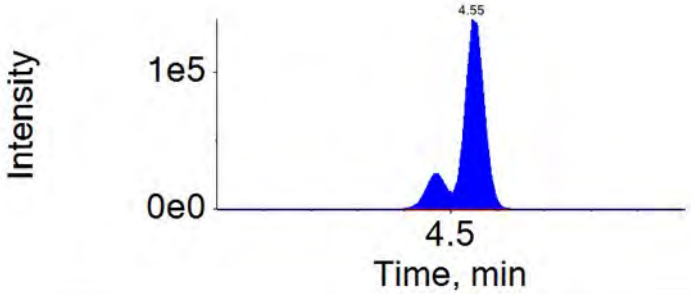
Component: PFHpA
Primary Mass: 363.0 / 319.0



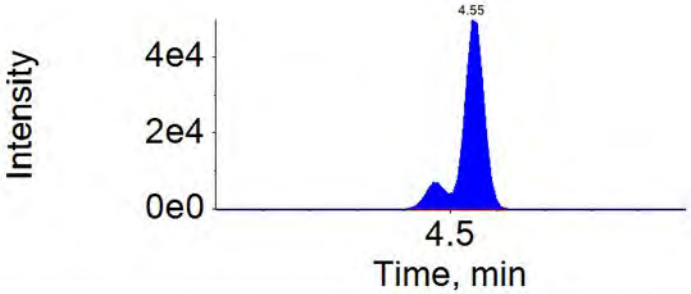

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



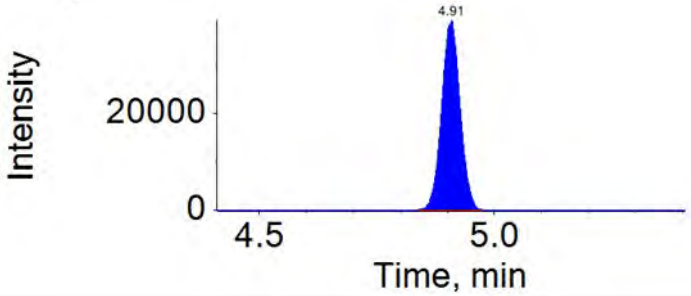

Component: PFHxS
Primary Mass: 399.0 / 80.0



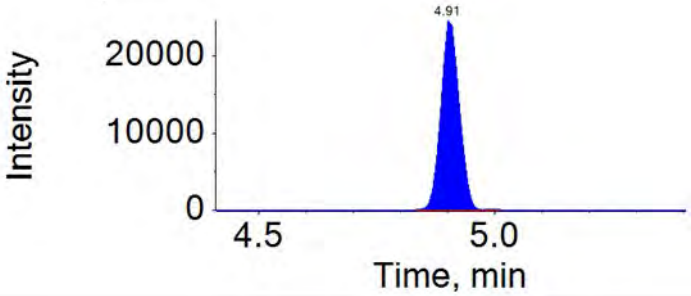

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



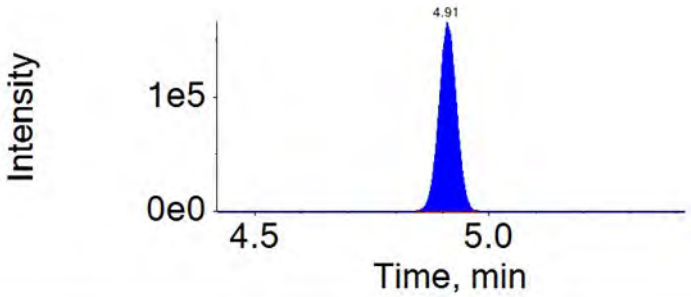

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



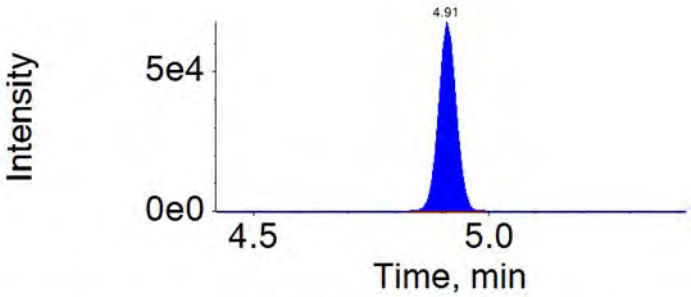

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

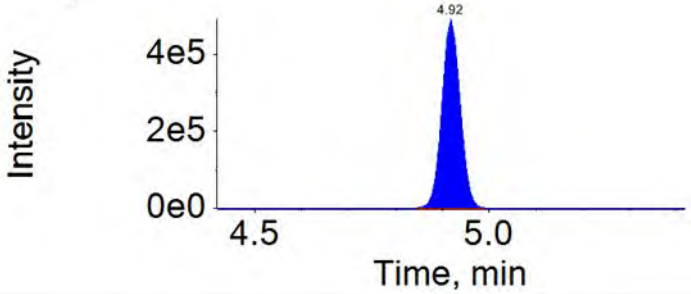



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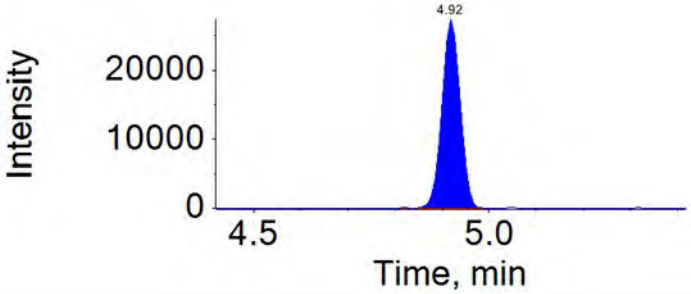


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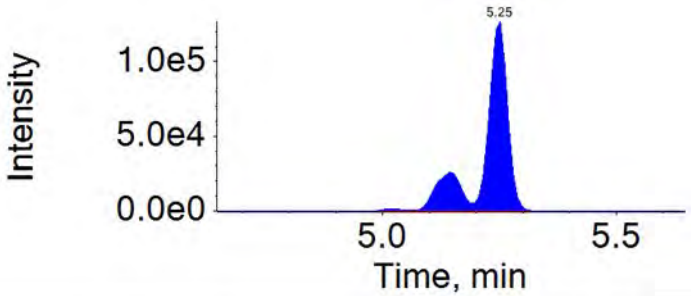
Component: PFOA
Primary Mass: 413.0 / 369.0



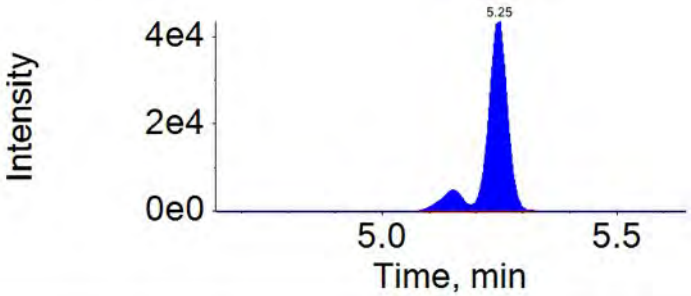

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



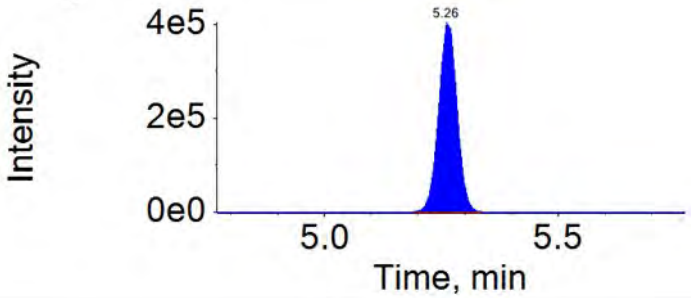

Component: PFOS
Primary Mass: 499.0 / 80.0



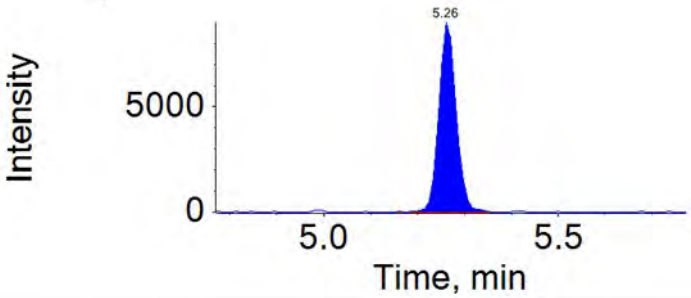

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



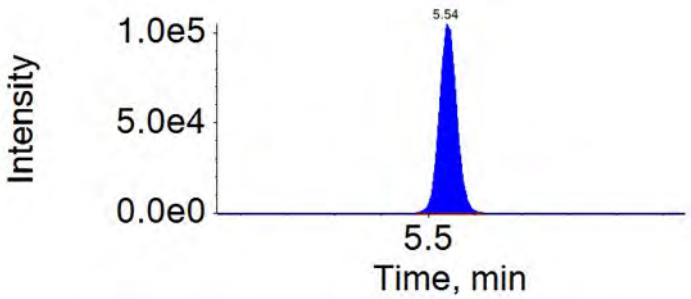

Component: PFNA
Primary Mass: 463.0 / 419.0



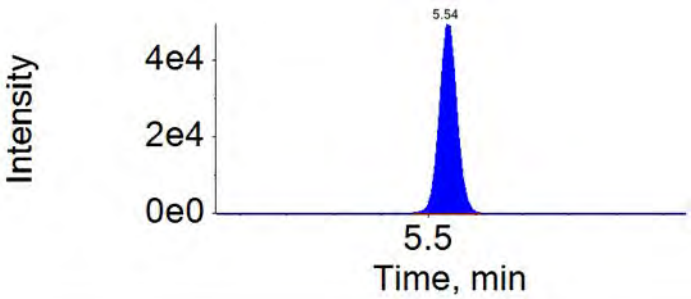

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

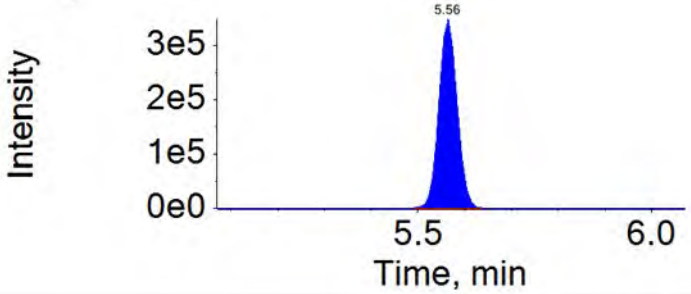



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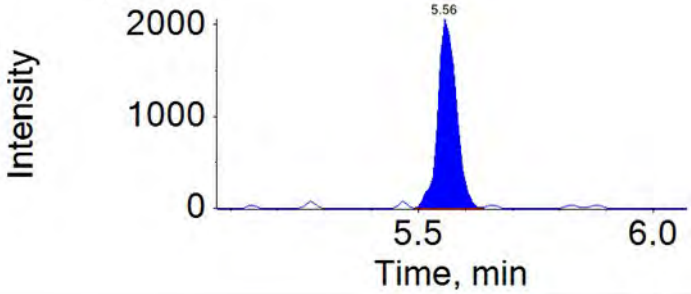


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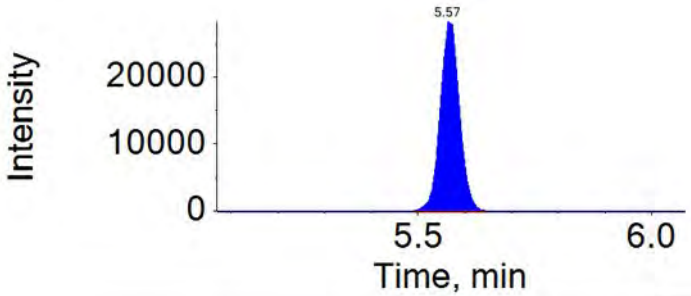
Component: PFDA
Primary Mass: 513.0 / 469.0



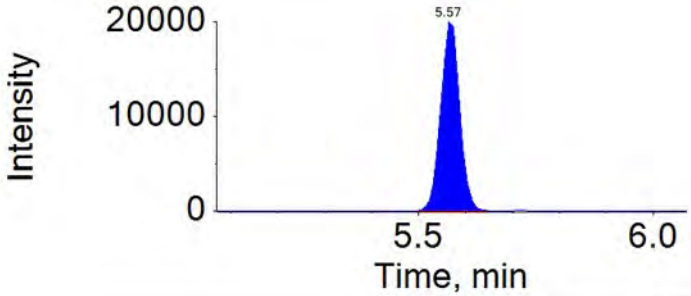

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



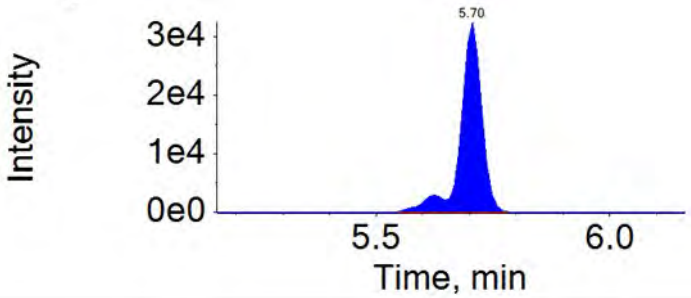

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



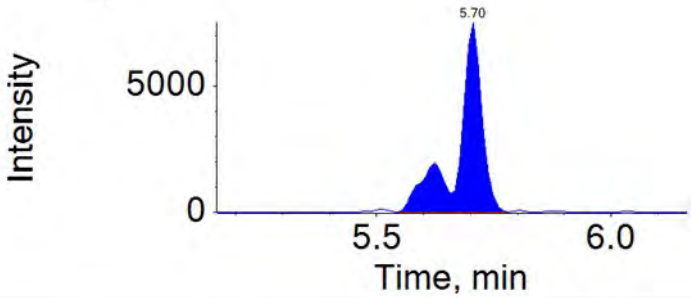

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



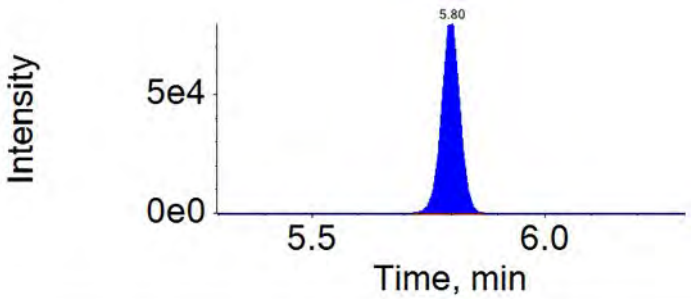

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



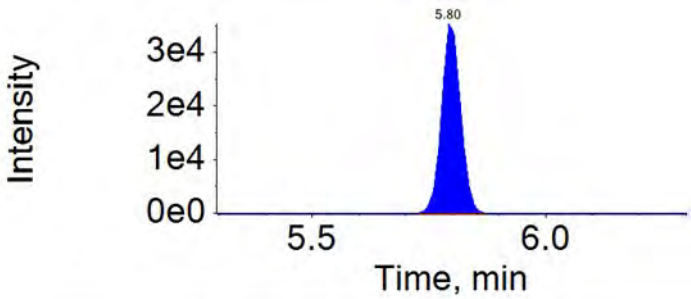

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

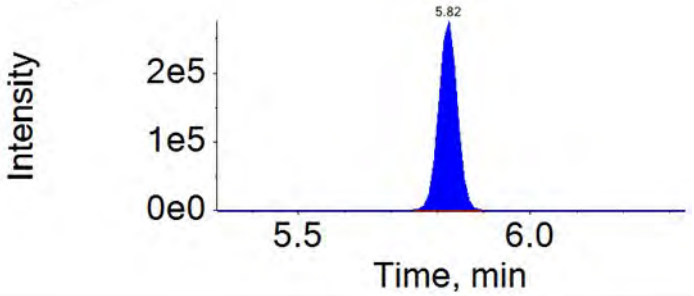



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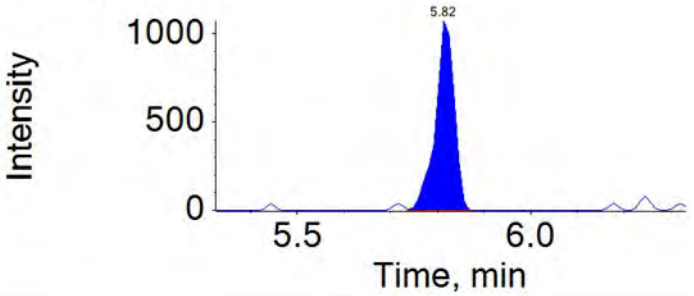


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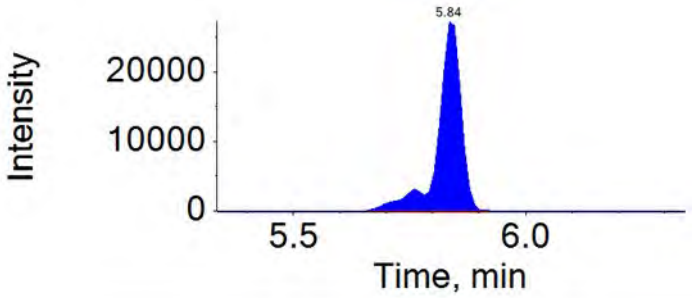
Component: PFUnDA
Primary Mass: 563.0 / 519.0



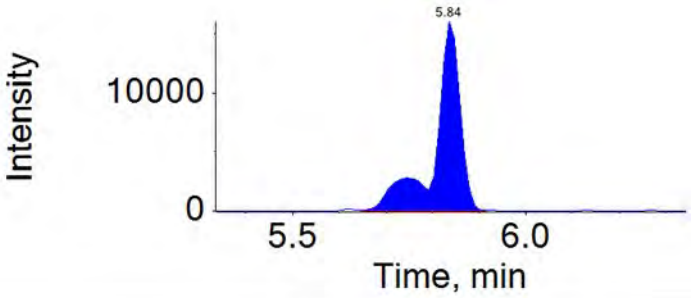

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



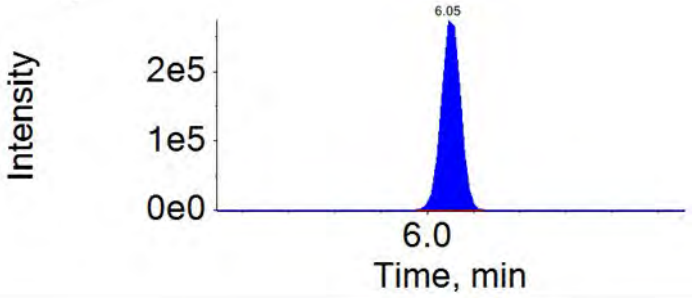

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



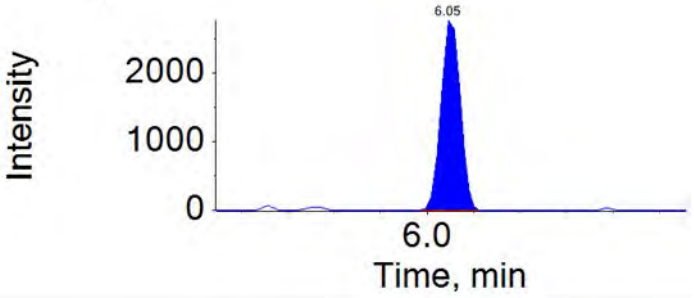

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



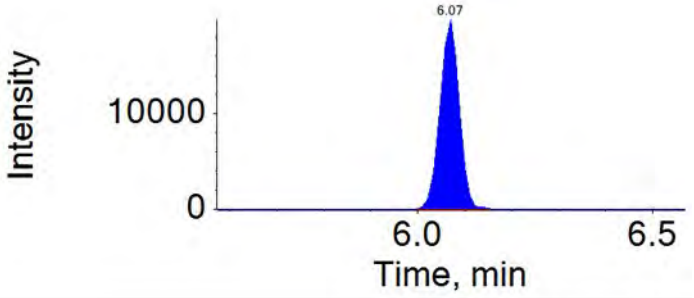

Component: PFDoDA
Primary Mass: 613.0 / 569.0



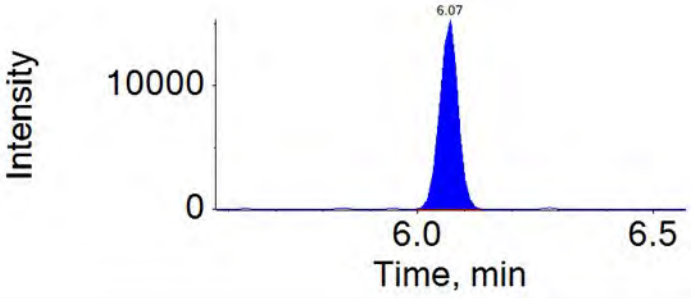

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

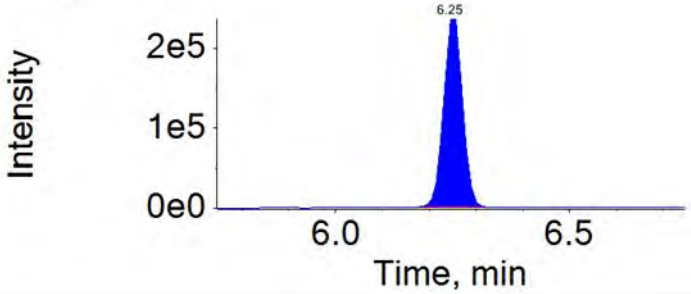



APPROVED
*By MCD at 6:33 pm, 11/12/18*

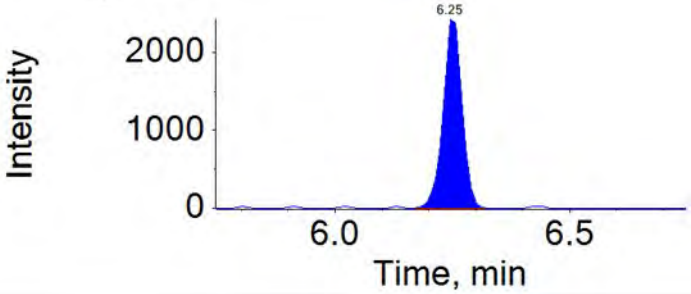


REVIEWED
*By HMK at 10:53 am, 11/13/18*

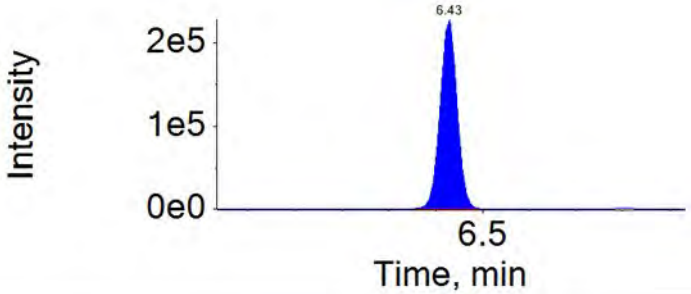
Component: PFTrDA
Primary Mass: 663.0 / 619.0



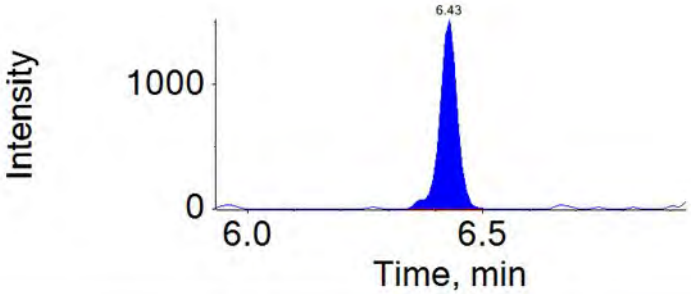

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



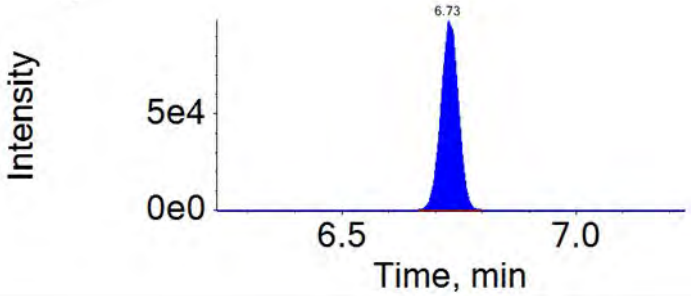

Component: PFTeDA
Primary Mass: 713.0 / 669.0



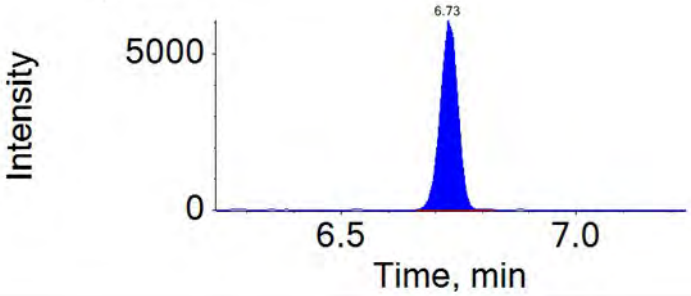

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



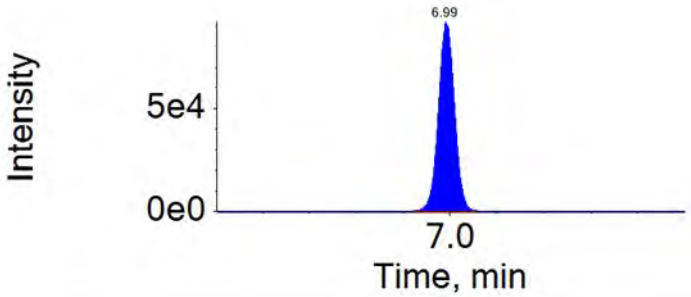

Component: PFHxDA
Primary Mass: 813.0 / 769.0



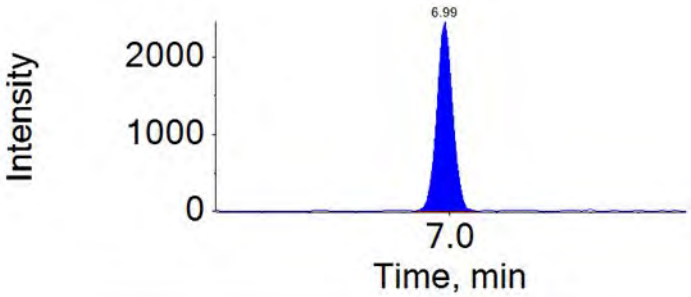

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CAL5 | | | **Data File:** | | 18NOV12DCAL-46.wiff |
| **Sample ID:** | CALBRN51833B | | | **Acquis Date:** | | 2018-11-12T15:42:06 |
| **Sample Type:** | Standard | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 7 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 641789.5 | 659926.2 | -3 | 50 | |
| 13C2-PFOA | 5.0 | 464284.6 | 450219.7 | 3 | 50 | |
| 13C4-PFOS | 4.8 | 243589.9 | 249205.8 | -2 | 50 | |
| 13C2-PFDA | 5.0 | 269315.7 | 278743.9 | -3 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 698871.9 | 13C3-PFBA | 641789.5 | 1.089 | 5.000 | 4.882 | 98 | 70-130 | |
| E13C5-PFPeA | 734598.3 | 13C3-PFBA | 641789.5 | 1.145 | 5.000 | 5.134 | 103 | 70-130 | |
| E13C3-PFBS | 428050.6 | 13C3-PFBA | 641789.5 | 0.667 | 4.650 | 4.708 | 101 | 70-130 | |
| E13C2-4:2-FTS | 51791.9 | 13C2-PFOA | 464284.6 | 0.112 | 4.670 | 4.968 | 106 | 70-130 | |
| E13C5-PFHxA | 628952.8 | 13C2-PFOA | 464284.6 | 1.355 | 5.000 | 4.894 | 98 | 70-130 | |
| E13C3-PFHxS | 309304.5 | 13C2-PFOA | 464284.6 | 0.666 | 4.730 | 4.571 | 97 | 70-130 | |
| E13C4-PFHpA | 525802.1 | 13C2-PFOA | 464284.6 | 1.132 | 5.000 | 5.102 | 102 | 70-130 | |
| E13C2-6:2-FTS | 31012.0 | 13C2-PFOA | 464284.6 | 0.067 | 4.750 | 4.469 | 94 | 70-130 | |
| E13C8-PFOA | 805288.7 | 13C2-PFOA | 464284.6 | 1.734 | 5.000 | 4.779 | 96 | 70-130 | |
| E13C8-PFOS | 267157.6 | 13C4-PFOS | 243589.9 | 1.097 | 4.780 | 4.860 | 102 | 70-130 | |
| E13C9-PFNA | 441776.8 | 13C4-PFOS | 243589.9 | 1.814 | 5.000 | 5.057 | 101 | 70-130 | |
| E13C6-PFDA | 585231.2 | 13C2-PFDA | 269315.7 | 2.173 | 5.000 | 5.071 | 101 | 70-130 | |
| E13C2-8:2-FTS | 24192.1 | 13C2-PFDA | 269315.7 | 0.090 | 4.790 | 4.480 | 94 | 70-130 | |
| E13C8-PFOSA | 596544.1 | 13C2-PFDA | 269315.7 | 2.215 | 5.000 | 4.911 | 98 | 70-130 | |
| Ed3-NMeFOSAA | 72424.5 | 13C2-PFDA | 269315.7 | 0.269 | 5.000 | 4.854 | 97 | 70-130 | |
| E13C7-PFUnDA | 231187.9 | 13C2-PFDA | 269315.7 | 0.858 | 5.000 | 4.984 | 100 | 70-130 | |
| Ed5-NEtFOSAA | 63701.7 | 13C2-PFDA | 269315.7 | 0.237 | 5.000 | 5.004 | 100 | 70-130 | |
| E13C2-PFDoDA | 507556.8 | 13C2-PFDA | 269315.7 | 1.885 | 5.000 | 4.893 | 98 | 70-130 | |
| Ed7-NMePFOSAE | 316777.8 | 13C2-PFDA | 269315.7 | 1.176 | 5.000 | 5.090 | 102 | 70-130 | |
| Ed3-NMePFOSA | 68615.7 | 13C2-PFDA | 269315.7 | 0.255 | 5.000 | 4.629 | 93 | 70-130 | |
| Ed9-NEtPFOSAE | 255767.8 | 13C2-PFDA | 269315.7 | 0.950 | 5.000 | 4.939 | 99 | 70-130 | |
| Ed5-NEtPFOSA | 55378.5 | 13C2-PFDA | 269315.7 | 0.206 | 5.000 | 4.824 | 96 | 70-130 | |
| E13C2-PFTeDA | 379571.6 | 13C2-PFDA | 269315.7 | 1.409 | 5.000 | 4.948 | 99 | 70-130 | |

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

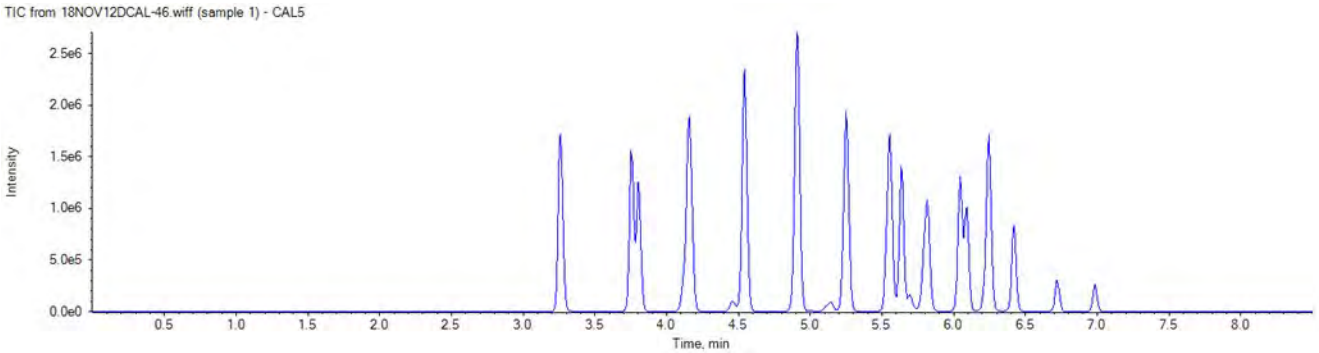
## Analyte Quantitation Peak Table

**Sample Name:** CAL5 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-46.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 | 2700090.8 | | A | 13C4-PFBA | 3.26 | 698871.9 | 3.863 | 21.403 |
| PFPeA | 3.76 | 1.000 | 2660895.4 | | A | 13C5-PFPeA | 3.76 | 734598.3 | 3.622 | 20.969 |
| PFBS | 3.80 | 1.000 | 1630613.5 | | A | 13C3-PFBS | 3.81 | 428050.6 | 3.809 | 18.121 |
| 4:2-FTS | 4.12 | 1.000 | 344695.9 | | A | 13C2-4:2-FTS | 4.12 | 51791.9 | 6.655 | 18.070 |
| PFHxA | 4.15 | 1.000 | 3158486.4 | | A | 13C5-PFHxA | 4.15 | 628952.8 | 5.022 | 20.968 |
| PFPeS | 4.17 | 1.100 | 815928.2 | | A | 13C3-PFBS | 3.81 | 428050.6 | 1.906 | 18.506 |
| PFHpA | 4.54 | 1.000 | 3269561.0 | | A | 13C4-PFHpA | 4.54 | 525802.1 | 6.218 | 20.612 |
| PFHxS | 4.54 | 1.000 | 1138604.3 | | M | 13C3-PFHxS | 4.54 | 309304.5 | 3.681 | 17.849 |
| 6:2-FTS | 4.90 | 1.000 | 260254.3 | | A | 13C2-6:2-FTS | 4.90 | 31012.0 | 8.392 | 20.308 |
| PFHpS | 4.90 | 1.080 | 1145559.8 | | A | 13C3-PFHxS | 4.54 | 309304.5 | 3.704 | 19.496 |
| PFOA | 4.91 | 1.000 | 3291549.4 | | A | 13C8-PFOA | 4.91 | 805288.7 | 4.087 | 21.830 |
| PFOS | 5.24 | 1.000 | 1147826.8 | | M | 13C8-PFOS | 5.24 | 267157.6 | 4.296 | 18.789 |
| PFNA | 5.26 | 1.000 | 2725089.7 | | A | 13C9-PFNA | 5.26 | 441776.8 | 6.168 | 22.243 |
| PFNS | 5.53 | 1.060 | 725402.0 | | A | 13C8-PFOS | 5.24 | 267157.6 | 2.715 | 18.997 |
| PFDA | 5.56 | 1.000 | 2309359.5 | | A | 13C6-PFDA | 5.56 | 585231.2 | 3.946 | 20.920 |
| 8:2-FTS | 5.56 | 1.000 | 206213.1 | | A | 13C2-8:2-FTS | 5.56 | 24192.1 | 8.524 | 19.873 |
| PFOSA | 5.64 | 1.000 | 2498877.9 | | A | 13C8-PFOSA | 5.64 | 596544.1 | 4.189 | 20.460 |
| NMeFOSAA | 5.70 | 1.000 | 250711.5 | | A | d3-NMeFOSAA | 5.70 | 72424.5 | 3.462 | 19.564 |
| PFDS | 5.79 | 1.100 | 578877.5 | | A | 13C8-PFOS | 5.24 | 267157.6 | 2.167 | 19.633 |
| PFUnDA | 5.82 | 1.000 | 1773582.6 | | A | 13C7-PFUnDA | 5.82 | 231187.9 | 7.672 | 20.055 |
| NEtFOSAA | 5.83 | 1.000 | 237197.2 | | A | d5-NEtFOSAA | 5.83 | 63701.7 | 3.724 | 19.520 |
| PFDoDA | 6.04 | 1.000 | 2099385.0 | | A | 13C2-PFDoDA | 6.04 | 507556.8 | 4.136 | 21.062 |
| 10:2-FTS | 6.06 | 1.090 | 153343.6 | | A | 13C2-8:2-FTS | 5.56 | 24192.1 | 6.339 | 21.113 |
| NMePFOSAE | 6.09 | 1.000 | 1590507.1 | | M | d7-NMePFOSAE | 6.08 | 316777.8 | 5.021 | 20.896 |
| NMePFOSA | 6.10 | 1.000 | 300855.7 | | A | d3-NMePFOSA | 6.09 | 68615.7 | 4.385 | 21.631 |
| PFDoS | 6.21 | 1.190 | 288905.1 | | A | 13C8-PFOS | 5.24 | 267157.6 | 1.081 | 18.940 |
| NEtPFOSAE | 6.25 | 1.000 | 1660562.6 | | M | d9-NEtPFOSAE | 6.23 | 255767.8 | 6.492 | 20.830 |
| NEtPFOSA | 6.26 | 1.000 | 258300.3 | | A | d5-NEtPFOSA | 6.25 | 55378.5 | 4.664 | 21.421 |
| PFTrDA | 6.24 | 1.030 | 1679407.2 | | A | 13C2-PFDoDA | 6.04 | 507556.8 | 3.309 | 20.884 |
| PFTeDA | 6.42 | 1.000 | 1418276.7 | | A | 13C2-PFTeDA | 6.42 | 379571.6 | 3.737 | 20.945 |
| PFHxDA | 6.72 | 1.050 | 627350.7 | | A | 13C2-PFTeDA | 6.42 | 379571.6 | 1.653 | 19.691 |
| PFODA | 6.98 | 1.090 | 544296.5 | | A | 13C2-PFTeDA | 6.42 | 379571.6 | 1.434 | 19.971 |

## Total Ion Chromatogram



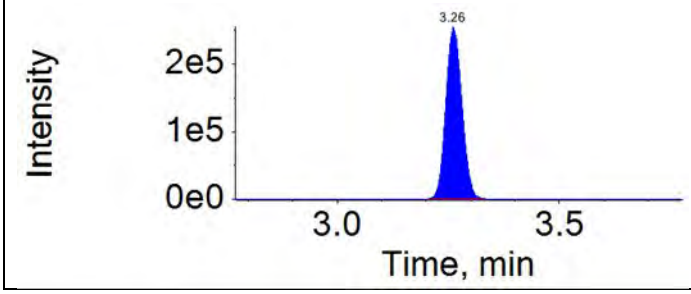

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*By MCD at 6:33 pm, 11/12/18*



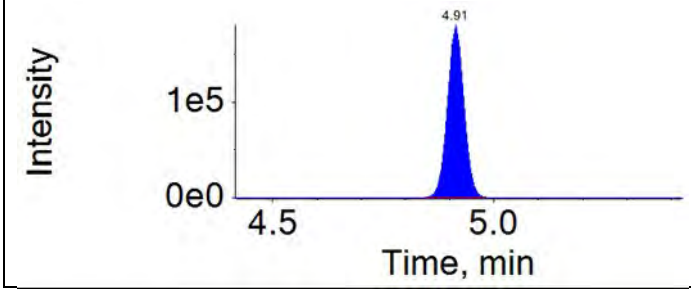
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

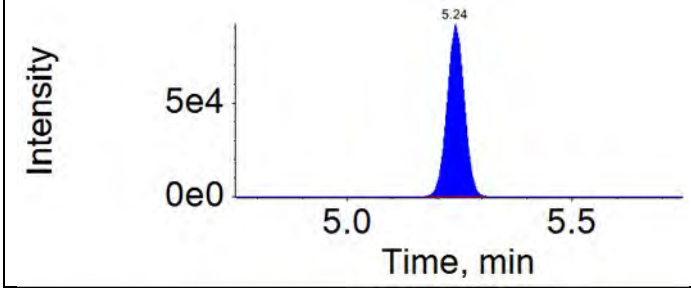
Injection Standard: 13C3-PFBA
216.0 / 172.0



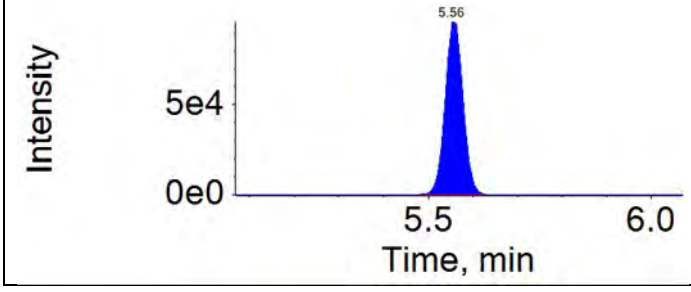

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



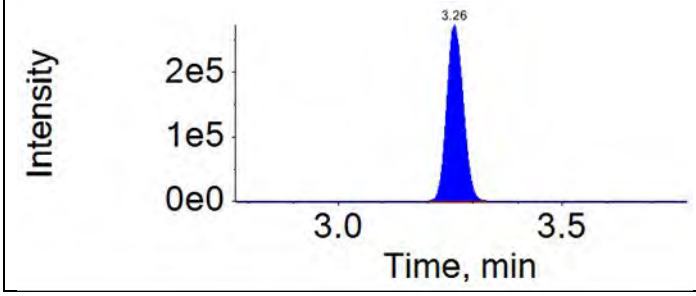

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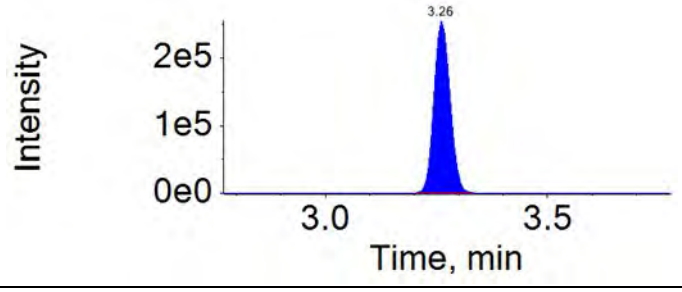


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*By HMK at 10:53 am, 11/13/18*

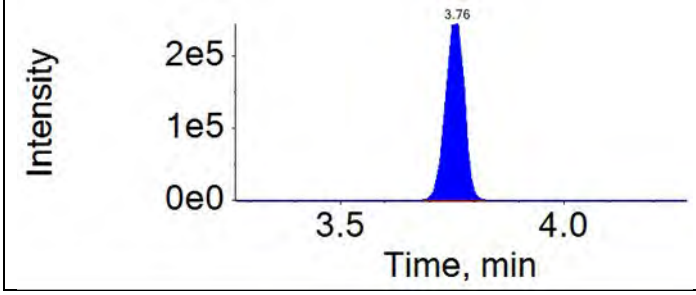
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

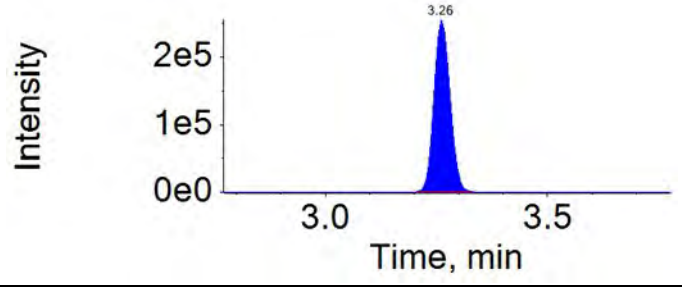
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



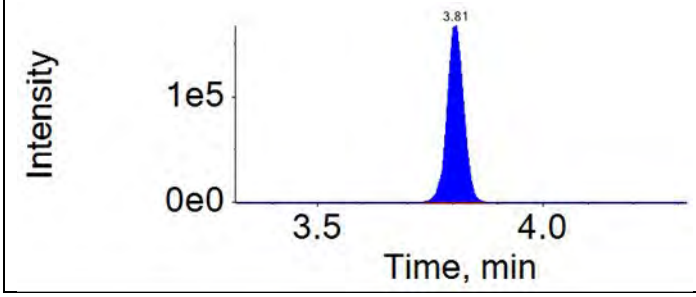



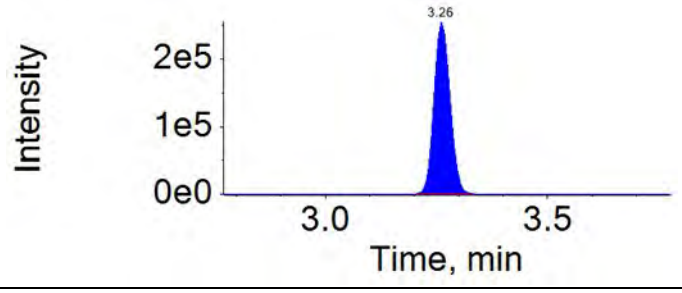

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



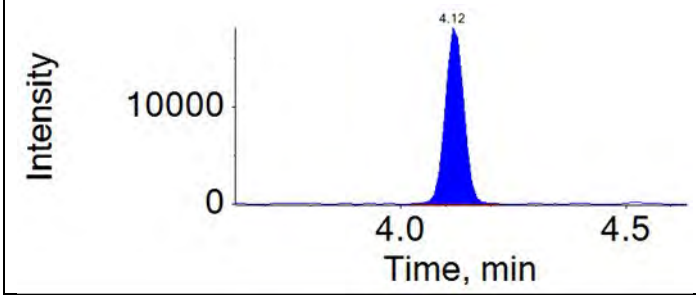



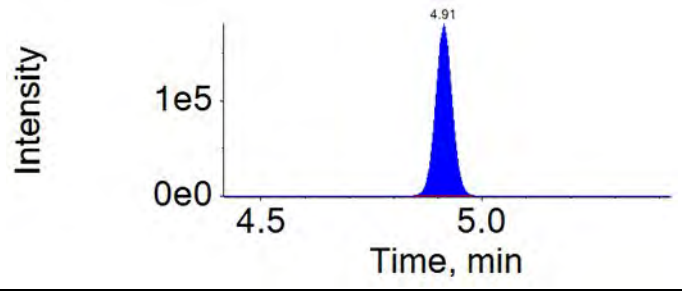

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



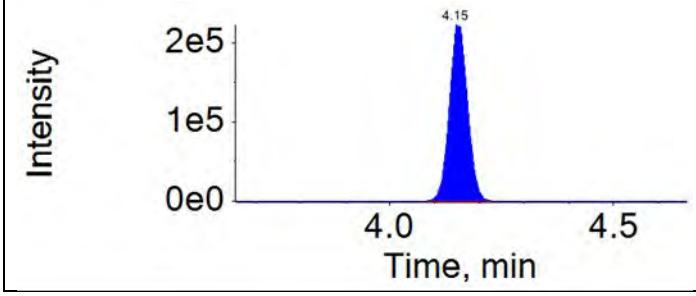

APPROVED
*By MCD at 6:33 pm, 11/12/18*

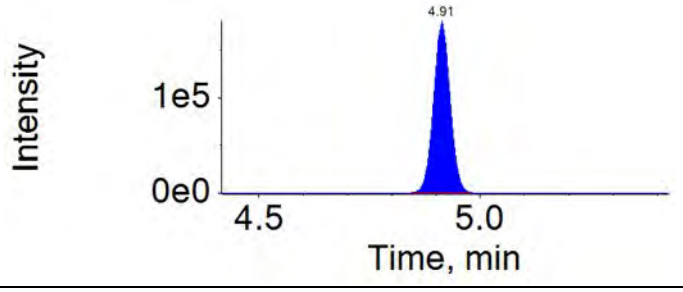


REVIEWED
*By HMK at 10:53 am, 11/13/18*

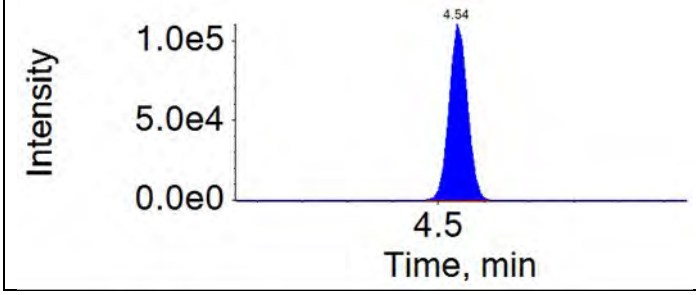
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

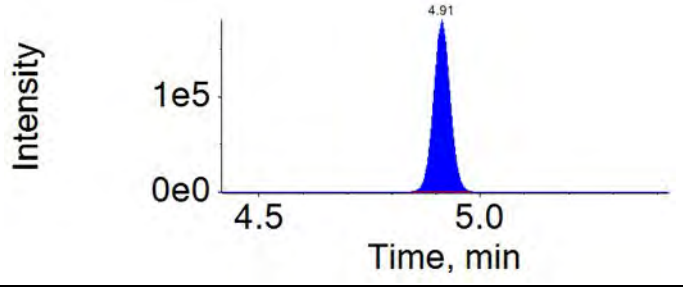
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



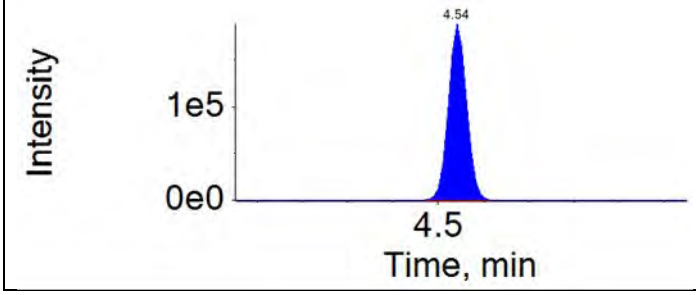



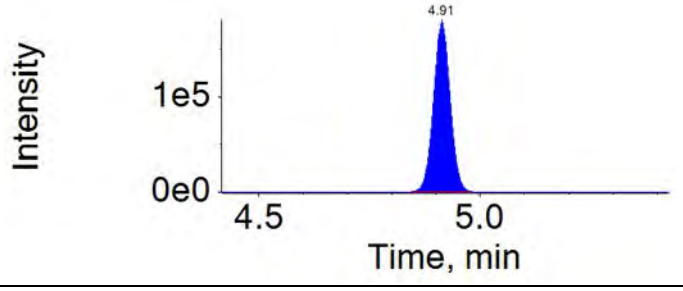

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



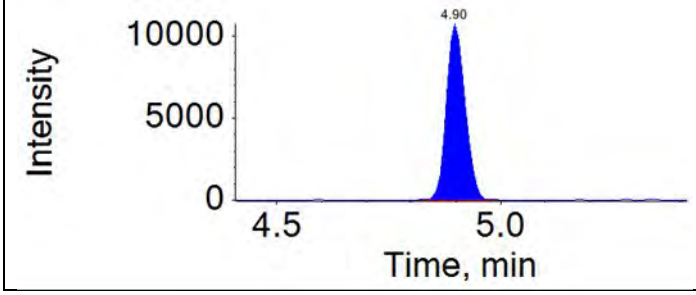



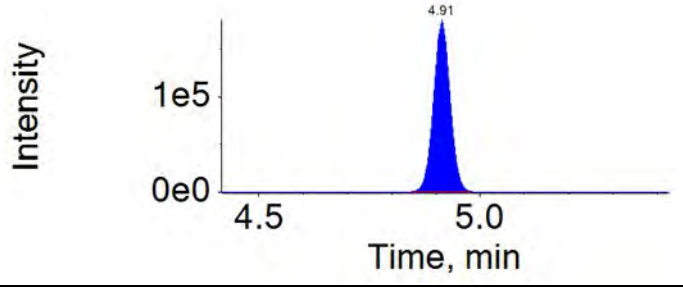

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



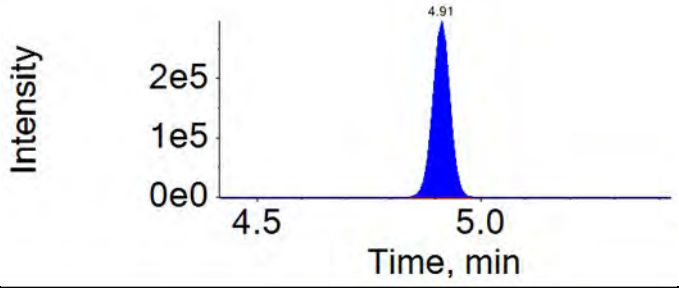
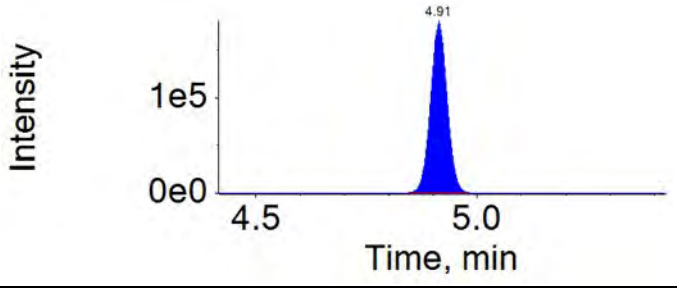




APPROVED
*By MCD at 6:33 pm, 11/12/18*



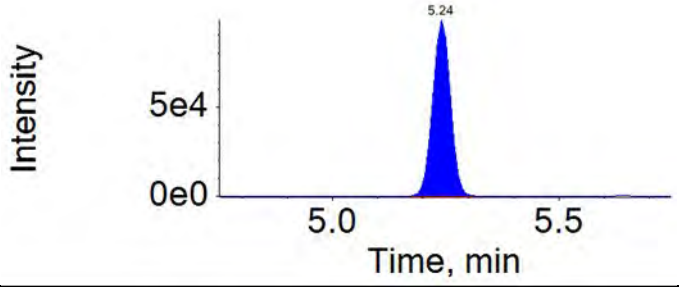
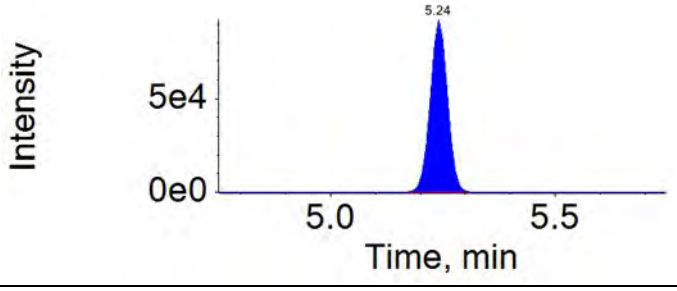
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

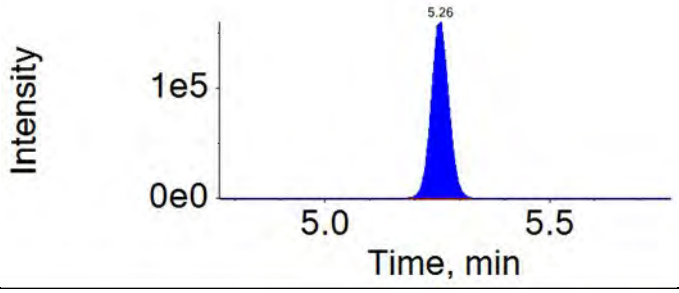
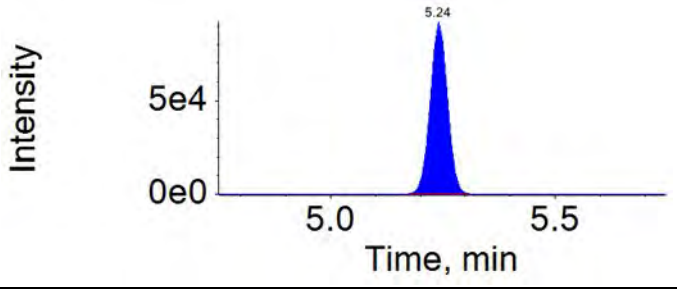




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

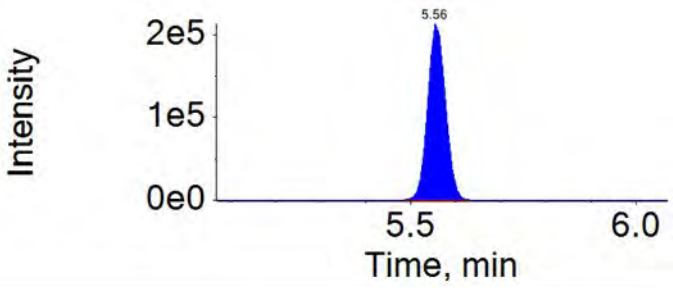
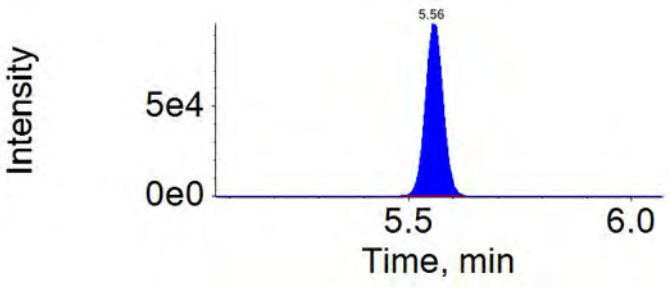




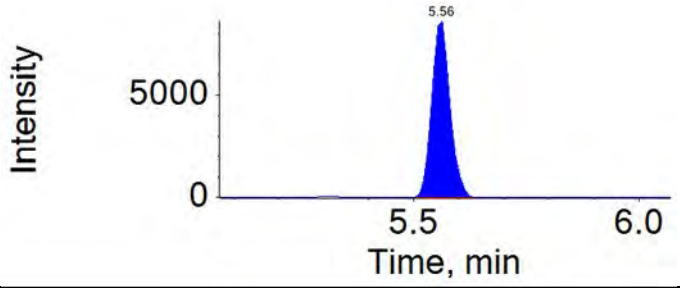
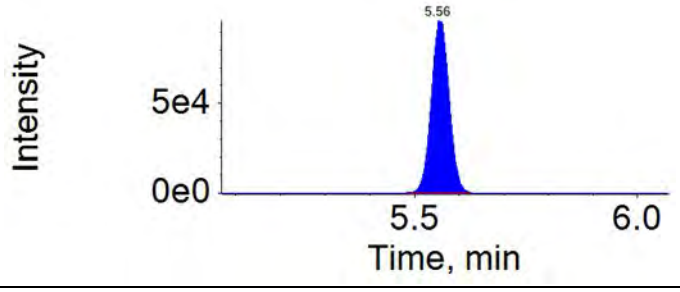
| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





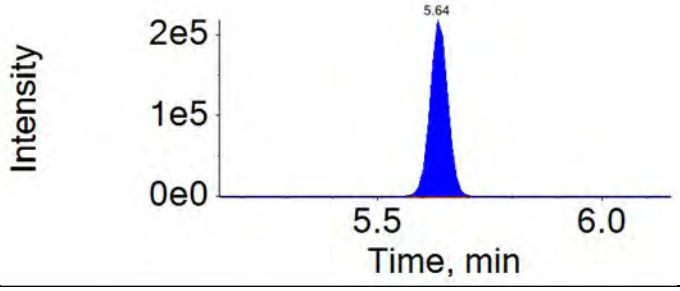
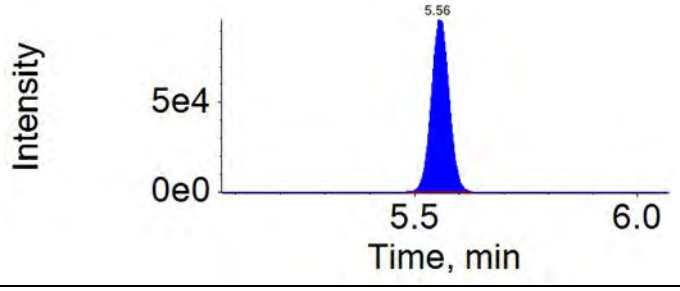
| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

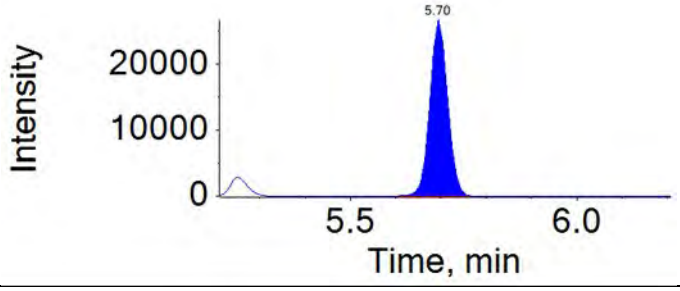
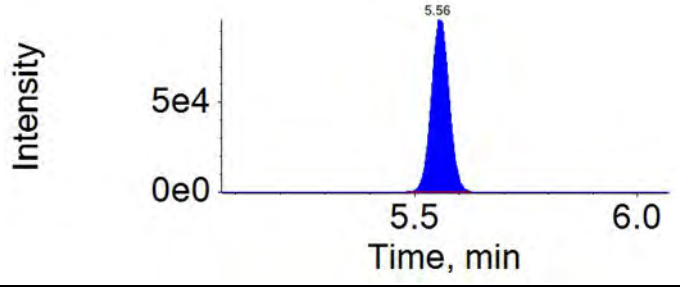




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

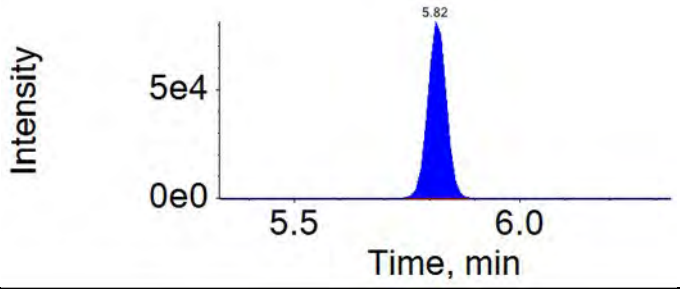
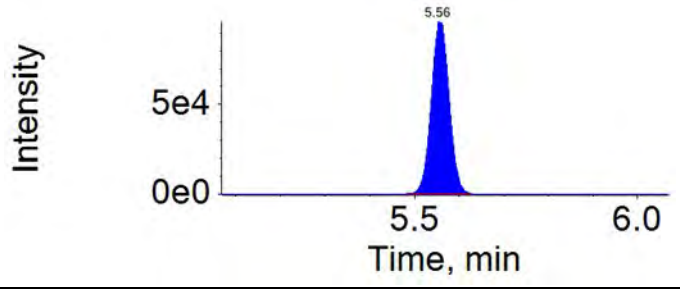




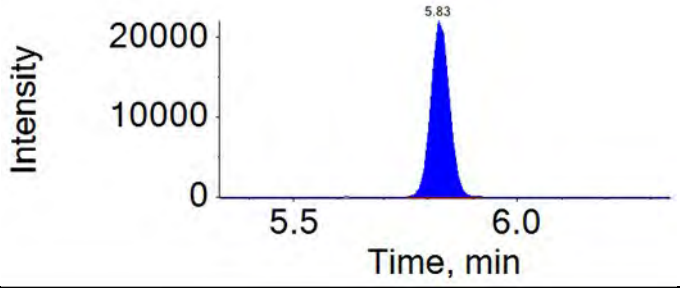
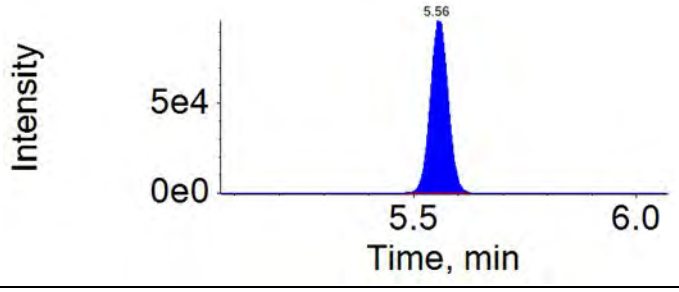
| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





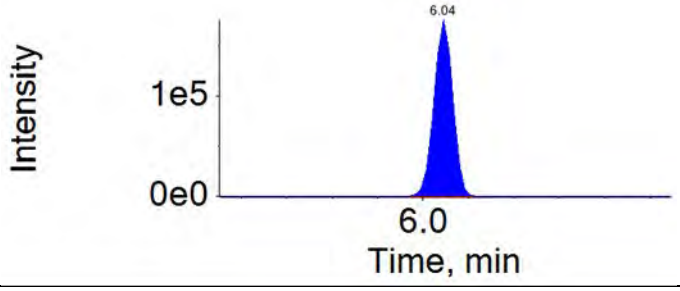
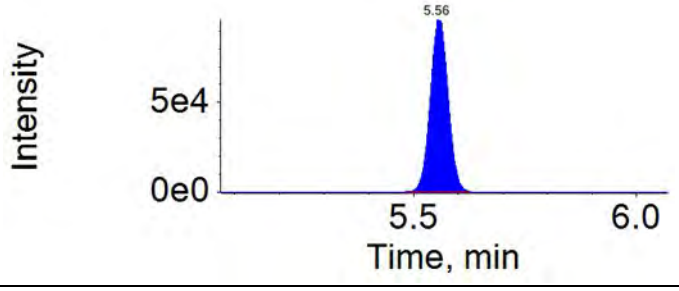
| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

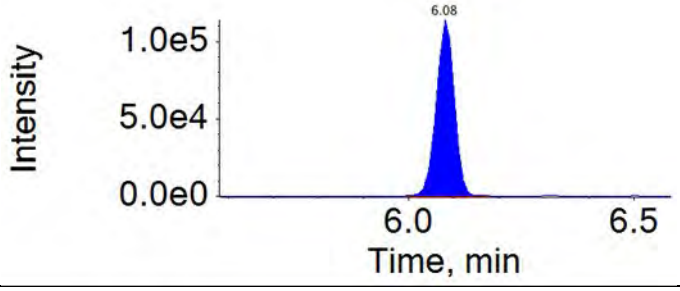
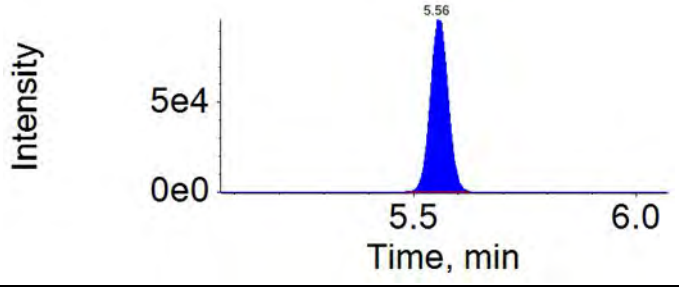




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

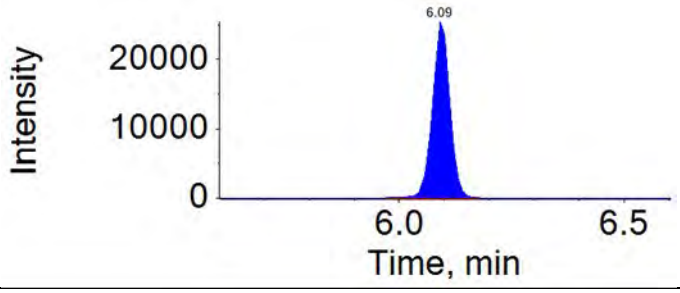
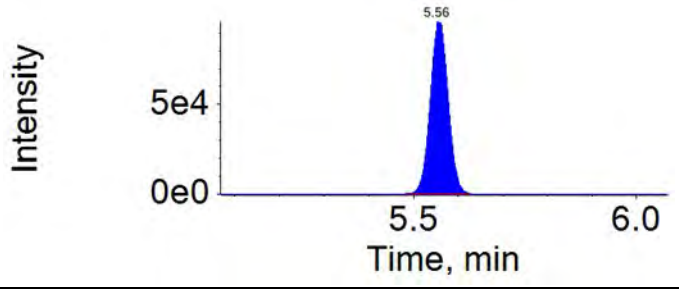




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





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





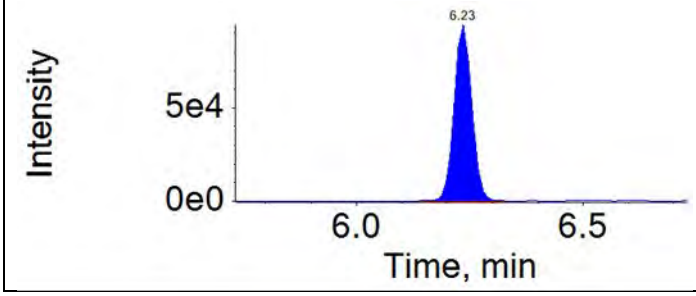
APPROVED
*By MCD at 6:33 pm, 11/12/18*

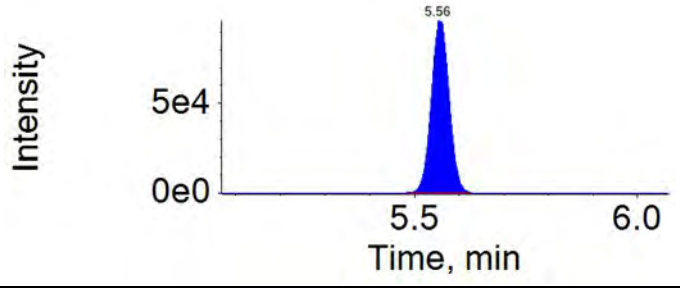


REVIEWED
*By HMK at 10:53 am, 11/13/18*

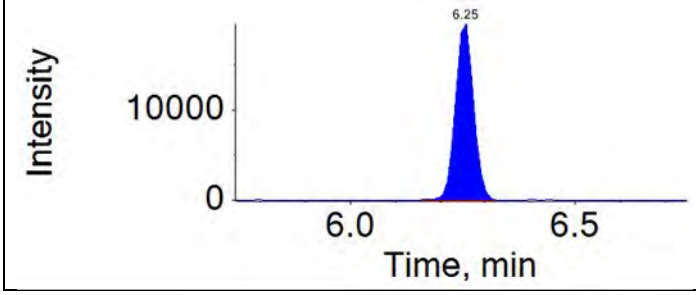
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

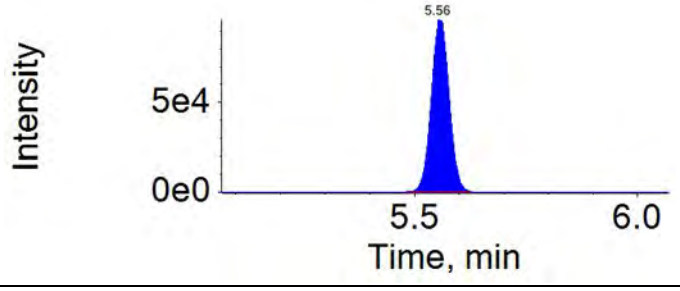
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



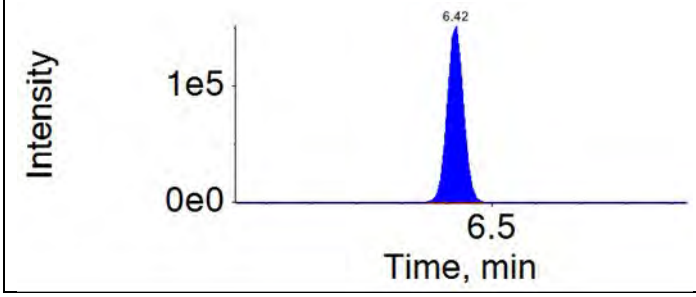



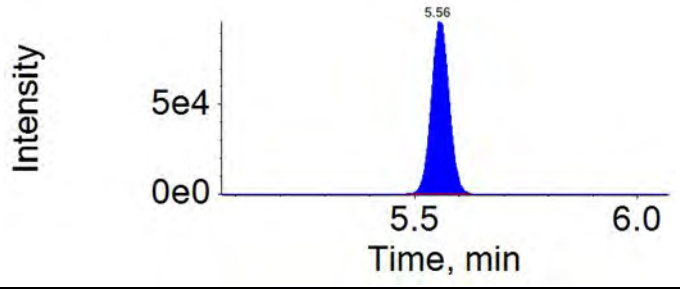

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



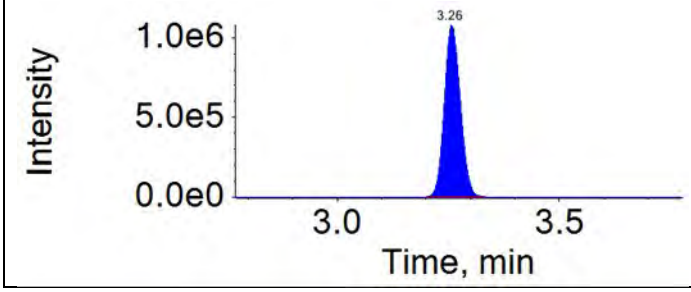

APPROVED
*By MCD at 6:33 pm, 11/12/18*

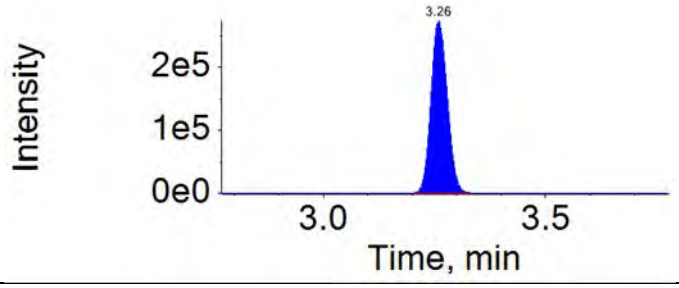


REVIEWED
*By HMK at 10:53 am, 11/13/18*

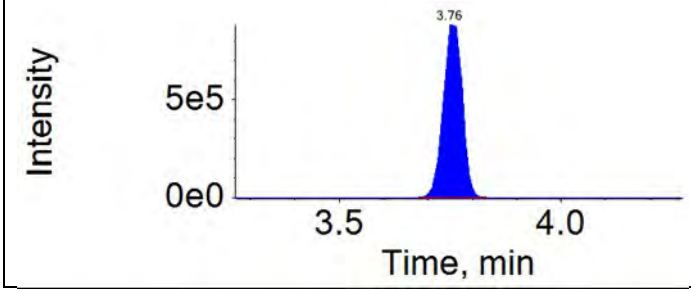
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

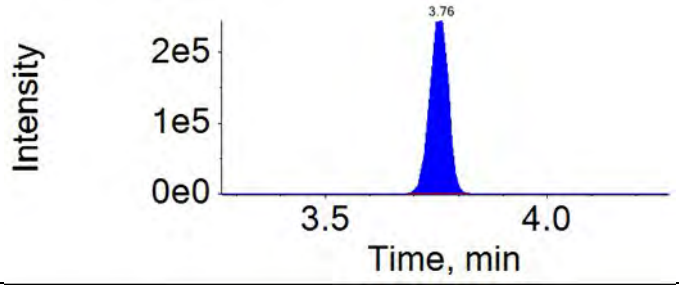
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



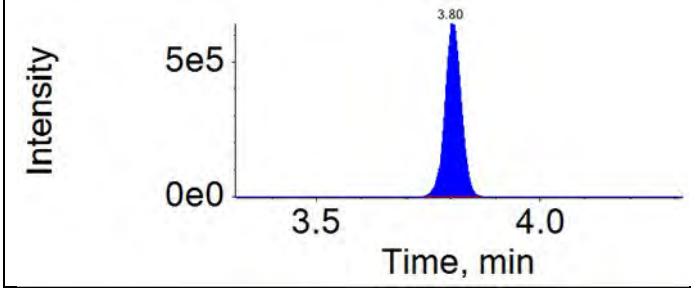



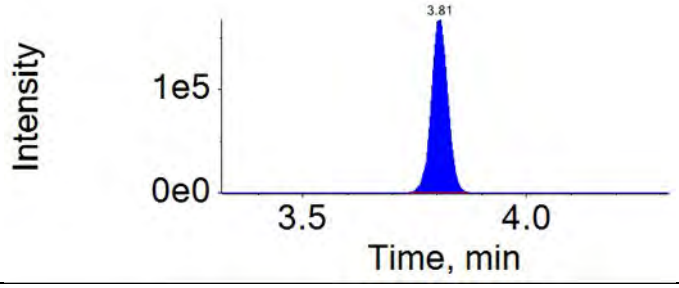

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



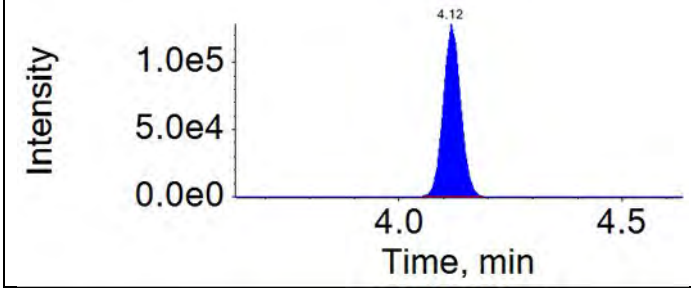



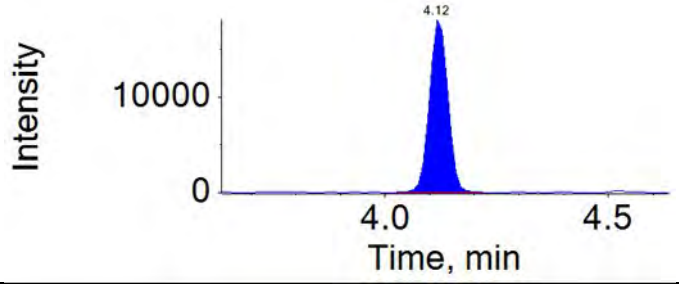

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



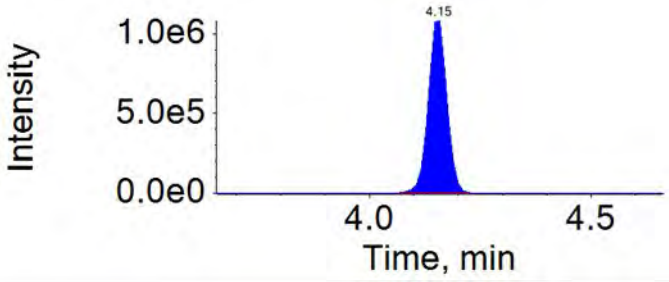

APPROVED
*By MCD at 6:33 pm, 11/12/18*

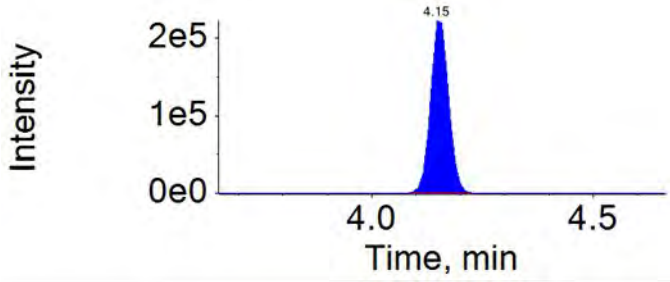


REVIEWED
*By HMK at 10:53 am, 11/13/18*

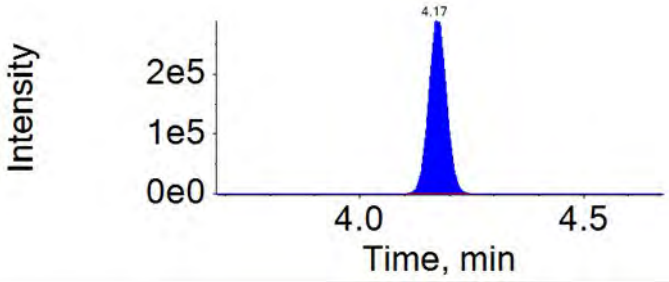
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

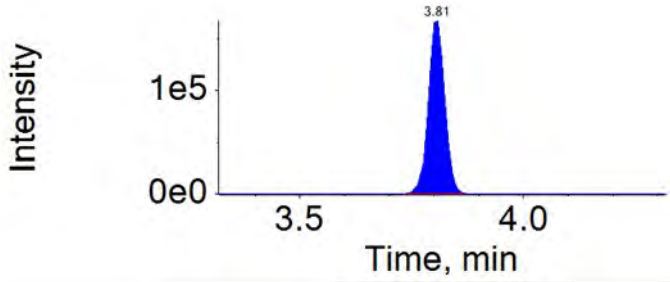
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



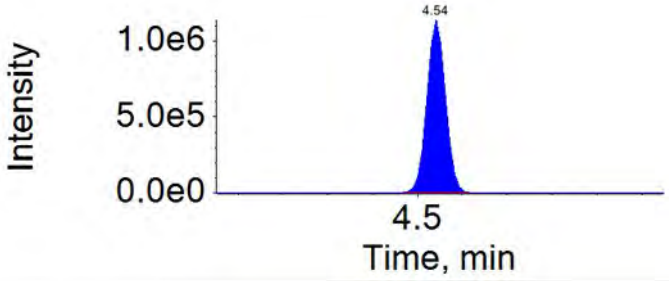



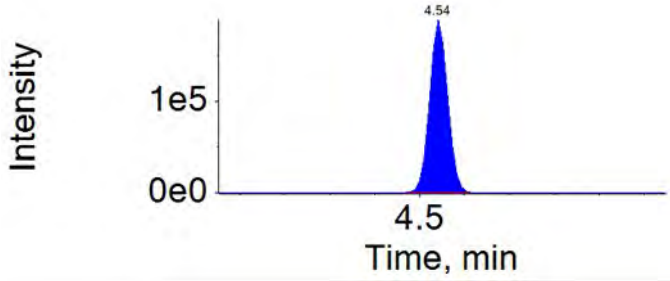

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



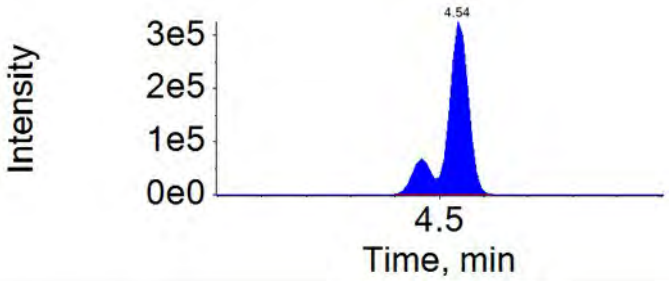



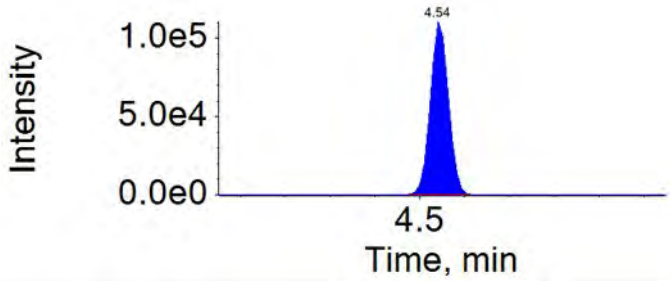

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



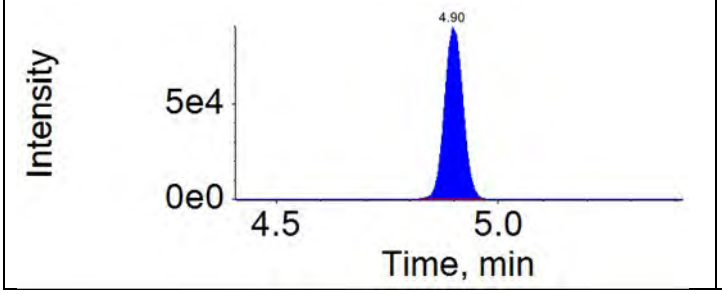

APPROVED
*By MCD at 6:33 pm, 11/12/18*

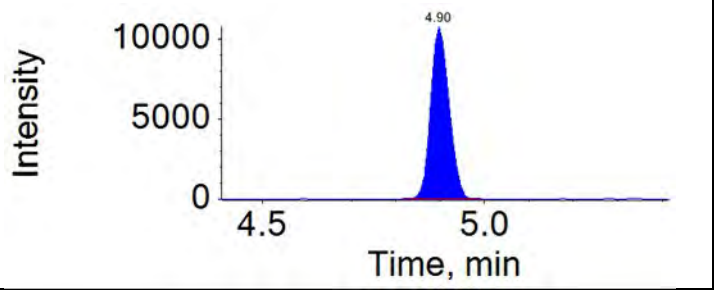


REVIEWED
*By HMK at 10:53 am, 11/13/18*

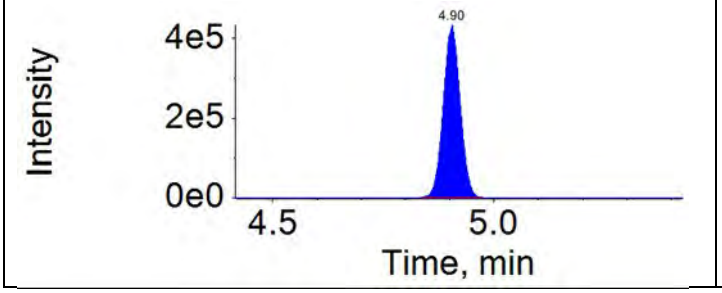
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

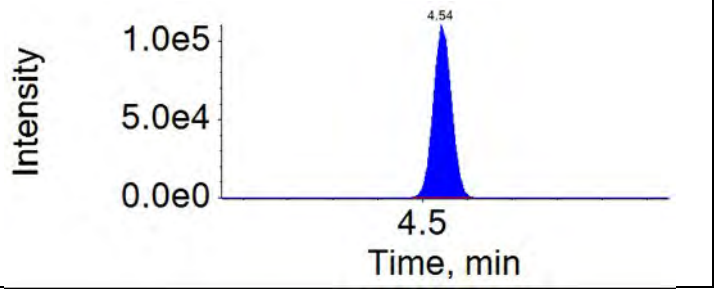
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



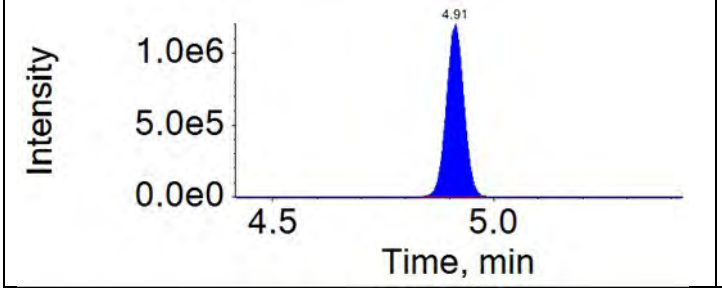



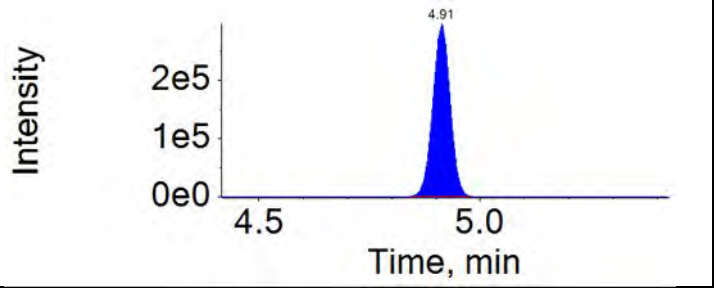

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



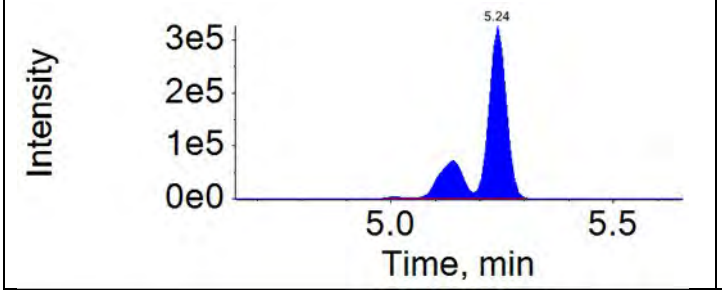



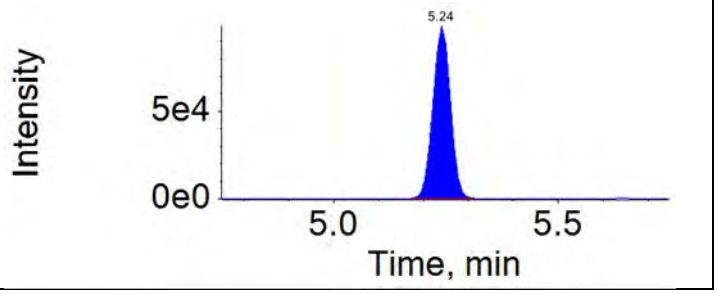

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



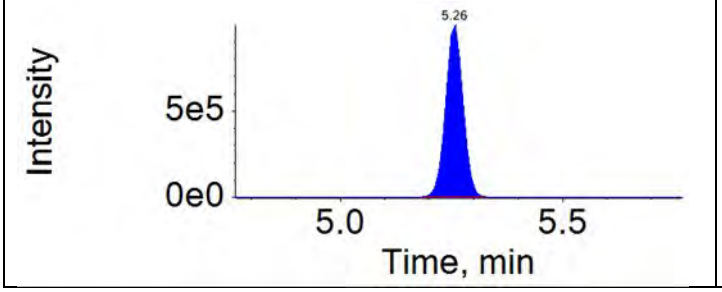

APPROVED
*By MCD at 6:33 pm, 11/12/18*

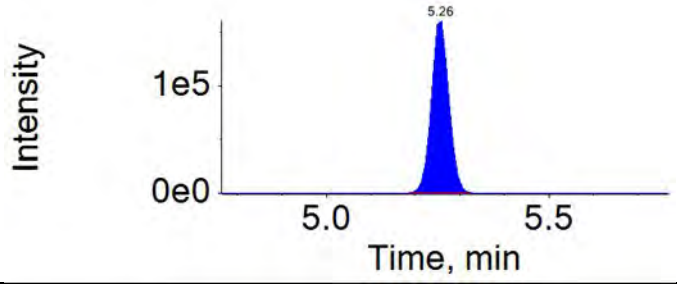


REVIEWED
*By HMK at 10:53 am, 11/13/18*

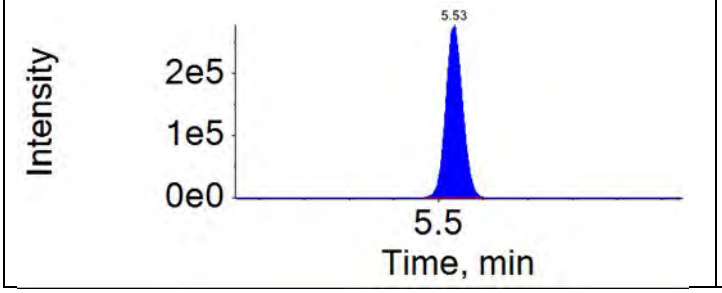
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

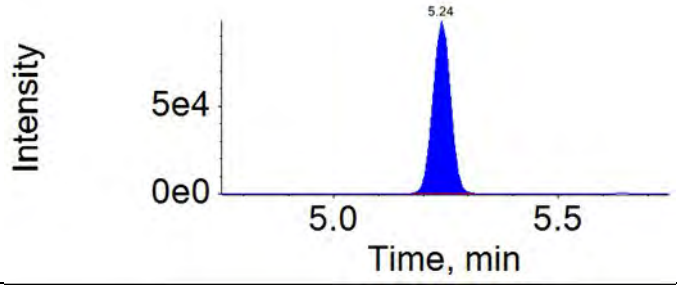
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



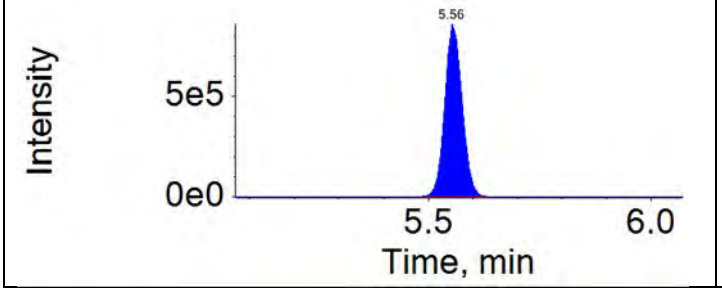



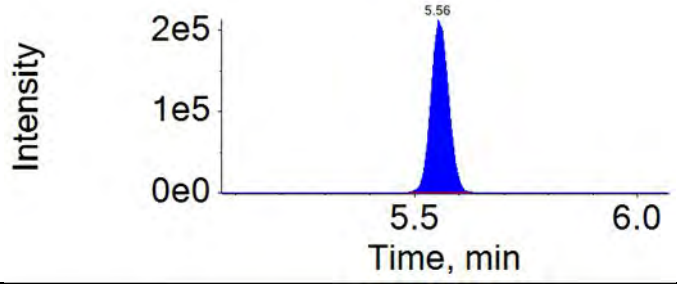

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



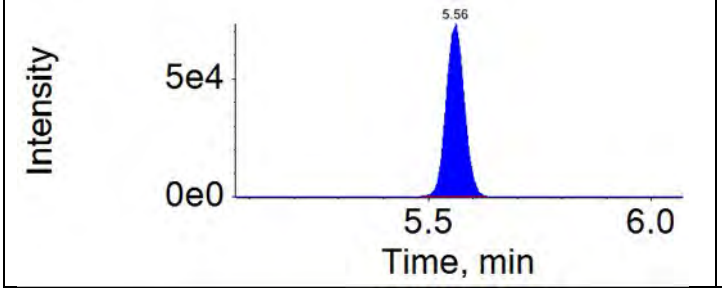



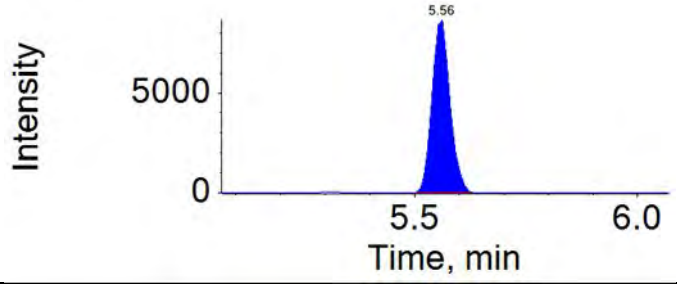

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



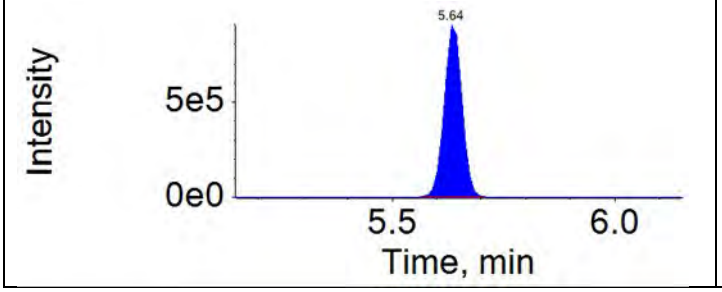

APPROVED
*By MCD at 6:33 pm, 11/12/18*

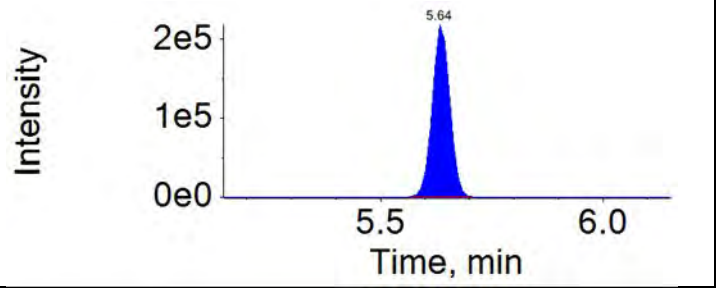


REVIEWED
*By HMK at 10:53 am, 11/13/18*

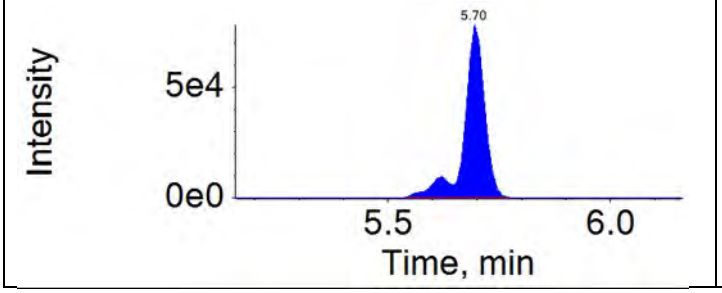
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

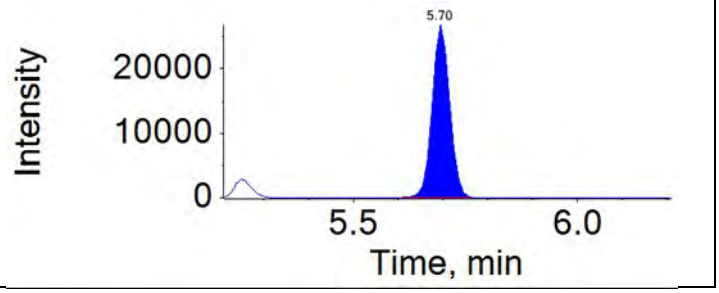
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



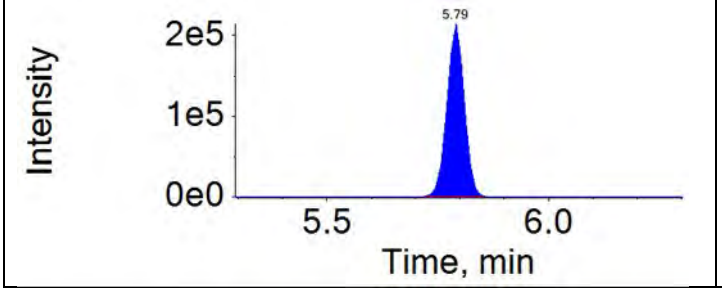



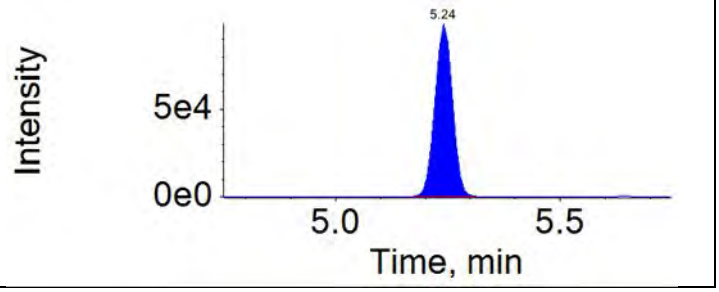

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



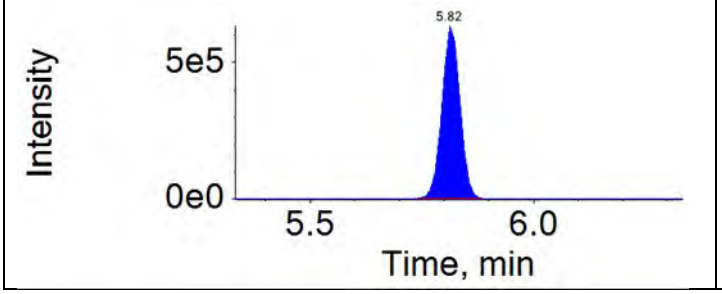



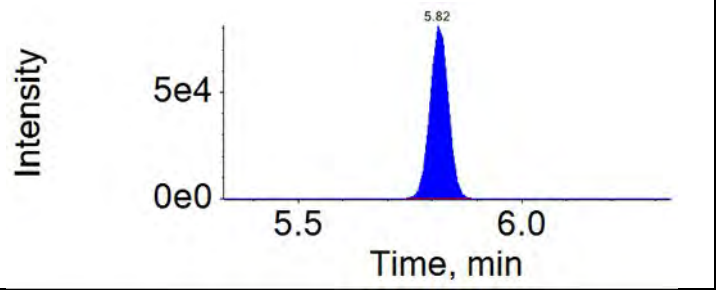

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



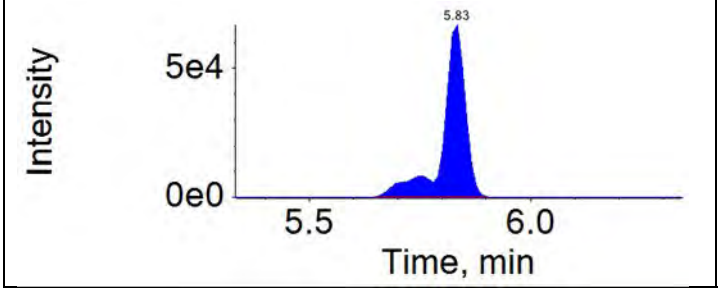

APPROVED
*By MCD at 6:33 pm, 11/12/18*

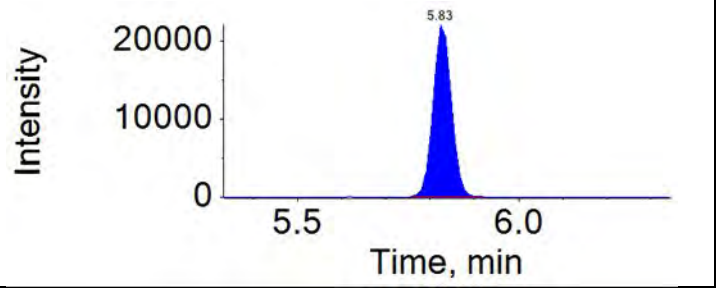


REVIEWED
*By HMK at 10:53 am, 11/13/18*

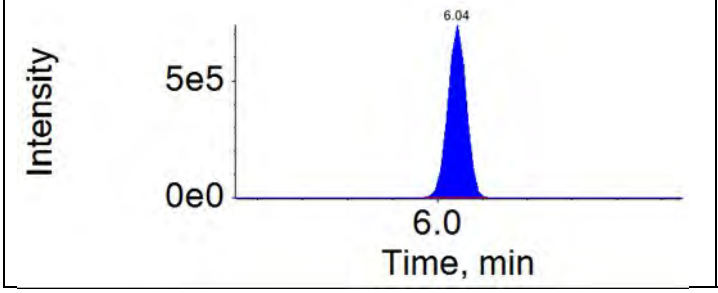
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

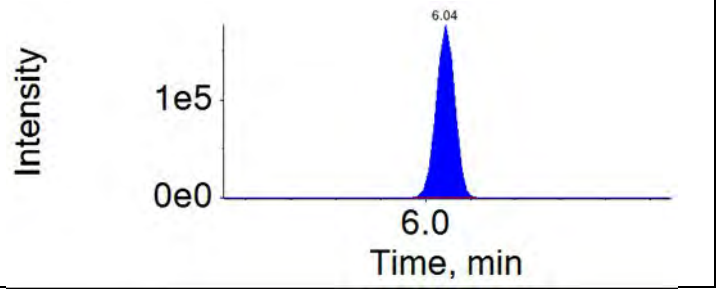
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



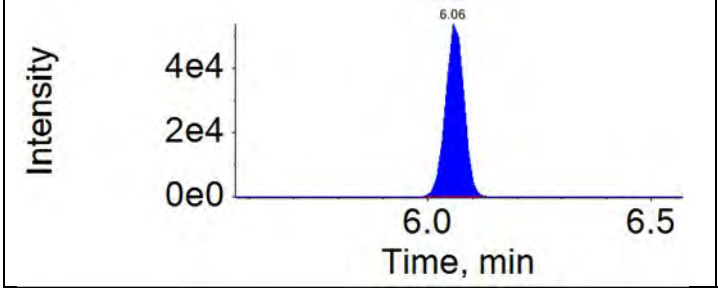



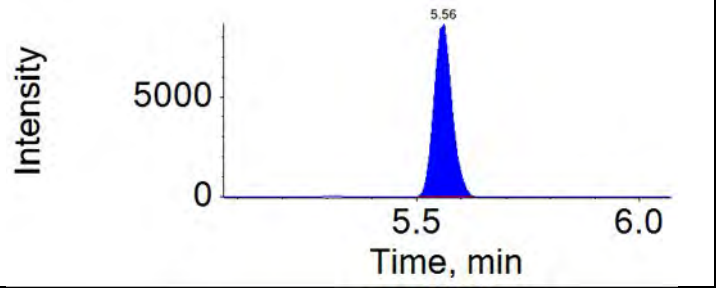

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



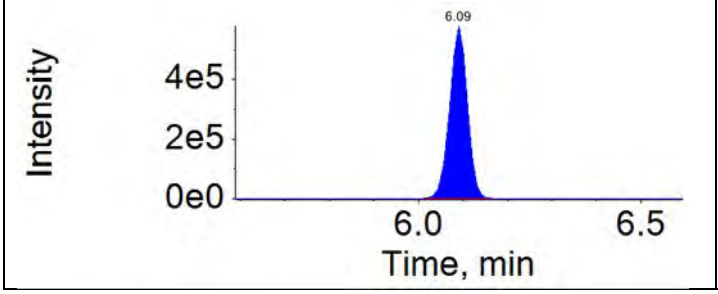



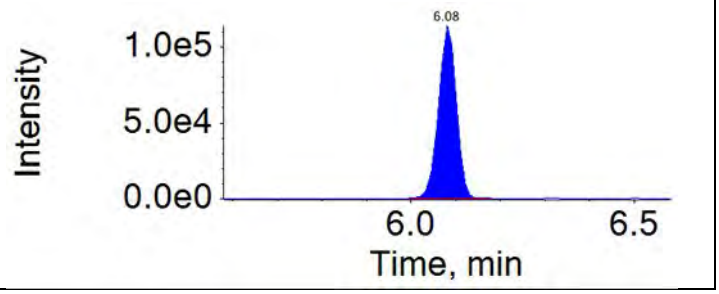

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



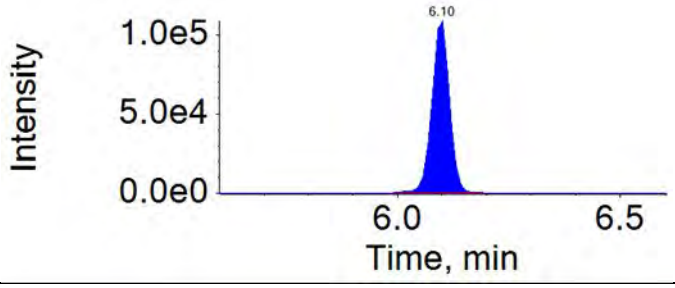

APPROVED
*By MCD at 6:33 pm, 11/12/18*

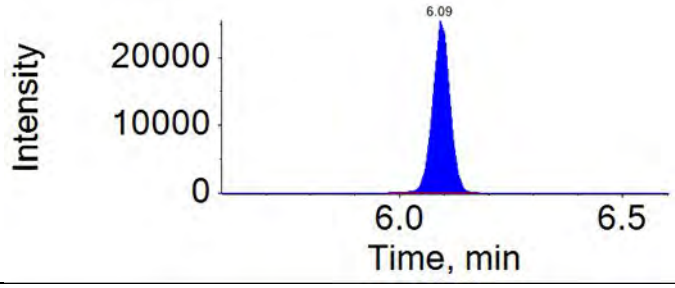


REVIEWED
*By HMK at 10:53 am, 11/13/18*

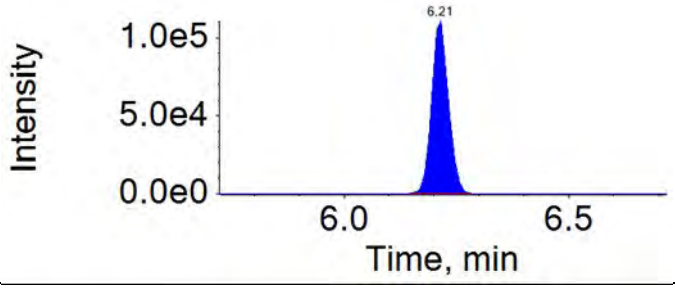
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

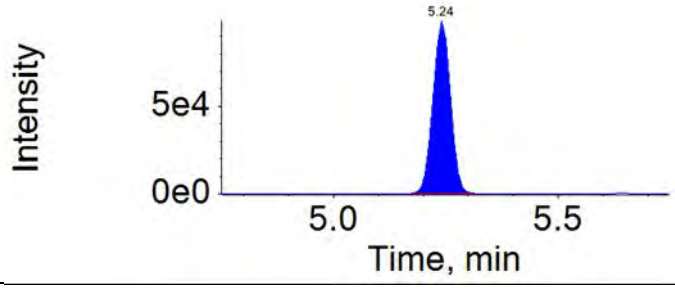
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



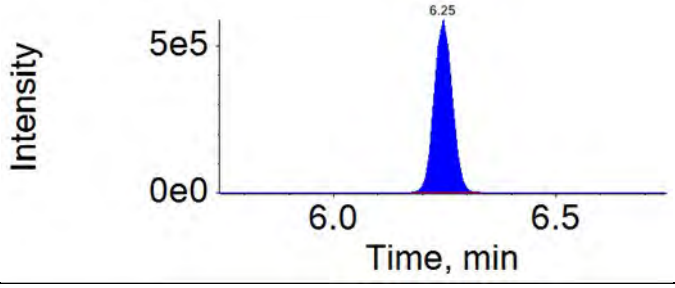



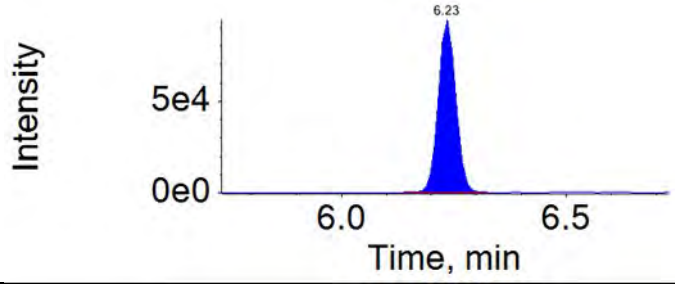

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



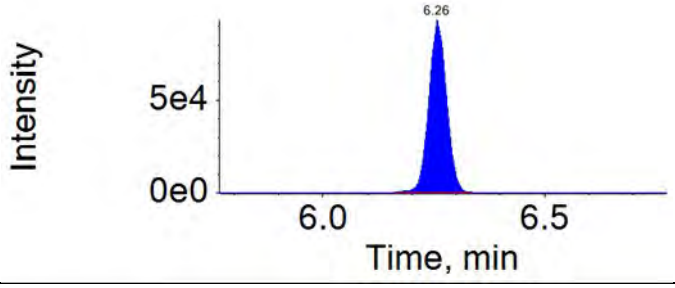



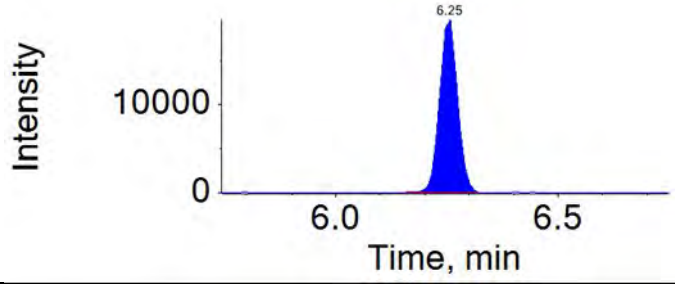

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



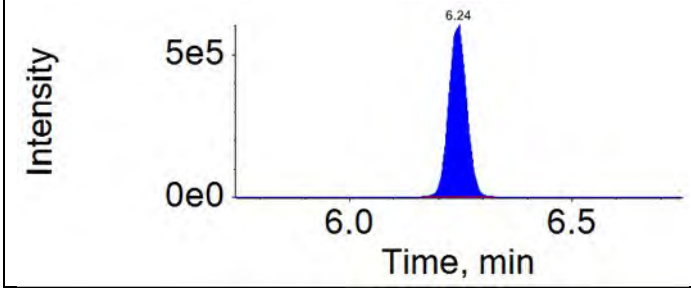
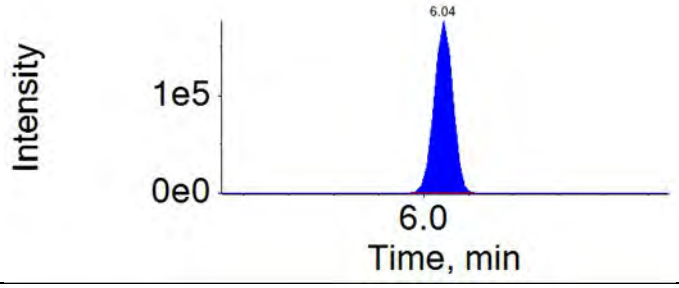




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*By MCD at 6:33 pm, 11/12/18*



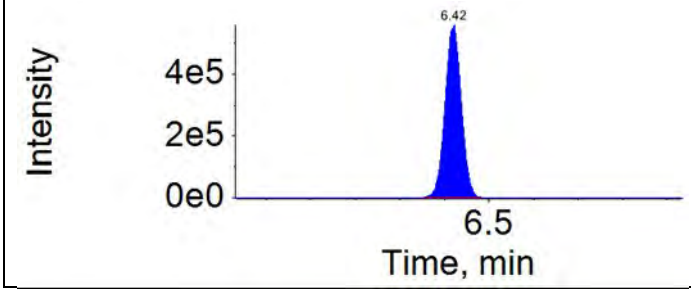
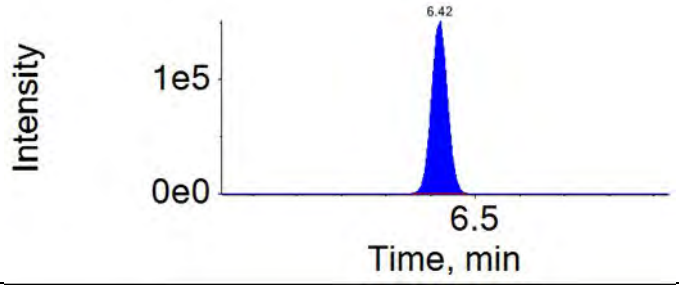
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

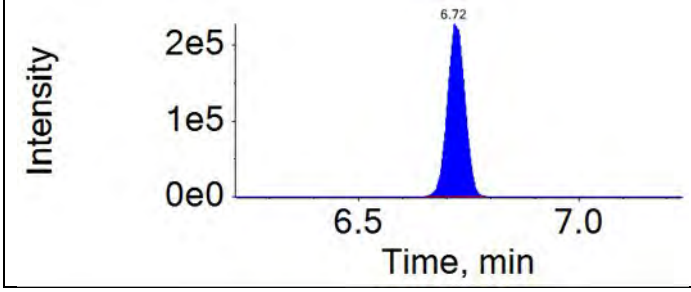
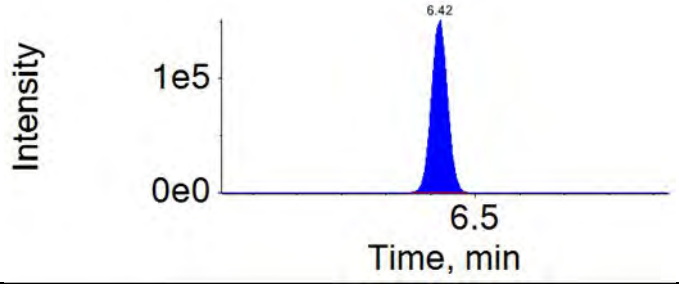




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

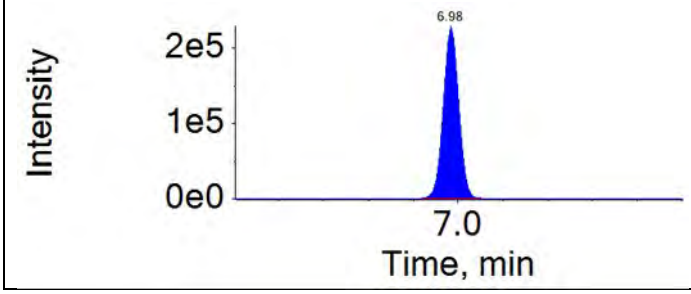
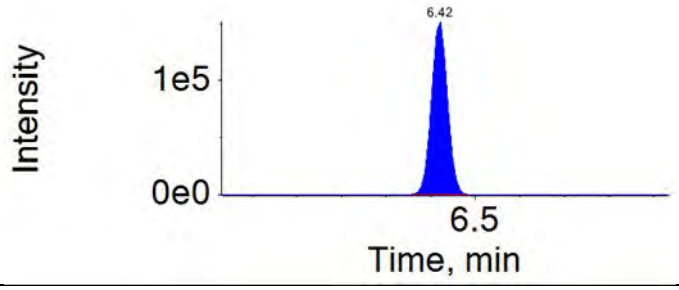




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





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



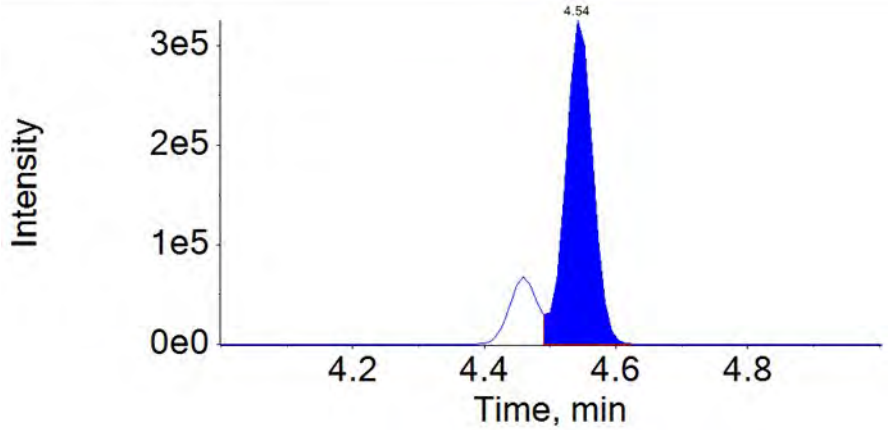


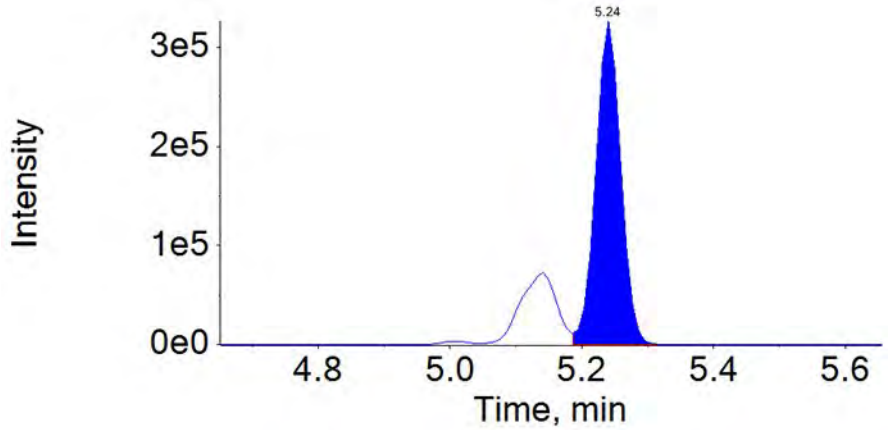
APPROVED
*By MCD at 6:33 pm, 11/12/18*

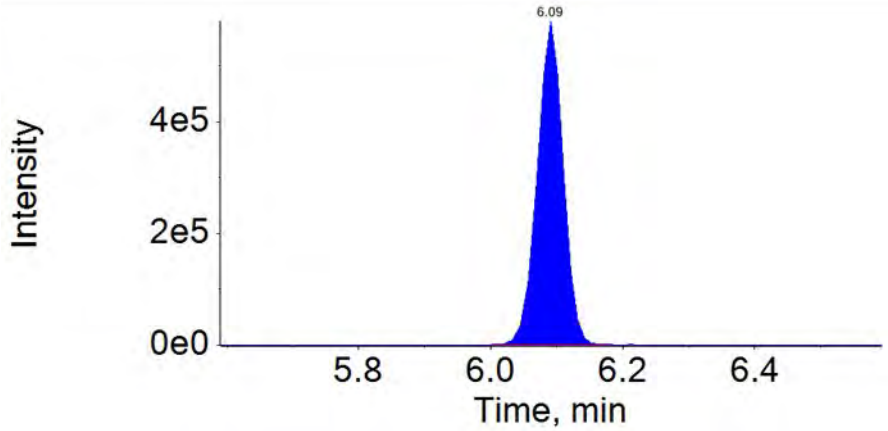


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFHxS<br>**RT (min.):** 4.54<br>**Peak Area:** 943687.14<br>**Mass Range:** 399.0 / 80.0<br>**File Name:** 18NOV12DCAL-46.wiff<br>**Sample Name:** CAL5 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS<br>**RT (min.):** 5.24<br>**Peak Area:** 860586.56<br>**Mass Range:** 499.0 / 80.0<br>**File Name:** 18NOV12DCAL-46.wiff<br>**Sample Name:** CAL5 | <br>**Integration Comment:** incorrect integration |

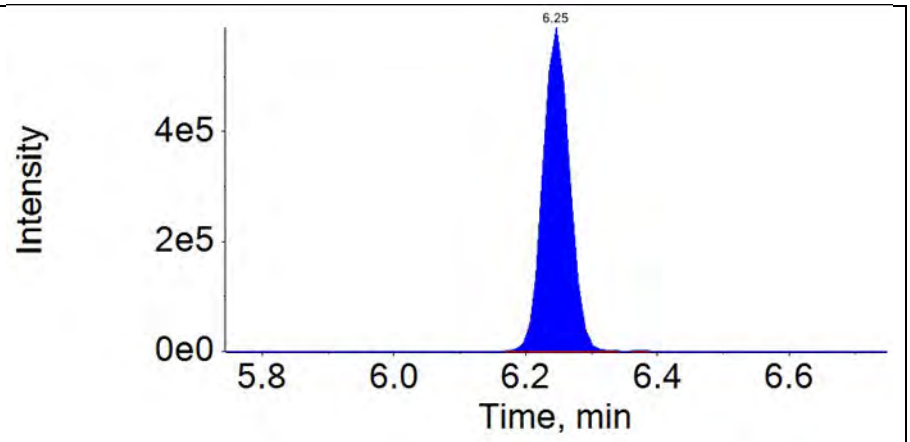
| | |
|---|---|
| **Component Name:** NMePFOSAE<br>**RT (min.):** 6.09<br>**Peak Area:** 1591493.63<br>**Mass Range:** 616.0 / 59.0<br>**File Name:** 18NOV12DCAL-46.wiff<br>**Sample Name:** CAL5 | <br>**Integration Comment:** incorrect integration |

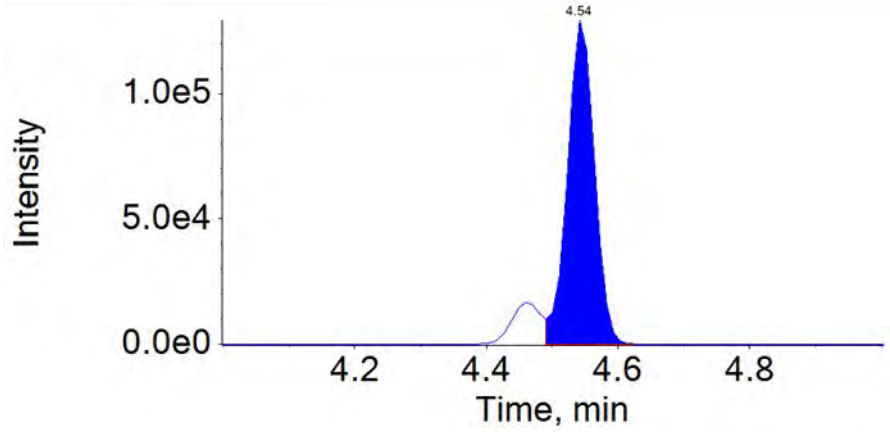
APPROVED
*By MCD at 6:33 pm, 11/12/18*

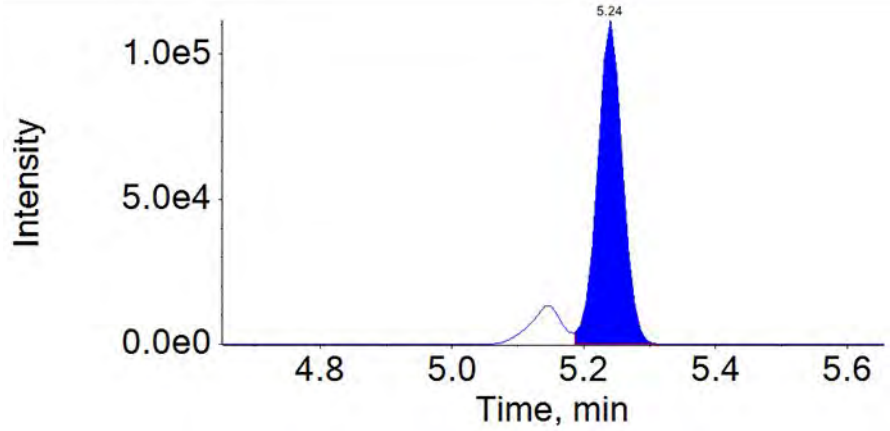


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** NEtPFOSAE<br>**RT (min.):** 6.25<br>**Peak Area:** 1662069.44<br>**Mass Range:** 630.0 / 59.0<br>**File Name:** 18NOV12DCAL-46.wiff<br>**Sample Name:** CAL5 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFHxS_2<br>**RT (min.):** 4.54<br>**Peak Area:** 369522.57<br>**Mass Range:** 399.0 / 99.0<br>**File Name:** 18NOV12DCAL-46.wiff<br>**Sample Name:** CAL5 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.24<br>**Peak Area:** 295251.82<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV12DCAL-46.wiff<br>**Sample Name:** CAL5 | <br>**Integration Comment:** incorrect integration |

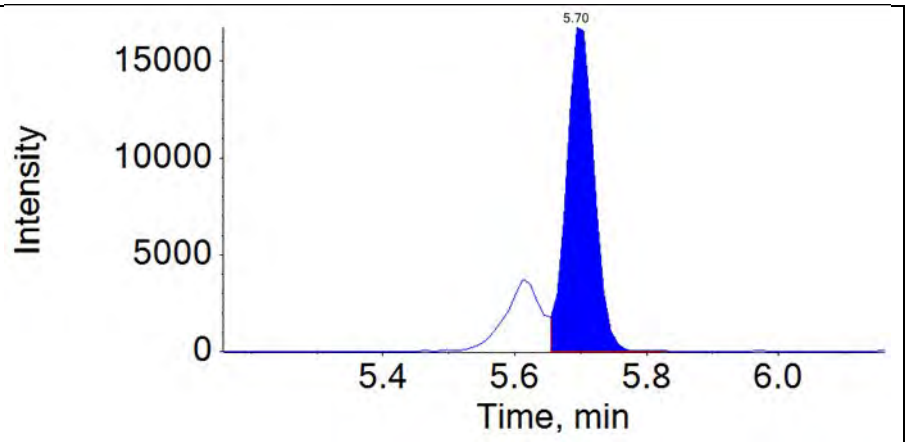
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

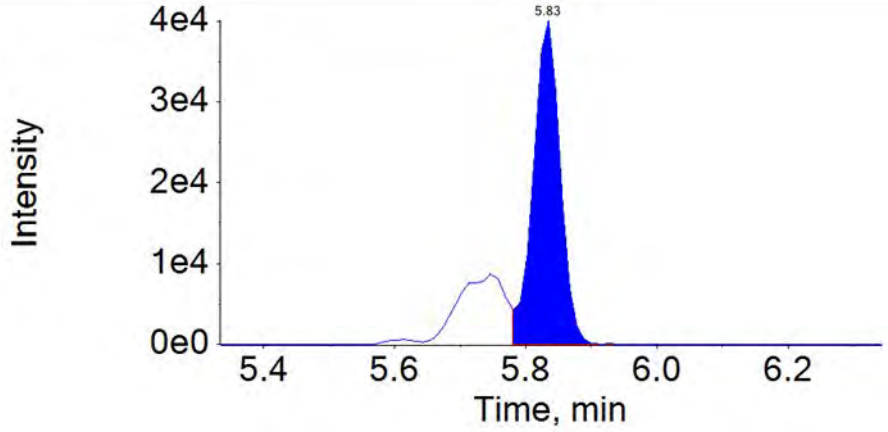
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NMeFOSAA_2
**RT (min.):**
5.70
**Peak Area:**
48911.60
**Mass Range:**
570.0 / 483.0
**File Name:**
18NOV12DCAL-46.wiff
**Sample Name:**
CAL5



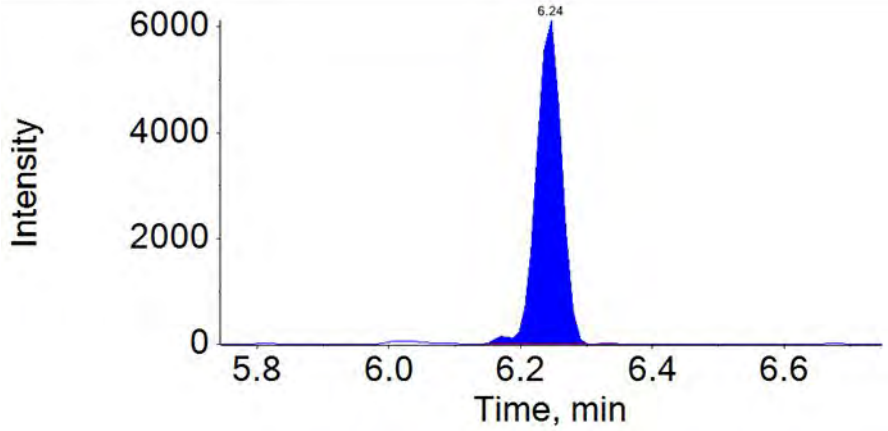

**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA_2
**RT (min.):**
5.83
**Peak Area:**
114677.93
**Mass Range:**
584.0 / 526.0
**File Name:**
18NOV12DCAL-46.wiff
**Sample Name:**
CAL5




**Integration Comment:** incorrect integration

**Component Name:**
PFTrDA_2
**RT (min.):**
6.24
**Peak Area:**
16434.79
**Mass Range:**
663.0 / 169.0
**File Name:**
18NOV12DCAL-46.wiff
**Sample Name:**
CAL5




**Integration Comment:** incorrect integration

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*By MCD at 6:33 pm, 11/12/18*



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*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

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*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

# Ion Ratio Report

**Sample Name:** CAL5 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-46.wiff

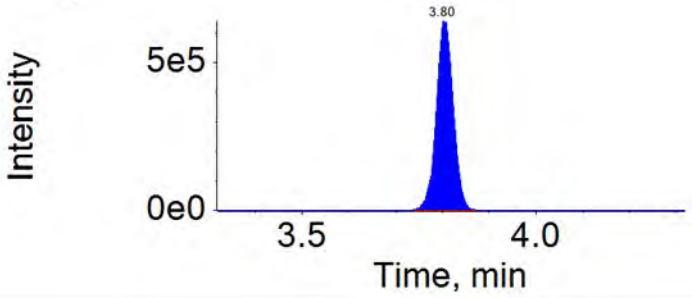
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.80 | 1.00 | 1630613.49 | A | 0.3619 | 0.3539 | | | |
| PFBS_2 | 3.80 | 1.00 | 577021.23 | A | 0.3619 | 0.3539 | -2 | 50 | |
| 4:2-FTS | 4.12 | 1.00 | 344695.89 | A | 0.6730 | 0.5792 | | | |
| 4:2 FTS_2 | 4.12 | 1.00 | 199643.08 | A | 0.6730 | 0.5792 | | #NA! | |
| PFHxA | 4.15 | 1.00 | 3158486.41 | A | 0.0117 | 0.0109 | | | |
| PFHxA_2 | 4.15 | 1.00 | 34335.08 | A | 0.0117 | 0.0109 | -7 | 50 | |
| PFPeS | 4.17 | 1.10 | 815928.18 | A | 0.5191 | 0.5405 | | | |
| PFPeS_2 | 4.17 | 1.10 | 440987.79 | A | 0.5191 | 0.5405 | 4 | 50 | |
| PFHpA | 4.54 | 1.00 | 3269561.01 | A | 0.0563 | 0.0518 | | | |
| PFHpA_2 | 4.54 | 1.00 | 169510.99 | A | 0.0563 | 0.0518 | -8 | 50 | |
| PFHxS | 4.54 | 1.00 | 1138604.25 | M | 0.3428 | 0.3697 | | | |
| PFHxS_2 | 4.54 | 1.00 | 420898.36 | M | 0.3428 | 0.3697 | 8 | 50 | |
| 6:2-FTS | 4.90 | 1.00 | 260254.34 | A | 0.6604 | 0.6706 | | | |
| 6:2 FTS_2 | 4.90 | 1.00 | 174514.29 | A | 0.6604 | 0.6706 | | #NA! | |
| PFHpS | 4.90 | 1.08 | 1145559.80 | A | 0.4066 | 0.4043 | | | |
| PFHpS_2 | 4.90 | 1.08 | 463097.70 | A | 0.4066 | 0.4043 | -1 | 50 | |
| PFOA | 4.91 | 1.00 | 3291549.40 | A | 0.0562 | 0.0563 | | | |
| PFOA_2 | 4.91 | 1.00 | 185238.19 | A | 0.0562 | 0.0563 | 0 | 50 | |
| PFOS | 5.24 | 1.00 | 1147826.77 | M | 0.2968 | 0.2969 | | | |
| PFOS_2 | 5.24 | 1.00 | 340771.88 | M | 0.2968 | 0.2969 | 0 | 50 | |
| PFNA | 5.26 | 1.00 | 2725089.71 | A | 0.0229 | 0.0218 | | | |
| PFNA_2 | 5.26 | 1.00 | 59324.51 | A | 0.0229 | 0.0218 | -5 | 50 | |
| PFNS | 5.53 | 1.06 | 725402.00 | A | 0.4828 | 0.4661 | | | |
| PFNS_2 | 5.53 | 1.06 | 338109.67 | A | 0.4828 | 0.4661 | -3 | 50 | |
| PFDA | 5.56 | 1.00 | 2309359.54 | A | 0.0081 | 0.0056 | | | |
| PFDA_2 | 5.56 | 1.00 | 12923.91 | A | 0.0081 | 0.0056 | -31 | 50 | |
| 8:2-FTS | 5.56 | 1.00 | 206213.12 | A | 0.6814 | 0.6384 | | | |
| 8:2 FTS_2 | 5.56 | 1.00 | 131655.86 | A | 0.6814 | 0.6384 | | #NA! | |
| NMeFOSAA | 5.70 | 1.00 | 250711.49 | A | 0.2569 | 0.2507 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 62849.33 | M | 0.2569 | 0.2507 | -2 | 50 | |
| PFDS | 5.79 | 1.10 | 578877.50 | A | 0.5144 | 0.4977 | | | |
| PFDS_2 | 5.79 | 1.10 | 288112.49 | A | 0.5144 | 0.4977 | -3 | 50 | |
| PFUnDA | 5.82 | 1.00 | 1773582.60 | A | 0.0058 | 0.0044 | | | |
| PFUnDA_2 | 5.82 | 1.00 | 7755.59 | A | 0.0058 | 0.0044 | -25 | 50 | |
| NEtFOSAA | 5.83 | 1.00 | 237197.18 | A | 0.7253 | 0.6651 | | | |
| NEtFOSAA_2 | 5.83 | 1.00 | 157758.05 | M | 0.7253 | 0.6651 | -8 | 50 | |
| PFDoDA | 6.04 | 1.00 | 2099385.04 | A | 0.0157 | 0.0116 | | | |
| PFDoDA_2 | 6.04 | 1.00 | 24326.91 | A | 0.0157 | 0.0116 | -26 | 50 | |
| 10:2-FTS | 6.06 | 1.09 | 153343.55 | A | 0.6356 | 0.6979 | | | |
| 10:2 FTS_2 | 6.06 | 1.09 | 107018.53 | A | 0.6356 | 0.6979 | | #NA! | |
| PFTrDA | 6.24 | 1.03 | 1679407.24 | A | 0.0086 | 0.0096 | | | |
| PFTrDA_2 | 6.24 | 1.03 | 16152.60 | M | 0.0086 | 0.0096 | 12 | 50 | |
| PFTeDA | 6.42 | 1.00 | 1418276.72 | A | 0.0062 | 0.0062 | | | |
| PFTeDA_2 | 6.42 | 1.00 | 8850.65 | A | 0.0062 | 0.0062 | 0 | 50 | |
| PFHxDA | 6.72 | 1.05 | 627350.68 | A | 0.0683 | 0.0680 | | | |
| PFHxDA_2 | 6.72 | 1.05 | 42651.35 | A | 0.0683 | 0.0680 | 0 | 50 | |
| PFODA | 6.98 | 1.09 | 544296.46 | A | 0.0277 | 0.0265 | | | |
| PFODA_2 | 6.98 | 1.09 | 14445.27 | A | 0.0277 | 0.0265 | -4 | 50 | |

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*By MCD at 6:33 pm, 11/12/18*

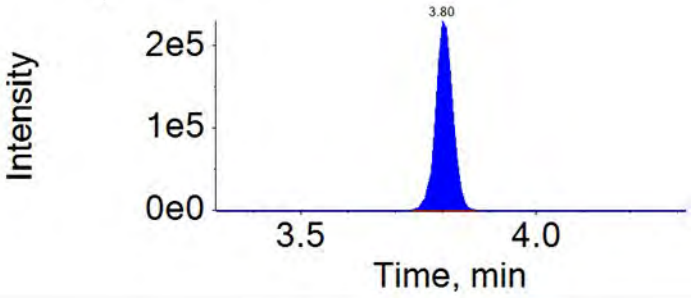


REVIEWED
*By HMK at 10:53 am, 11/13/18*

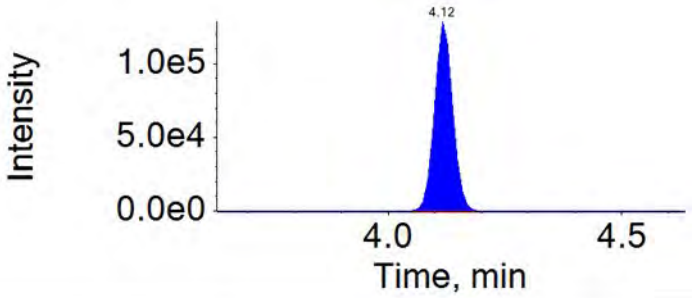
Component: PFBS
Primary Mass: 299.0 / 80.0



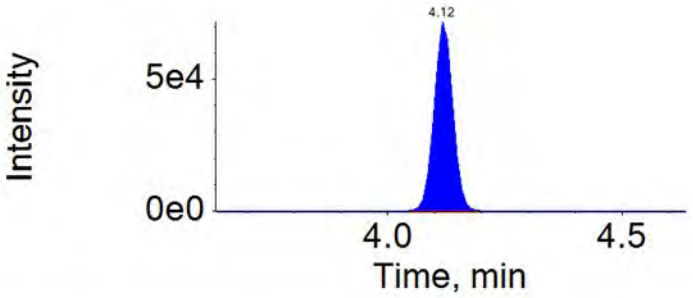

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



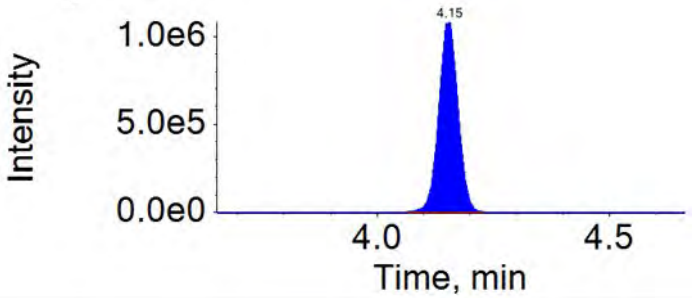

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



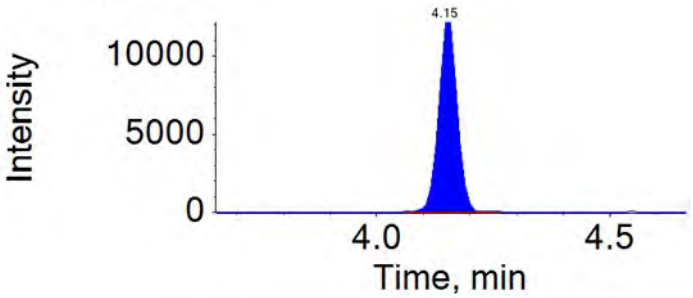

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



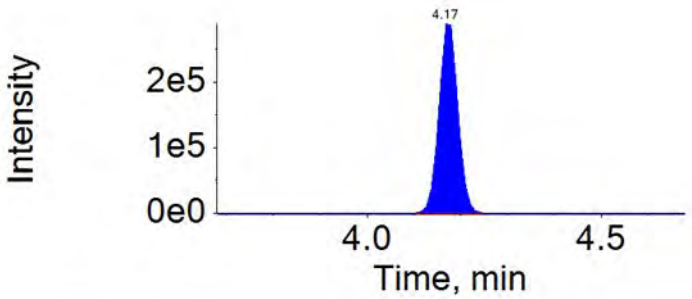

Component: PFHxA
Primary Mass: 313.0 / 269.0



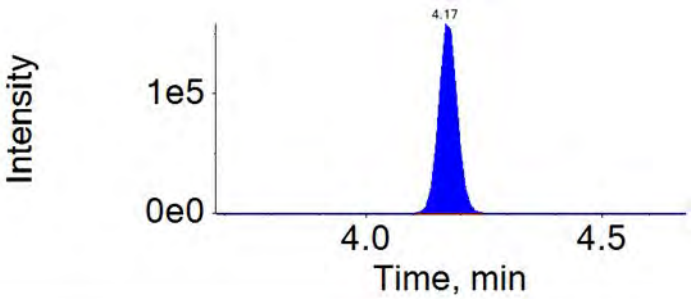

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

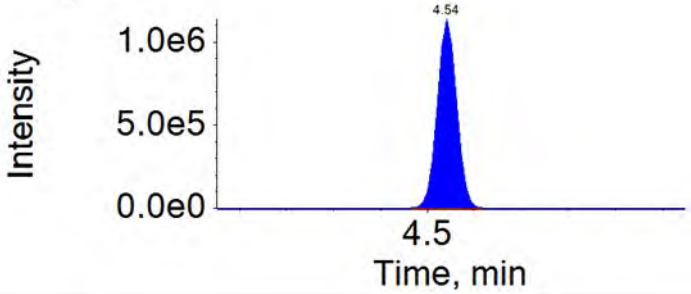



APPROVED
*By MCD at 6:33 pm, 11/12/18*

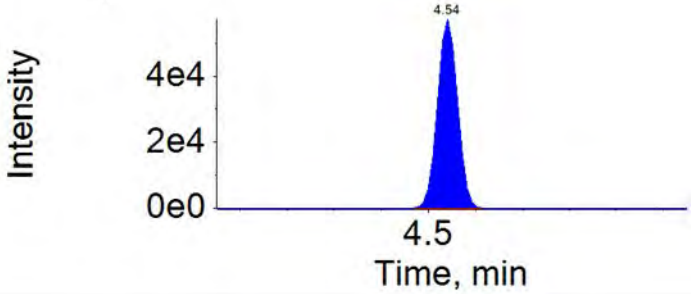


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*By HMK at 10:53 am, 11/13/18*

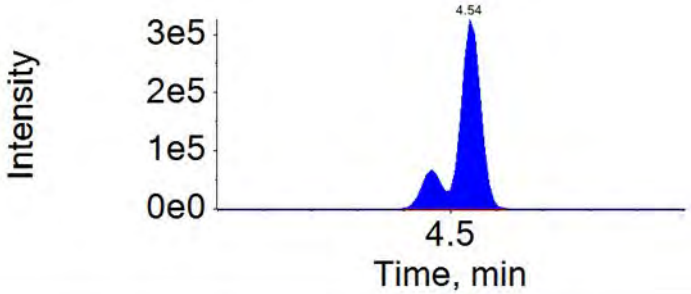
Component: PFHpA
Primary Mass: 363.0 / 319.0



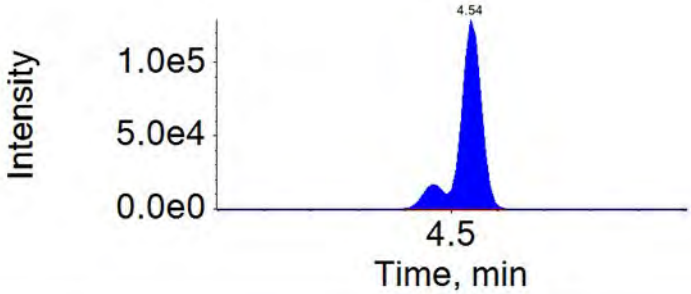

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



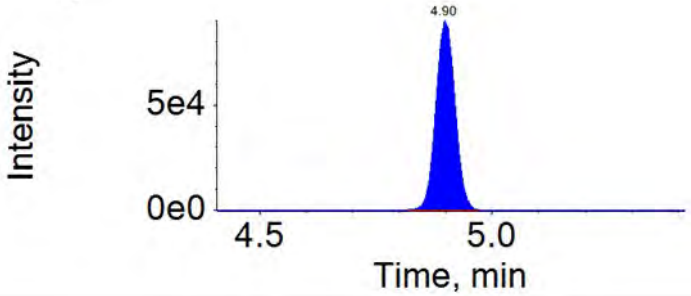

Component: PFHxS
Primary Mass: 399.0 / 80.0



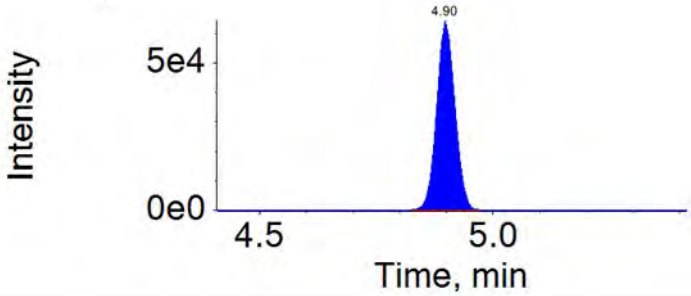

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



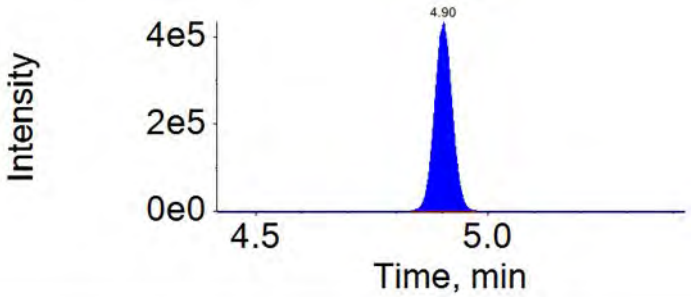

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



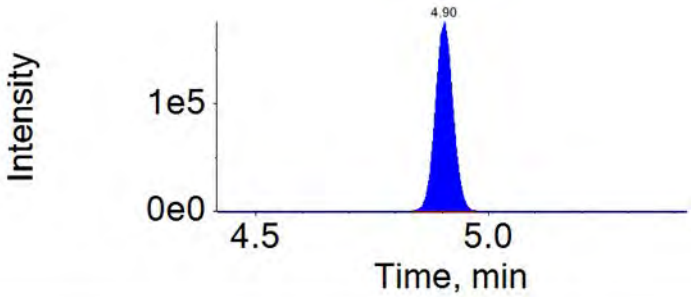

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

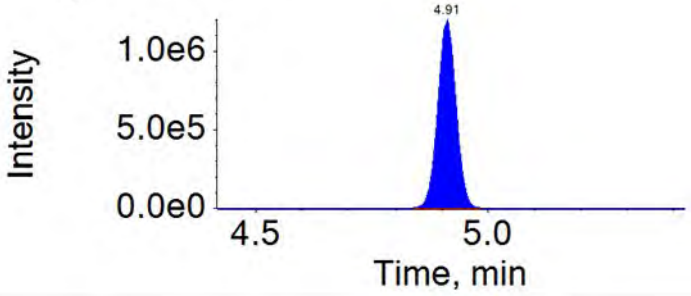



APPROVED
*By MCD at 6:33 pm, 11/12/18*

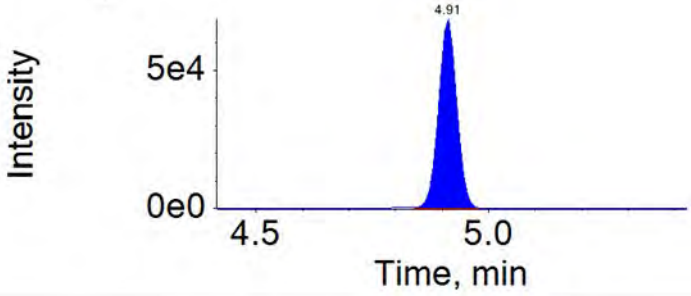


REVIEWED
*By HMK at 10:53 am, 11/13/18*

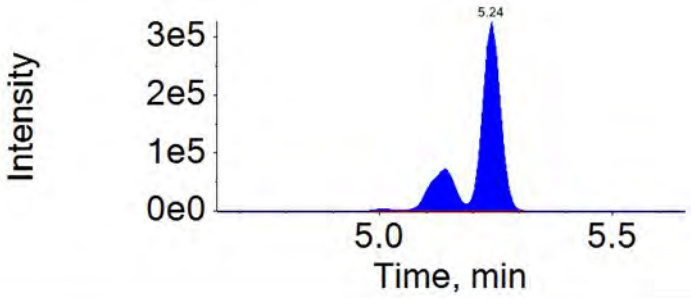
Component: PFOA
Primary Mass: 413.0 / 369.0



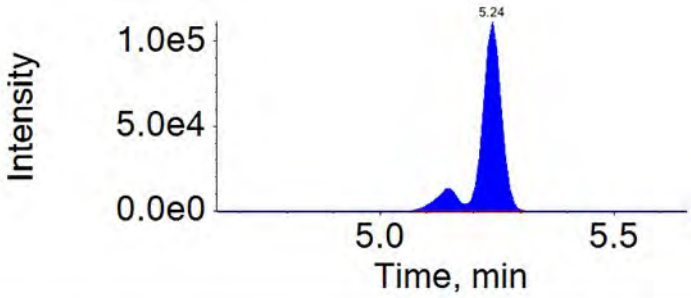

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



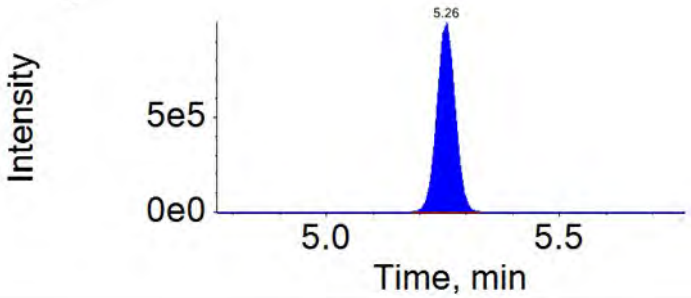

Component: PFOS
Primary Mass: 499.0 / 80.0



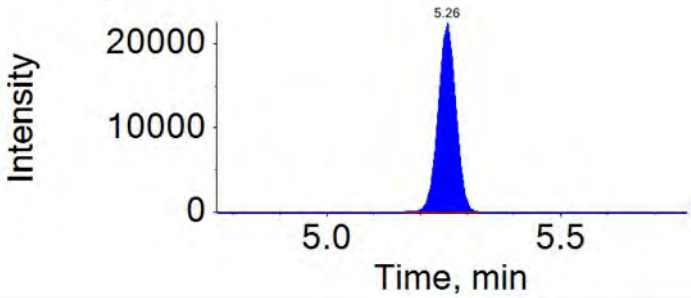

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



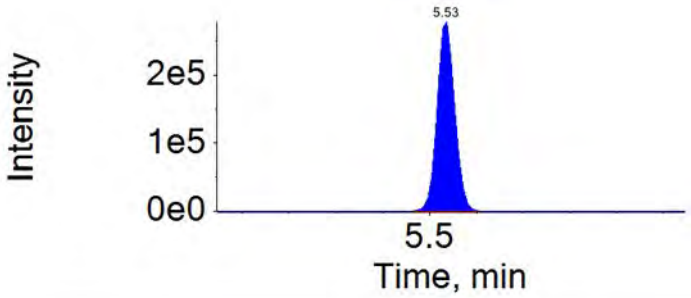

Component: PFNA
Primary Mass: 463.0 / 419.0



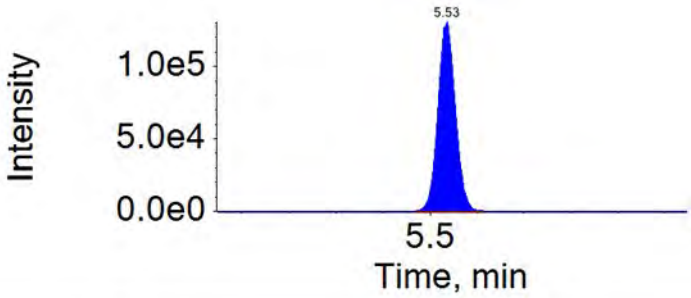

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

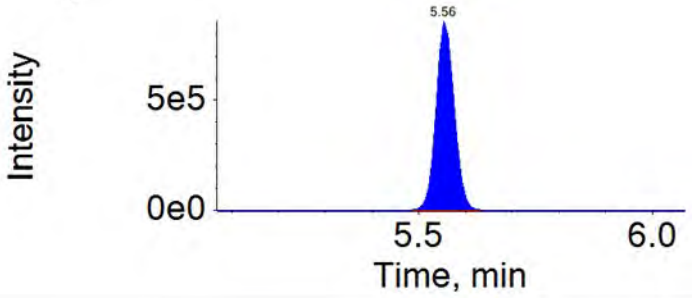



APPROVED
*By MCD at 6:33 pm, 11/12/18*

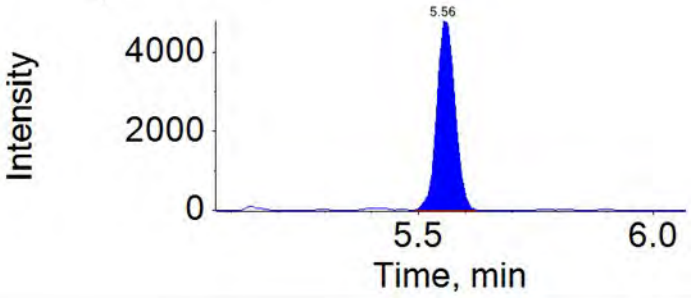


REVIEWED
*By HMK at 10:53 am, 11/13/18*

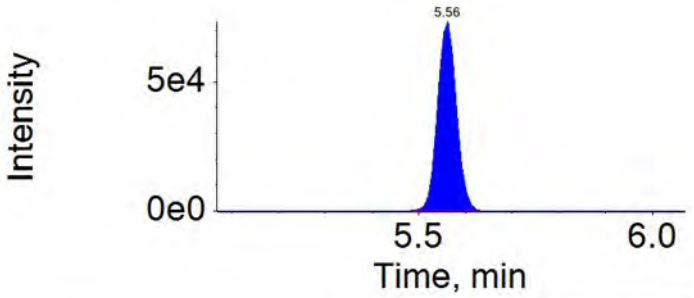
Component: PFDA
Primary Mass: 513.0 / 469.0



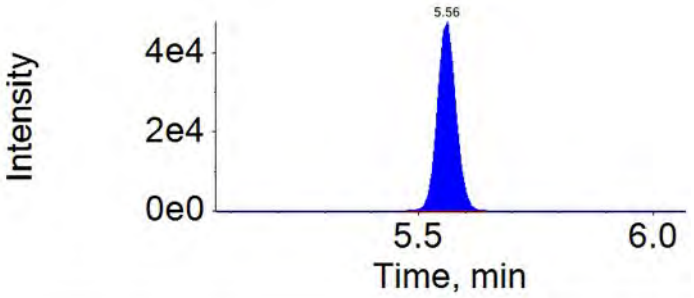

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



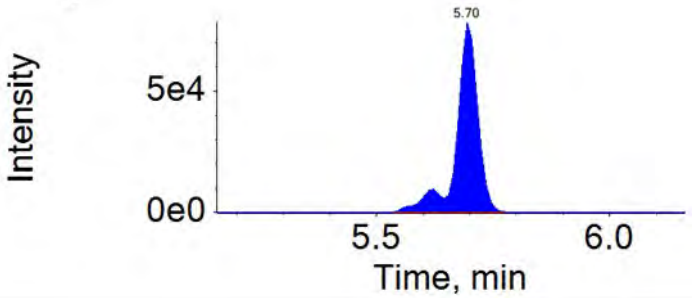

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



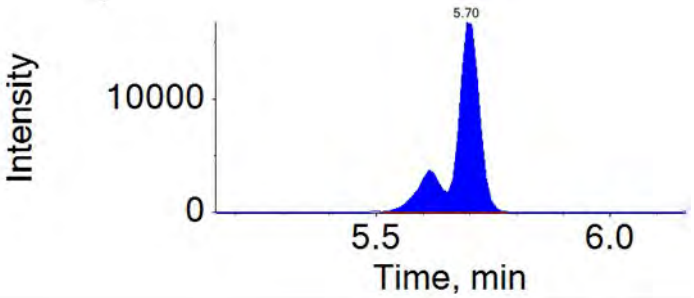

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



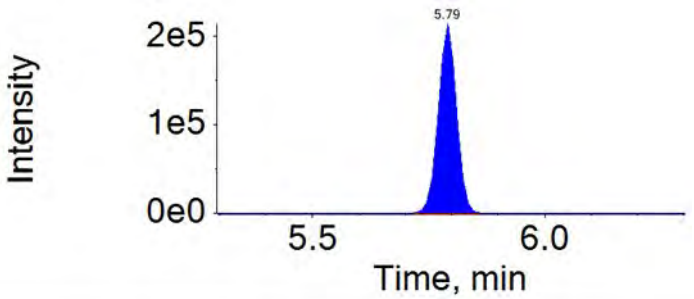

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



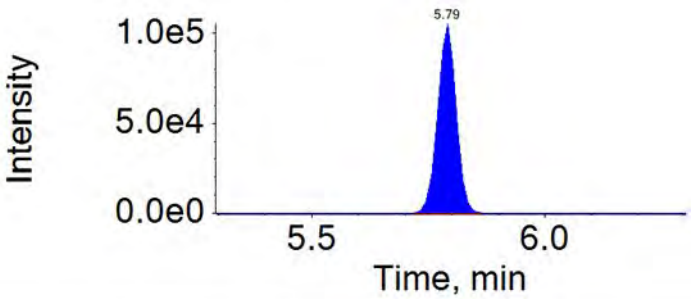

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

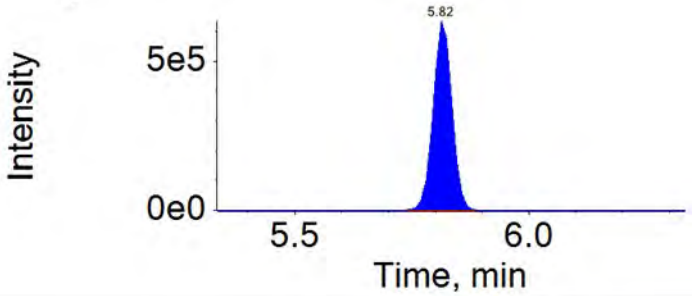



APPROVED
*By MCD at 6:33 pm, 11/12/18*

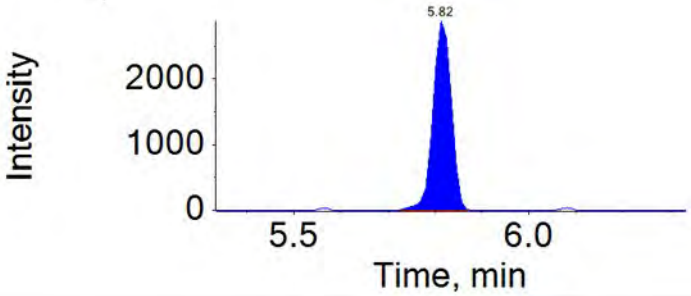


REVIEWED
*By HMK at 10:53 am, 11/13/18*

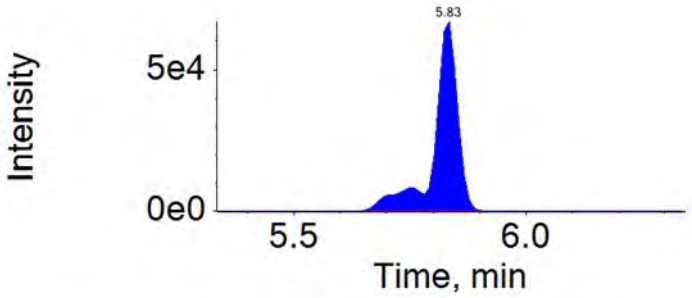
Component: PFUnDA
Primary Mass: 563.0 / 519.0



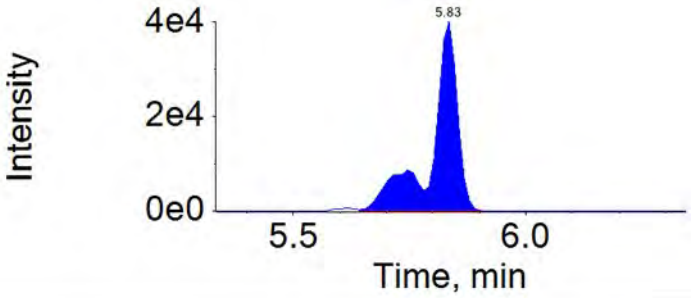

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



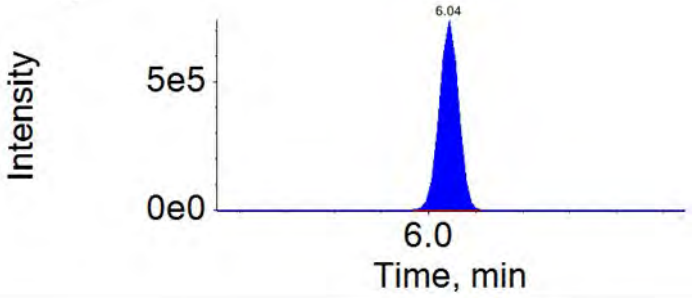

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



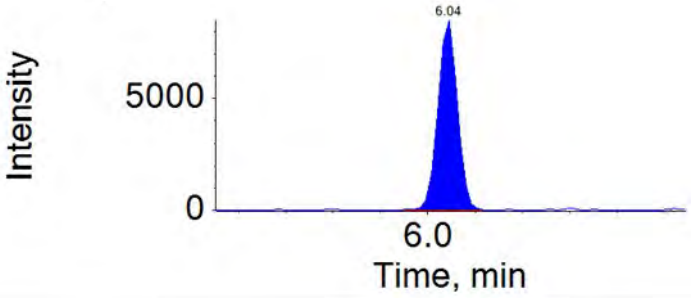

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



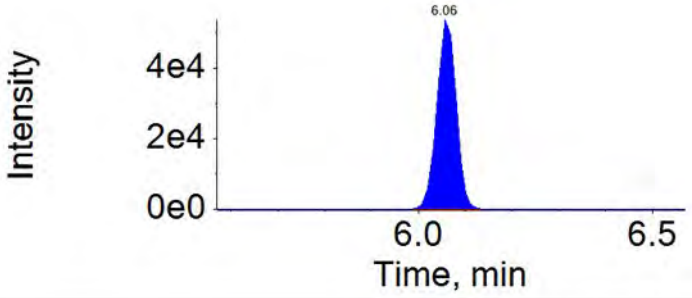

Component: PFDoDA
Primary Mass: 613.0 / 569.0



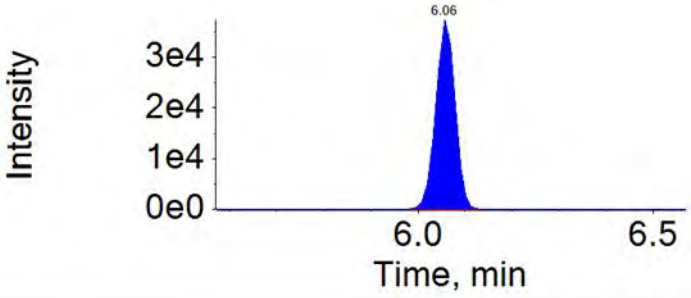

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

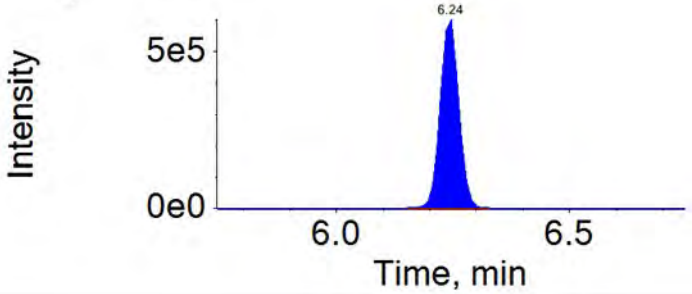



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*By MCD at 6:33 pm, 11/12/18*

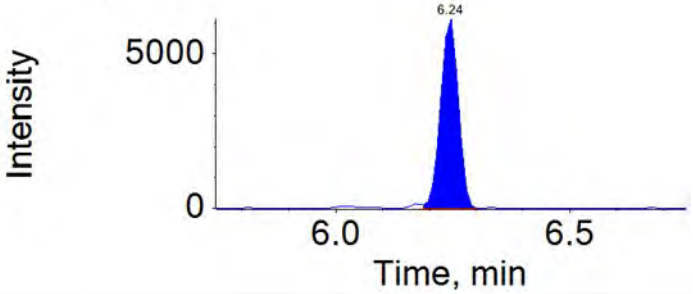


REVIEWED
*By HMK at 10:53 am, 11/13/18*

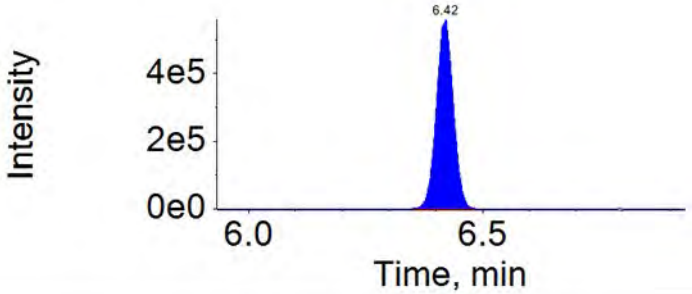
Component: PFTrDA
Primary Mass: 663.0 / 619.0



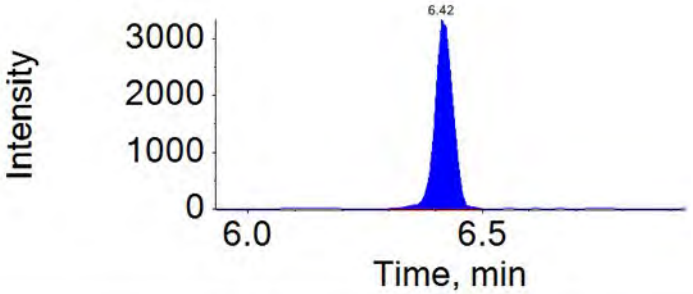

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



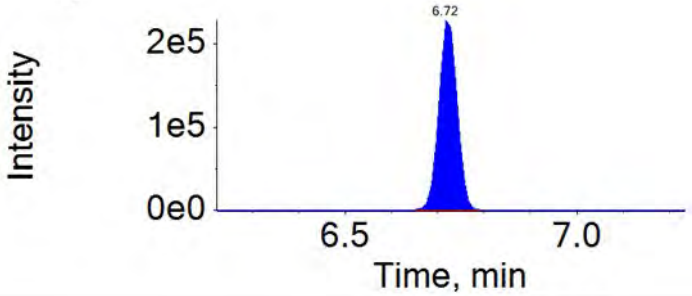

Component: PFTeDA
Primary Mass: 713.0 / 669.0



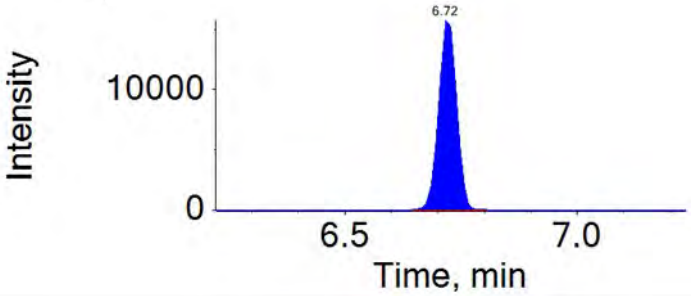

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



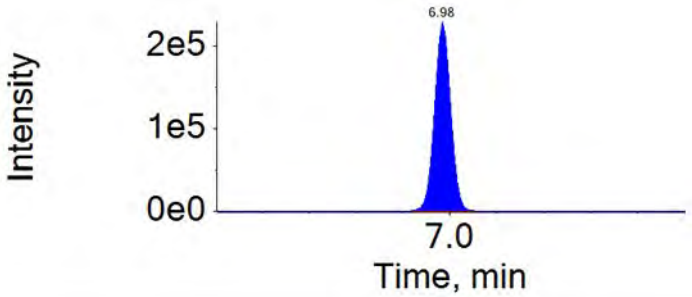

Component: PFHxDA
Primary Mass: 813.0 / 769.0



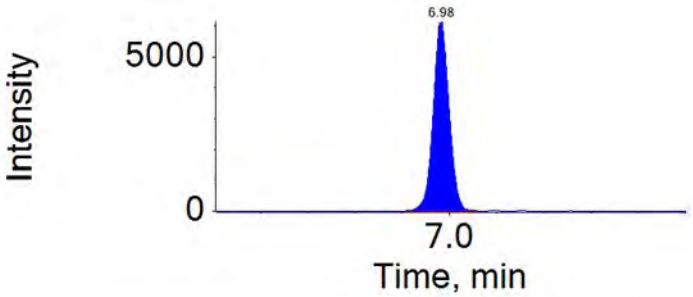

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CAL6 | | | **Data File:** | | 18NOV12DCAL-47.wiff |
| **Sample ID:** | CALBRN61833B | | | **Acquis Date:** | | 2018-11-12T15:51:06 |
| **Sample Type:** | Standard | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 8 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 555817.9 | 659926.2 | -16 | 50 | |
| 13C2-PFOA | 5.0 | 422900.5 | 450219.7 | -6 | 50 | |
| 13C4-PFOS | 4.8 | 231712.1 | 249205.8 | -7 | 50 | |
| 13C2-PFDA | 5.0 | 237446.9 | 278743.9 | -15 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 633648.4 | 13C3-PFBA | 555817.9 | 1.140 | 5.000 | 5.111 | 102 | 70-130 | |
| E13C5-PFPeA | 635977.8 | 13C3-PFBA | 555817.9 | 1.144 | 5.000 | 5.132 | 103 | 70-130 | |
| E13C3-PFBS | 378676.8 | 13C3-PFBA | 555817.9 | 0.681 | 4.650 | 4.809 | 103 | 70-130 | |
| E13C2-4:2-FTS | 41422.2 | 13C2-PFOA | 422900.5 | 0.098 | 4.670 | 4.362 | 93 | 70-130 | |
| E13C5-PFHxA | 568205.8 | 13C2-PFOA | 422900.5 | 1.344 | 5.000 | 4.854 | 97 | 70-130 | |
| E13C3-PFHxS | 284116.5 | 13C2-PFOA | 422900.5 | 0.672 | 4.730 | 4.610 | 97 | 70-130 | |
| E13C4-PFHpA | 455005.8 | 13C2-PFOA | 422900.5 | 1.076 | 5.000 | 4.847 | 97 | 70-130 | |
| E13C2-6:2-FTS | 27988.5 | 13C2-PFOA | 422900.5 | 0.066 | 4.750 | 4.428 | 93 | 70-130 | |
| E13C8-PFOA | 707130.3 | 13C2-PFOA | 422900.5 | 1.672 | 5.000 | 4.607 | 92 | 70-130 | |
| E13C8-PFOS | 253129.2 | 13C4-PFOS | 231712.1 | 1.092 | 4.780 | 4.840 | 101 | 70-130 | |
| E13C9-PFNA | 413811.4 | 13C4-PFOS | 231712.1 | 1.786 | 5.000 | 4.979 | 100 | 70-130 | |
| E13C6-PFDA | 522613.8 | 13C2-PFDA | 237446.9 | 2.201 | 5.000 | 5.136 | 103 | 70-130 | |
| E13C2-8:2-FTS | 22899.0 | 13C2-PFDA | 237446.9 | 0.096 | 4.790 | 4.810 | 100 | 70-130 | |
| E13C8-PFOSA | 539992.5 | 13C2-PFDA | 237446.9 | 2.274 | 5.000 | 5.042 | 101 | 70-130 | |
| Ed3-NMeFOSAA | 70320.3 | 13C2-PFDA | 237446.9 | 0.296 | 5.000 | 5.346 | 107 | 70-130 | |
| E13C7-PFUnDA | 208574.1 | 13C2-PFDA | 237446.9 | 0.878 | 5.000 | 5.100 | 102 | 70-130 | |
| Ed5-NEtFOSAA | 57308.1 | 13C2-PFDA | 237446.9 | 0.241 | 5.000 | 5.106 | 102 | 70-130 | |
| E13C2-PFDoDA | 477105.5 | 13C2-PFDA | 237446.9 | 2.009 | 5.000 | 5.217 | 104 | 70-130 | |
| Ed7-NMePFOSAE | 272639.0 | 13C2-PFDA | 237446.9 | 1.148 | 5.000 | 4.969 | 99 | 70-130 | |
| Ed3-NMePFOSA | 68215.9 | 13C2-PFDA | 237446.9 | 0.287 | 5.000 | 5.220 | 104 | 70-130 | |
| Ed9-NEtPFOSAE | 242587.5 | 13C2-PFDA | 237446.9 | 1.022 | 5.000 | 5.314 | 106 | 70-130 | |
| Ed5-NEtPFOSA | 56004.0 | 13C2-PFDA | 237446.9 | 0.236 | 5.000 | 5.533 | 111 | 70-130 | |
| E13C2-PFTeDA | 352892.2 | 13C2-PFDA | 237446.9 | 1.486 | 5.000 | 5.218 | 104 | 70-130 | |

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

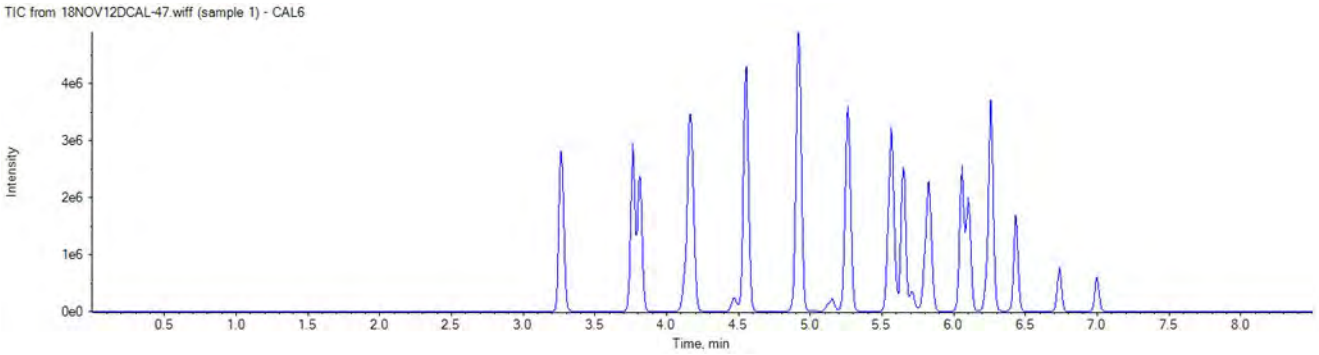
## Analyte Quantitation Peak Table

**Sample Name:** CAL6 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-47.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 | 5765353.4 | | A | 13C4-PFBA | 3.27 | 633648.4 | 9.099 | 50.404 |
| PFPeA | 3.77 | 1.000 | 5570221.7 | | A | 13C5-PFPeA | 3.76 | 635977.8 | 8.759 | 50.702 |
| PFBS | 3.81 | 1.000 | 3588084.2 | | A | 13C3-PFBS | 3.81 | 378676.8 | 9.475 | 45.072 |
| 4:2-FTS | 4.13 | 1.000 | 738294.0 | | A | 13C2-4:2-FTS | 4.13 | 41422.2 | 17.824 | 48.392 |
| PFHxA | 4.16 | 1.000 | 6593779.0 | | A | 13C5-PFHxA | 4.16 | 568205.8 | 11.605 | 48.453 |
| PFPeS | 4.18 | 1.100 | 1847826.8 | | A | 13C3-PFBS | 3.81 | 378676.8 | 4.880 | 47.375 |
| PFHpA | 4.55 | 1.000 | 6648455.3 | | A | 13C4-PFHpA | 4.55 | 455005.8 | 14.612 | 48.434 |
| PFHxS | 4.55 | 1.000 | 2662852.0 | | M | 13C3-PFHxS | 4.55 | 284116.5 | 9.372 | 45.444 |
| 6:2-FTS | 4.91 | 1.000 | 523949.5 | | A | 13C2-6:2-FTS | 4.91 | 27988.5 | 18.720 | 45.301 |
| PFHpS | 4.91 | 1.080 | 2604868.6 | | A | 13C3-PFHxS | 4.55 | 284116.5 | 9.168 | 48.262 |
| PFOA | 4.92 | 1.000 | 6758642.8 | | A | 13C8-PFOA | 4.92 | 707130.3 | 9.558 | 51.047 |
| PFOS | 5.25 | 1.000 | 2664957.2 | | M | 13C8-PFOS | 5.25 | 253129.2 | 10.528 | 46.040 |
| PFNA | 5.27 | 1.000 | 5820576.6 | | A | 13C9-PFNA | 5.27 | 413811.4 | 14.066 | 50.720 |
| PFNS | 5.55 | 1.060 | 1709959.5 | | A | 13C8-PFOS | 5.25 | 253129.2 | 6.755 | 47.262 |
| PFDA | 5.57 | 1.000 | 4802967.8 | | A | 13C6-PFDA | 5.57 | 522613.8 | 9.190 | 48.722 |
| 8:2-FTS | 5.57 | 1.000 | 469719.6 | | A | 13C2-8:2-FTS | 5.57 | 22899.0 | 20.513 | 47.825 |
| PFOSA | 5.65 | 1.000 | 5530440.6 | | A | 13C8-PFOSA | 5.65 | 539992.5 | 10.242 | 50.024 |
| NMeFOSAA | 5.71 | 1.000 | 627854.4 | | M | d3-NMeFOSAA | 5.71 | 70320.3 | 8.928 | 50.461 |
| PFDS | 5.80 | 1.100 | 1313570.3 | | A | 13C8-PFOS | 5.25 | 253129.2 | 5.189 | 47.020 |
| PFUnDA | 5.83 | 1.000 | 3923979.2 | | A | 13C7-PFUnDA | 5.83 | 208574.1 | 18.813 | 49.183 |
| NEtFOSAA | 5.84 | 1.000 | 551865.7 | | A | d5-NEtFOSAA | 5.84 | 57308.1 | 9.630 | 50.481 |
| PFDoDA | 6.06 | 1.000 | 4582985.5 | | A | 13C2-PFDoDA | 6.06 | 477105.5 | 9.606 | 48.914 |
| 10:2-FTS | 6.07 | 1.090 | 348263.2 | | A | 13C2-8:2-FTS | 5.57 | 22899.0 | 15.209 | 50.658 |
| NMePFOSAE | 6.10 | 1.000 | 3484588.8 | | A | d7-NMePFOSAE | 6.09 | 272639.0 | 12.781 | 53.193 |
| NMePFOSA | 6.11 | 1.000 | 670429.6 | | A | d3-NMePFOSA | 6.11 | 68215.9 | 9.828 | 48.485 |
| PFDoS | 6.23 | 1.190 | 711567.5 | | A | 13C8-PFOS | 5.25 | 253129.2 | 2.811 | 49.234 |
| NEtPFOSAE | 6.26 | 1.000 | 3677006.6 | | A | d9-NEtPFOSAE | 6.25 | 242587.5 | 15.157 | 48.629 |
| NEtPFOSA | 6.27 | 1.000 | 599280.4 | | A | d5-NEtPFOSA | 6.27 | 56004.0 | 10.701 | 49.142 |
| PFTrDA | 6.26 | 1.030 | 3691733.8 | | A | 13C2-PFDoDA | 6.06 | 477105.5 | 7.738 | 48.838 |
| PFTeDA | 6.43 | 1.000 | 3149020.2 | | A | 13C2-PFTeDA | 6.43 | 352892.2 | 8.923 | 50.021 |
| PFHxDA | 6.74 | 1.050 | 1533920.2 | | A | 13C2-PFTeDA | 6.43 | 352892.2 | 4.347 | 51.786 |
| PFODA | 7.00 | 1.090 | 1270897.6 | | A | 13C2-PFTeDA | 6.43 | 352892.2 | 3.601 | 50.157 |

## Total Ion Chromatogram



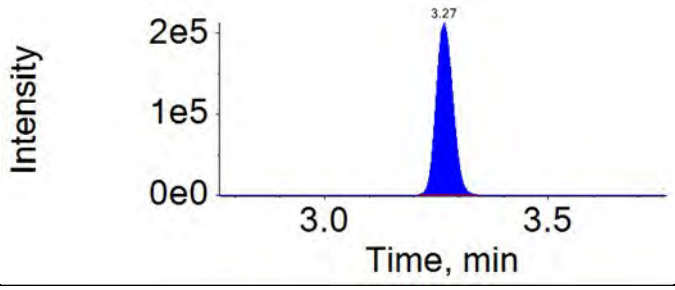

APPROVED
*By MCD at 6:33 pm, 11/12/18*



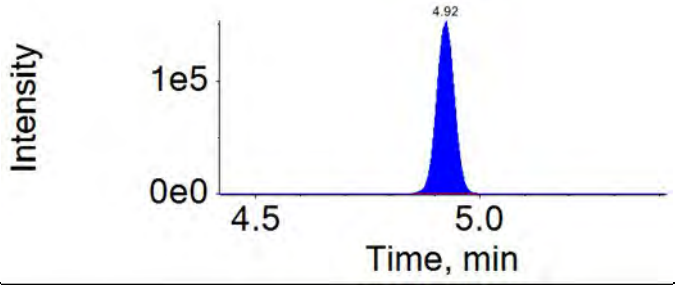
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

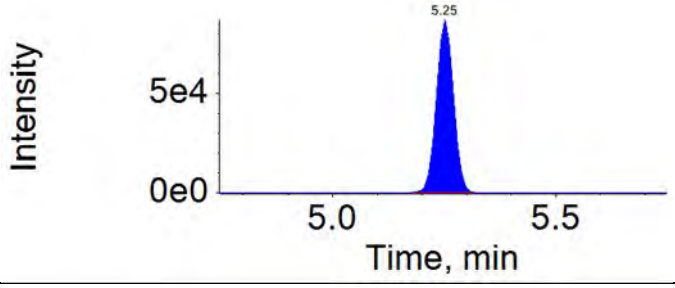
Injection Standard: 13C3-PFBA
216.0 / 172.0



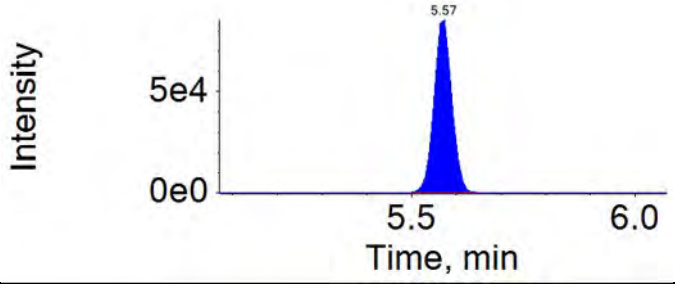

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0

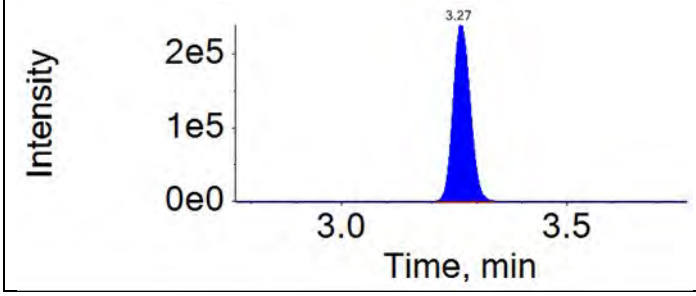


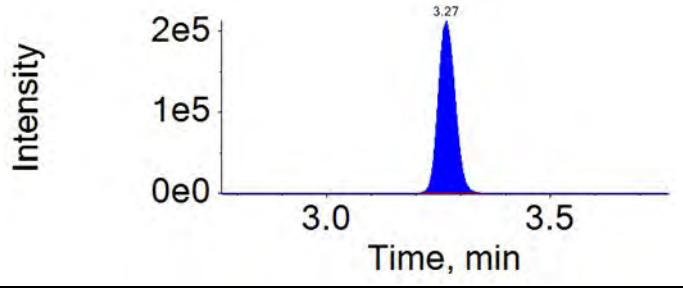

Injection Standard: 13C2-PFDA
515.0 / 470.0



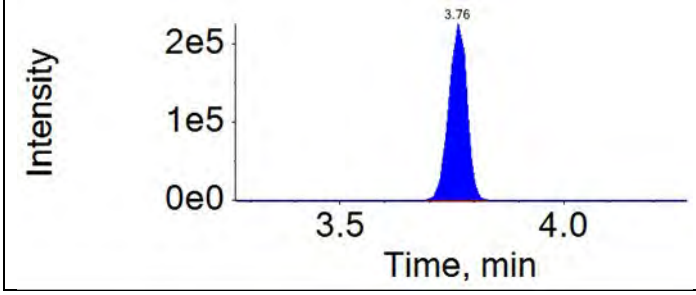
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

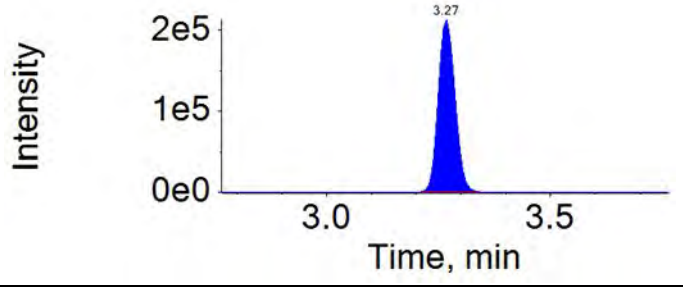
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



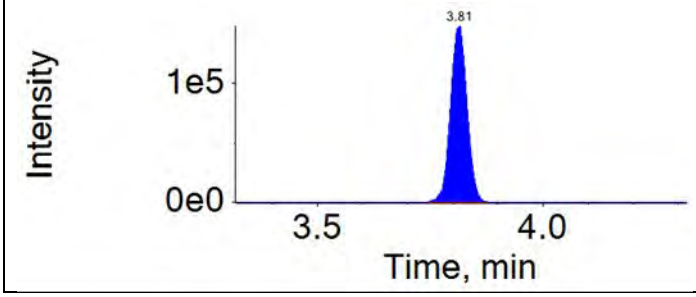



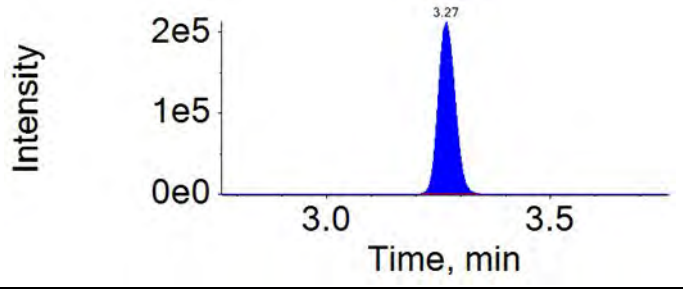

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



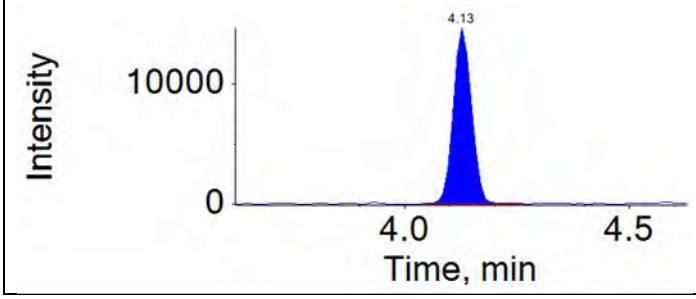



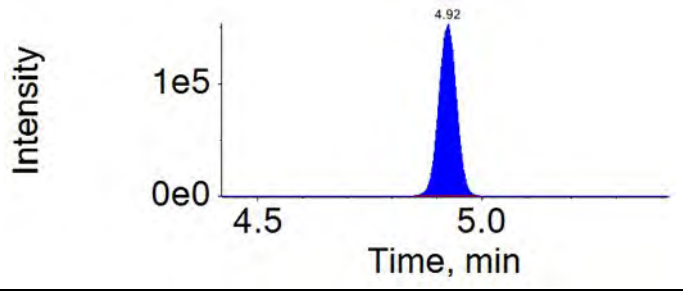

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



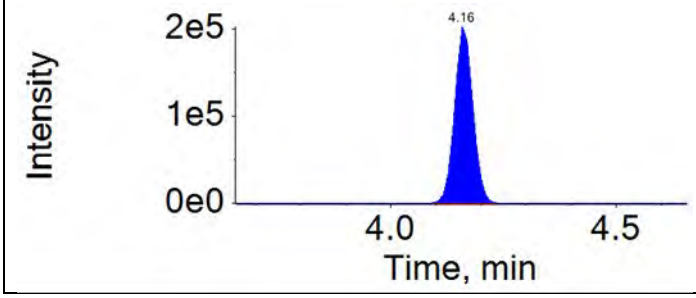

APPROVED
*By MCD at 6:33 pm, 11/12/18*

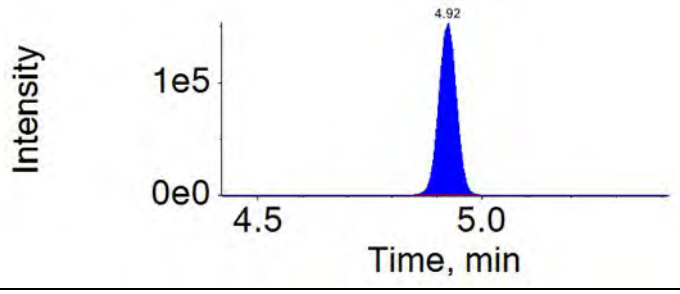


REVIEWED
*By HMK at 10:53 am, 11/13/18*

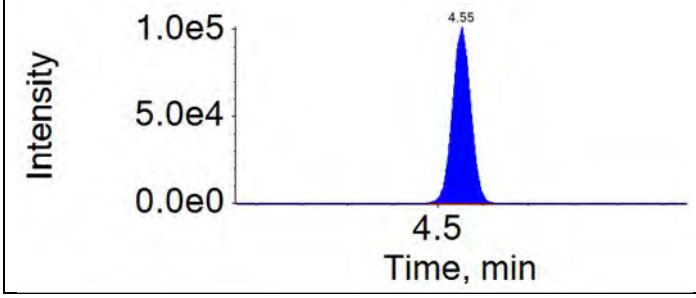
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

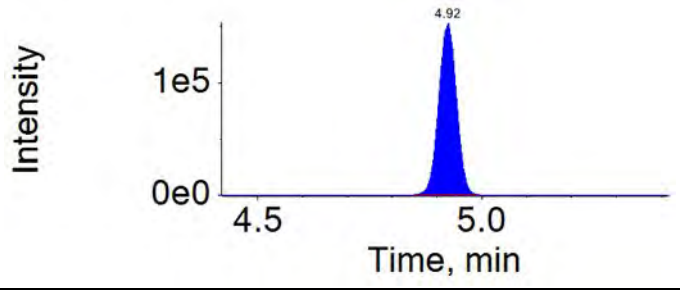
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



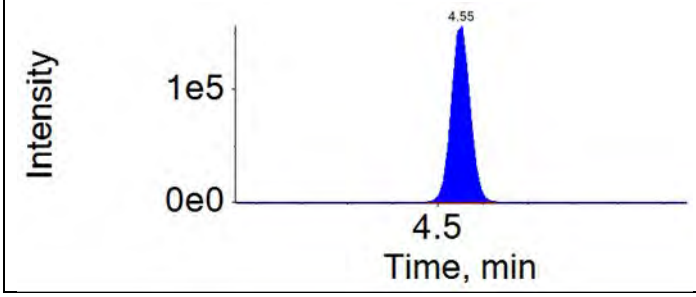



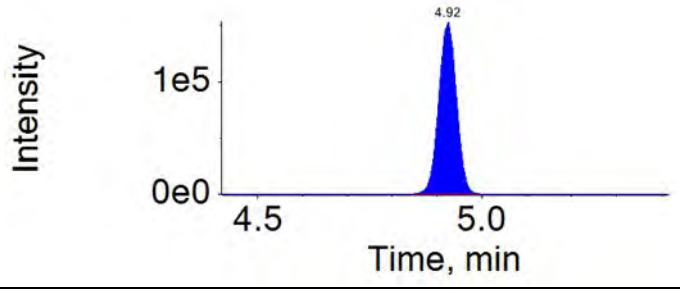

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



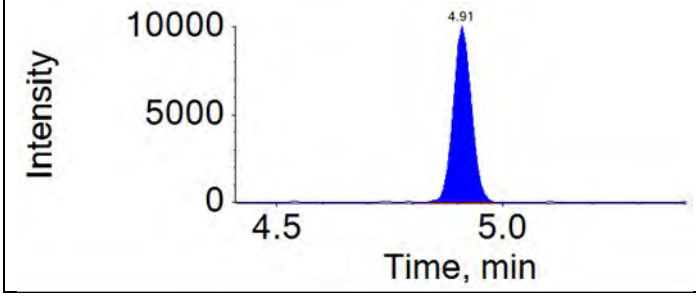



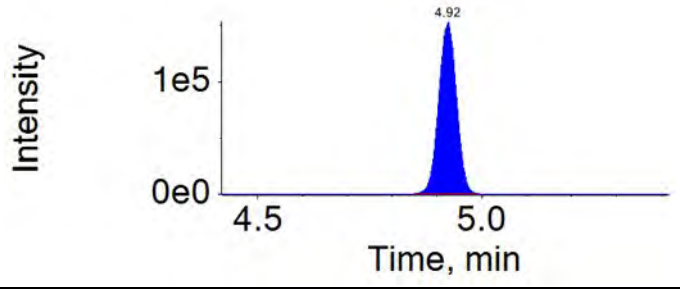

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



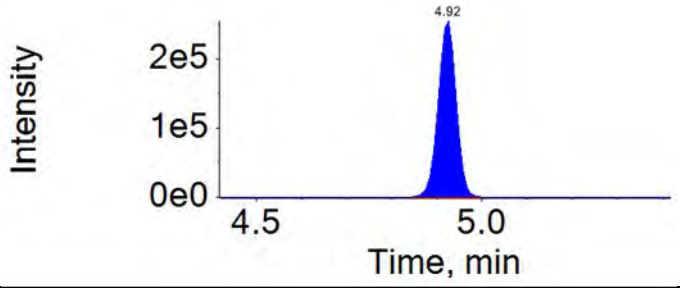
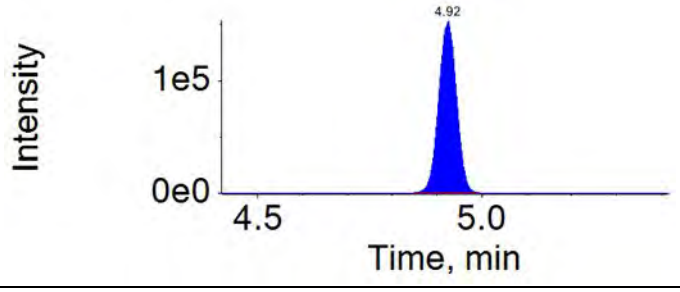




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*By MCD at 6:33 pm, 11/12/18*



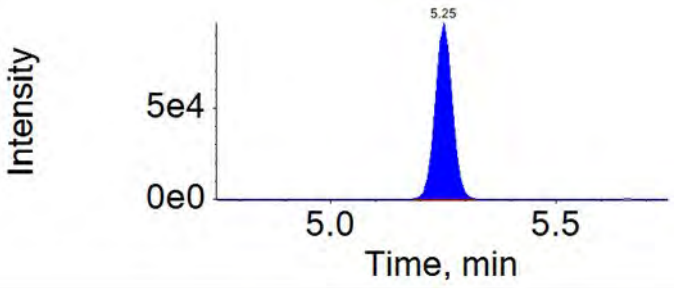
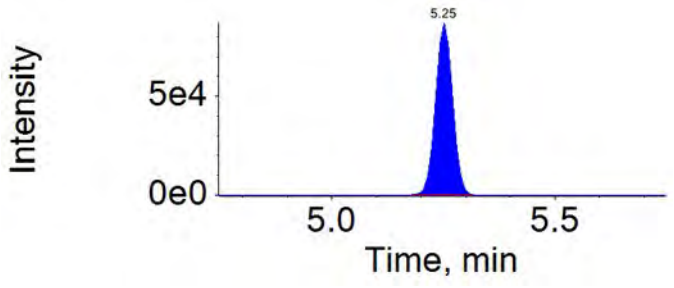
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

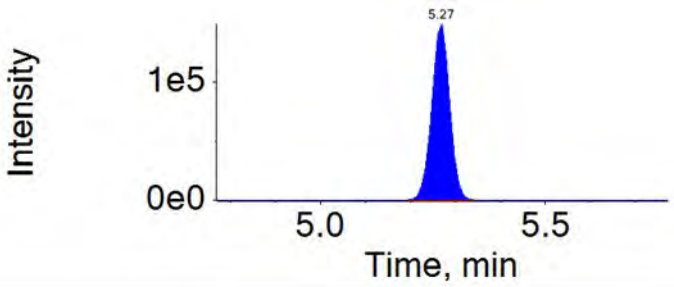
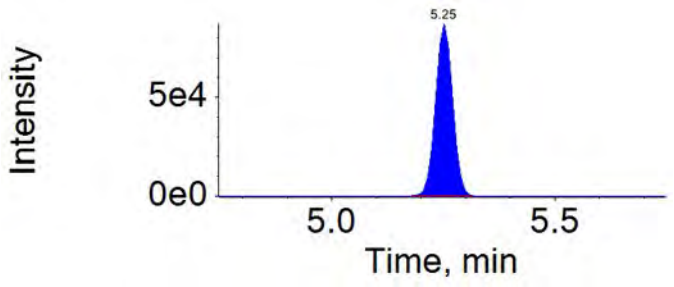




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

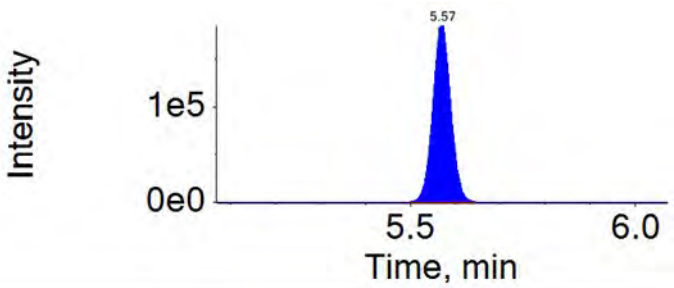
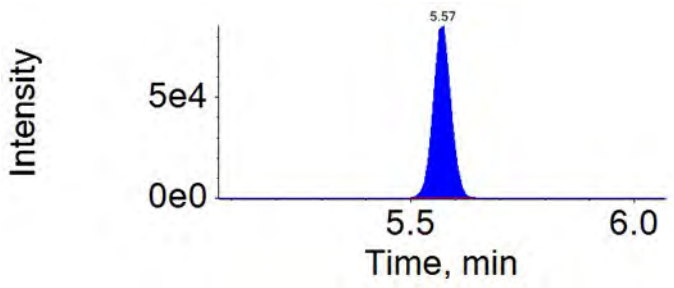




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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



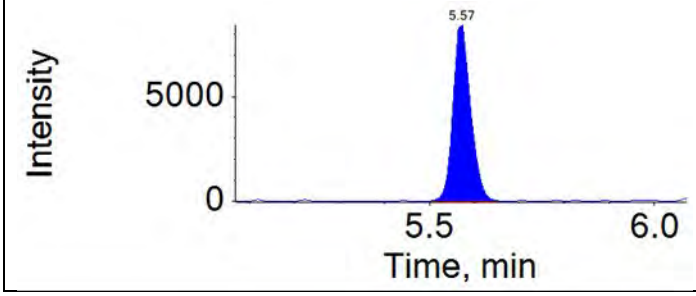
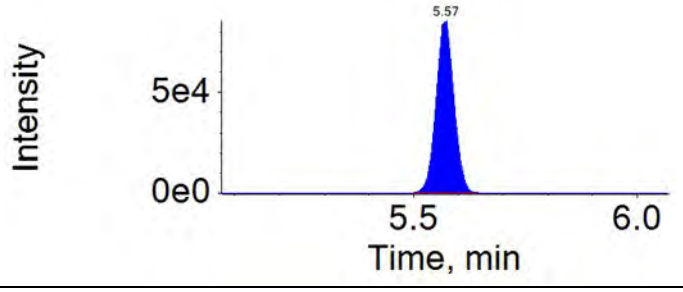


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*By MCD at 6:33 pm, 11/12/18*



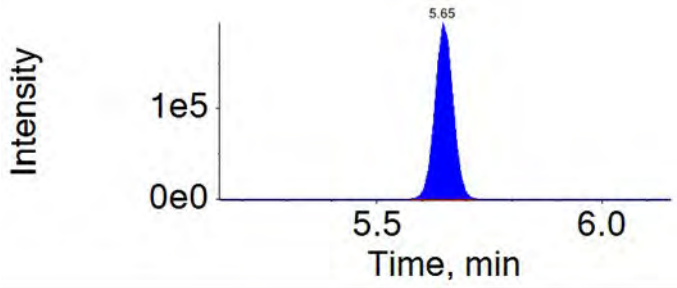
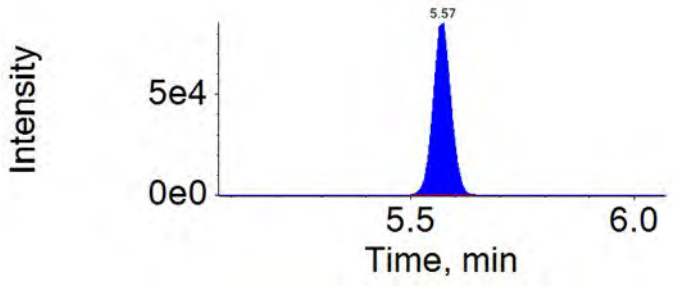
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

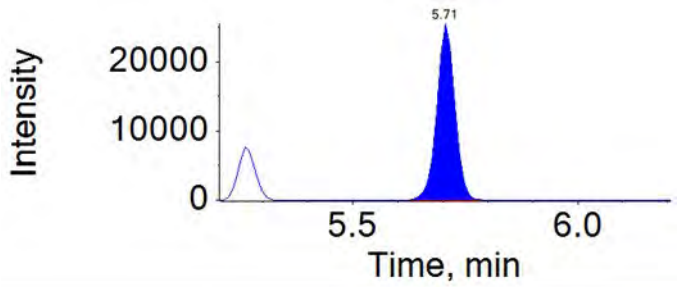
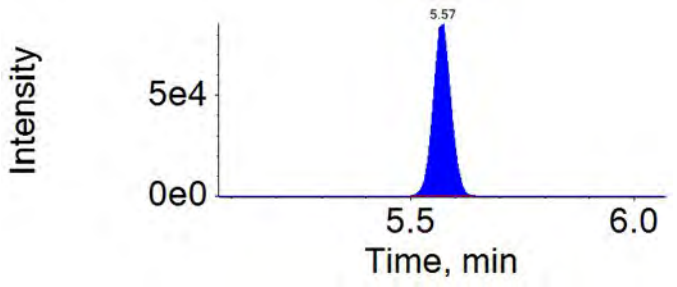




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
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|  |  |

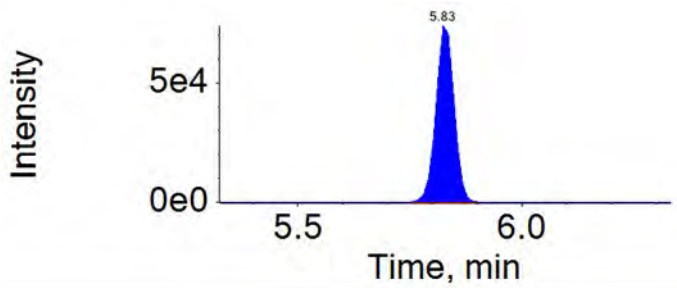
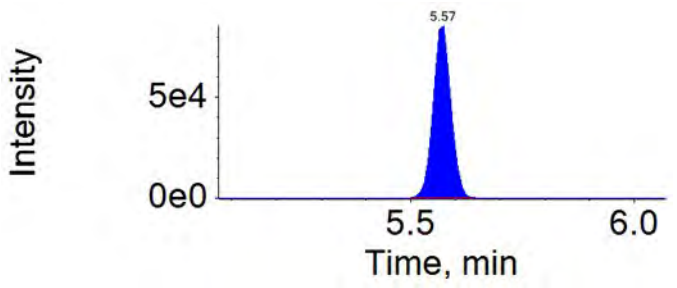




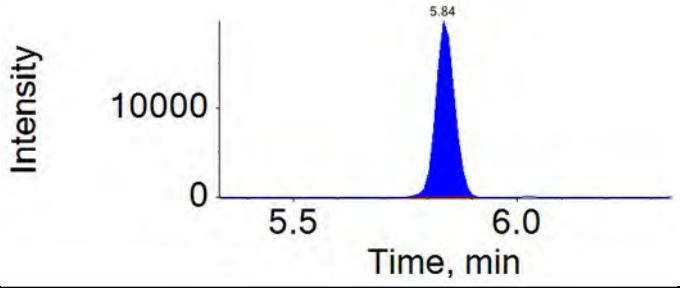
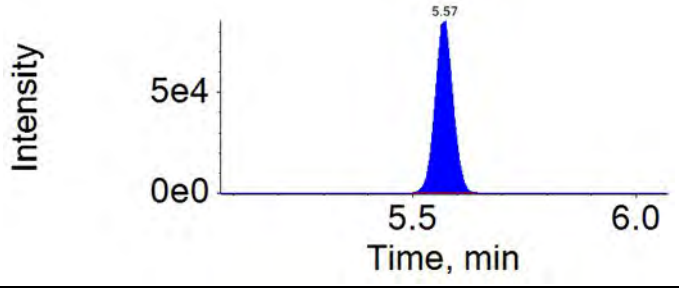
| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





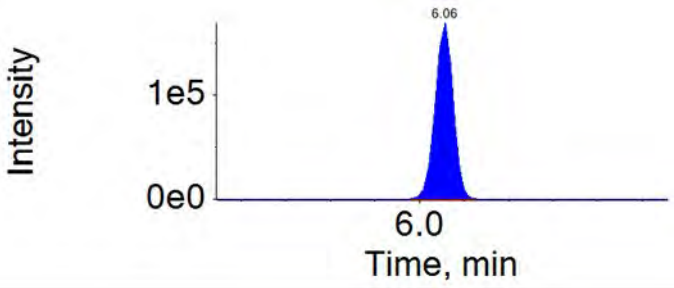
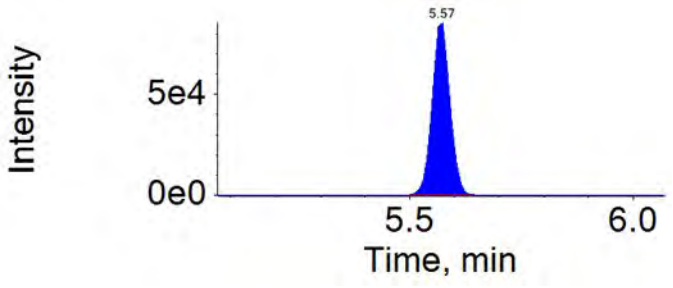
| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

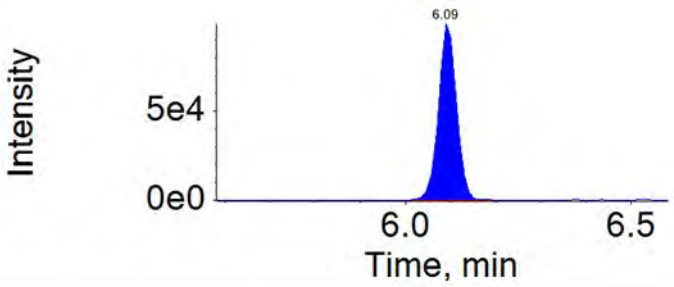
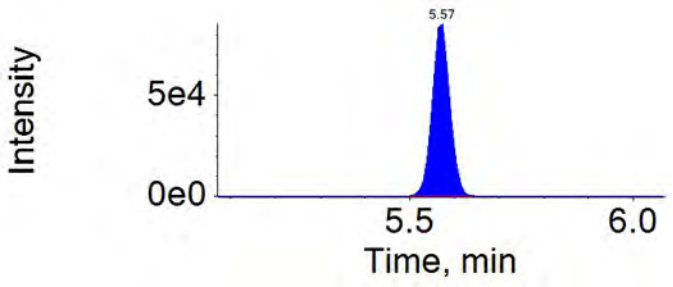




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

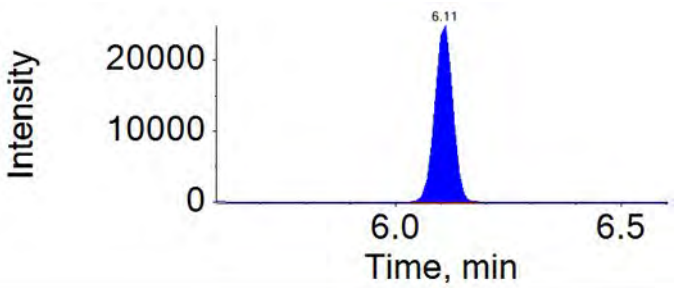
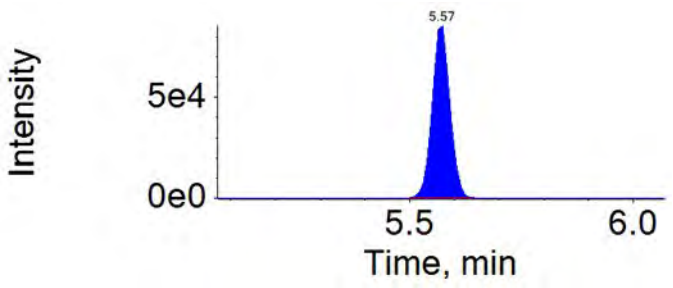




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





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





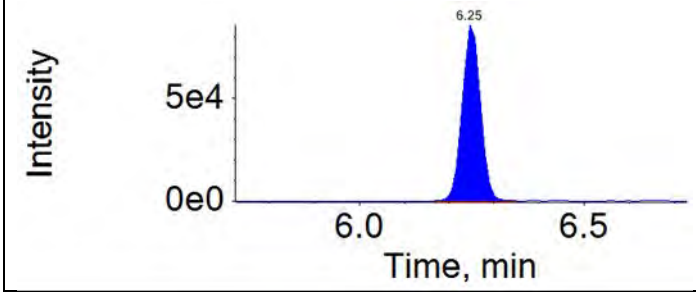
APPROVED
*By MCD at 6:33 pm, 11/12/18*

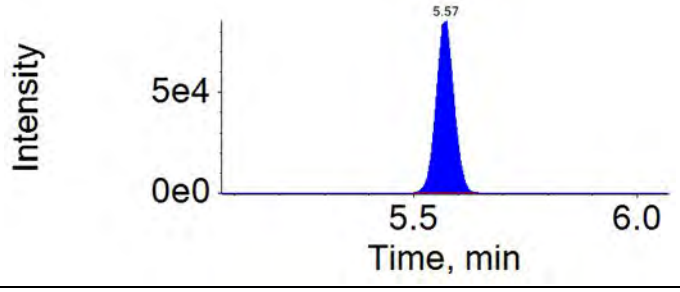


REVIEWED
*By HMK at 10:53 am, 11/13/18*

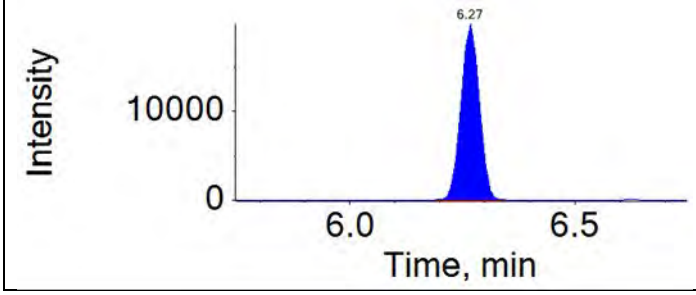
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

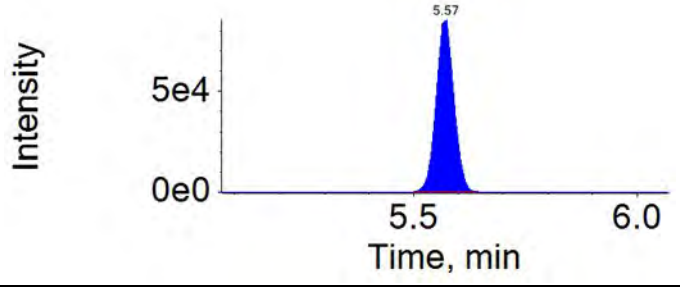
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



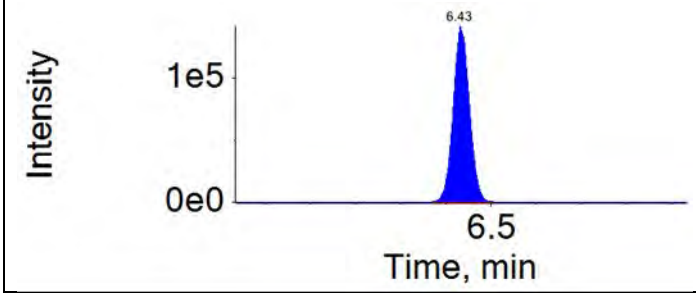



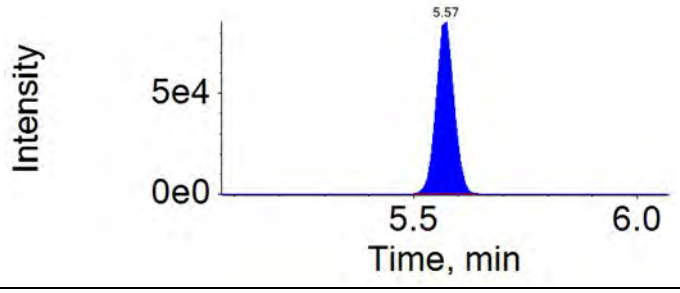

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



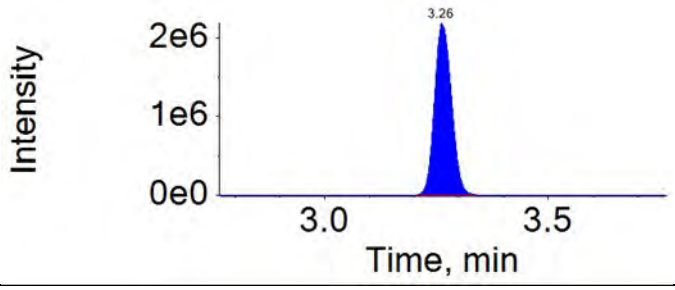

APPROVED
*By MCD at 6:33 pm, 11/12/18*

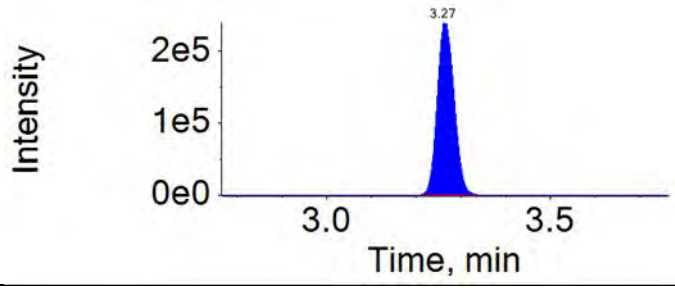


REVIEWED
*By HMK at 10:53 am, 11/13/18*

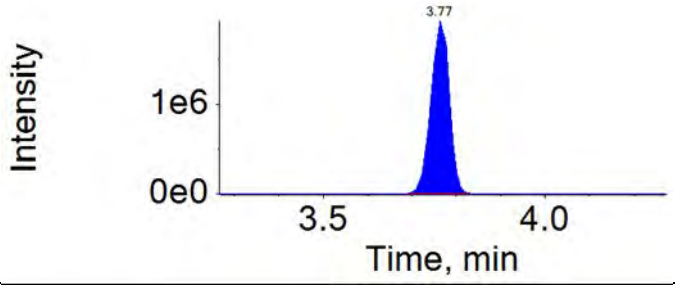
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

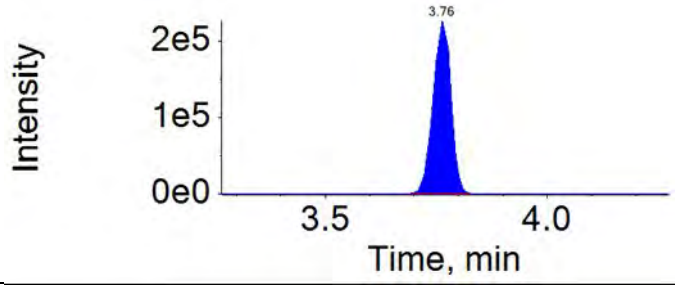
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



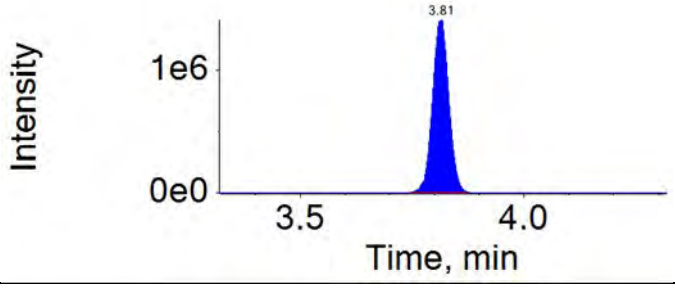



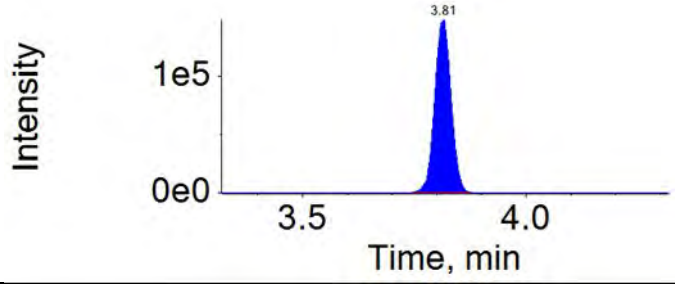

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



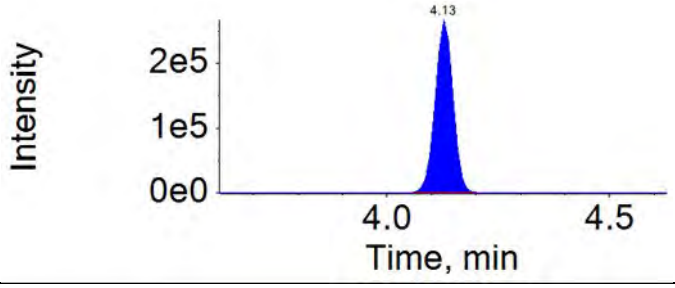



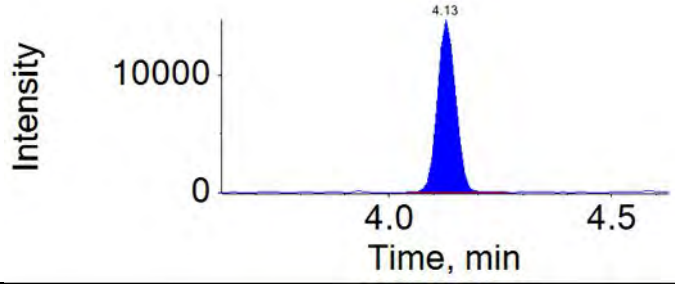

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



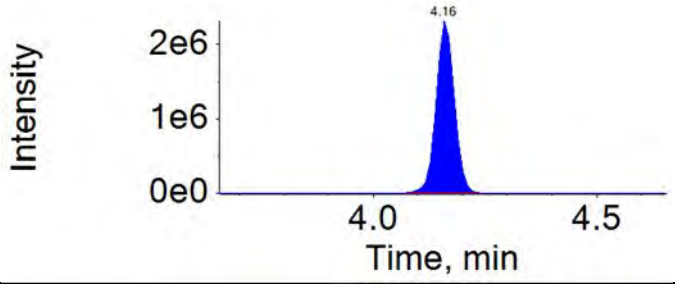

APPROVED
*By MCD at 6:33 pm, 11/12/18*

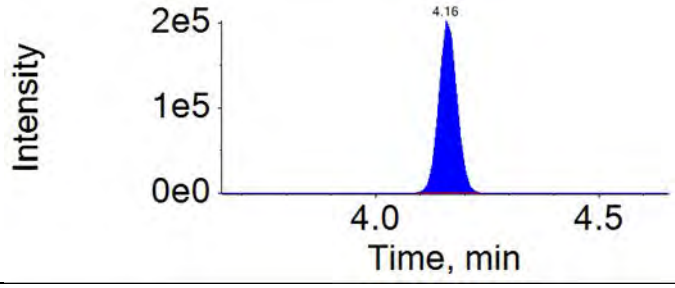


REVIEWED
*By HMK at 10:53 am, 11/13/18*

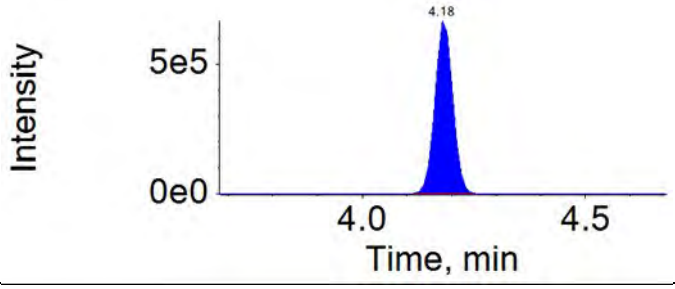
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

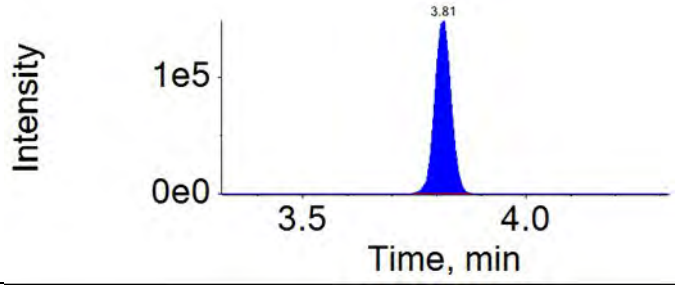
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



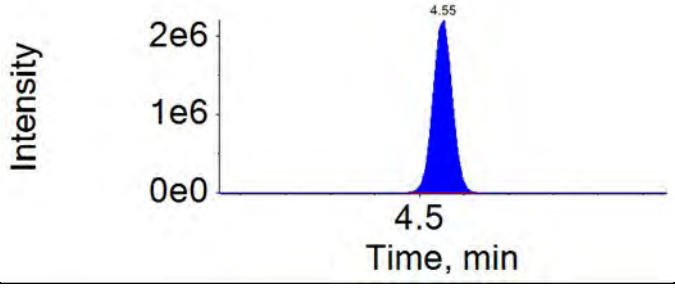



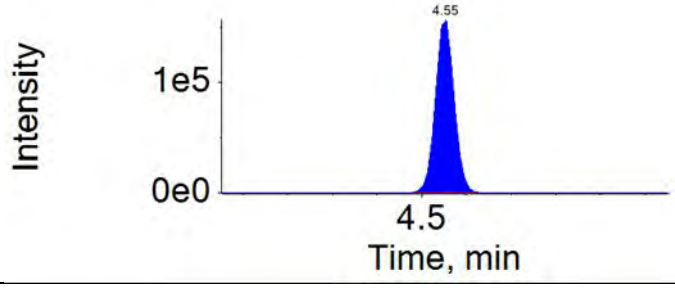

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



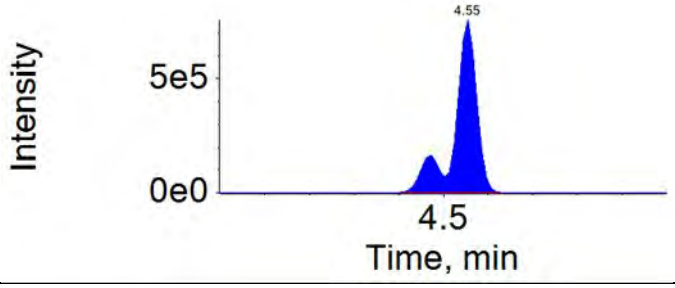



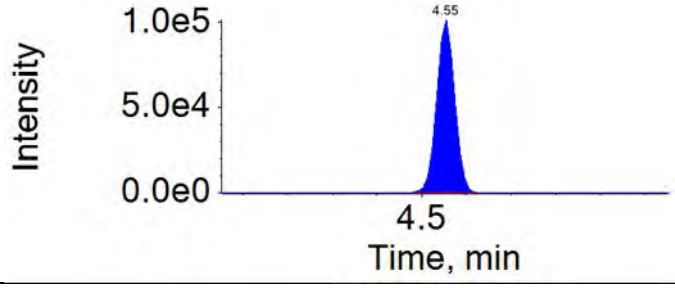

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



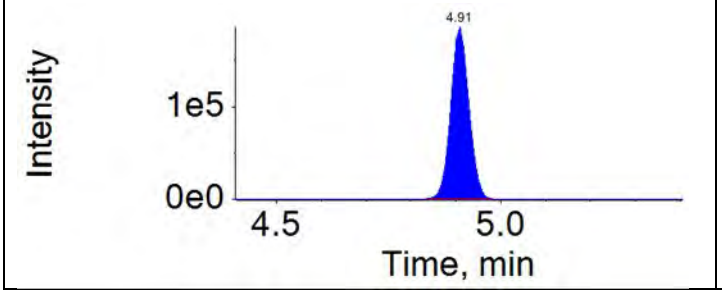

APPROVED
*By MCD at 6:33 pm, 11/12/18*

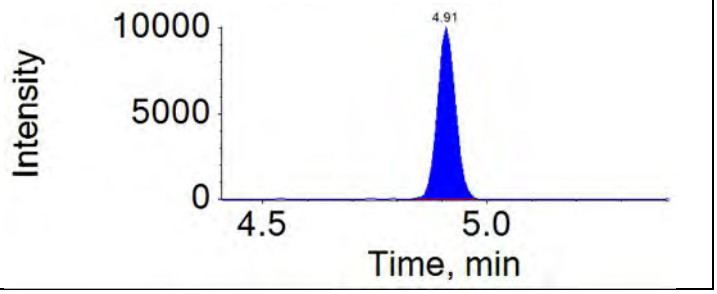


REVIEWED
*By HMK at 10:53 am, 11/13/18*

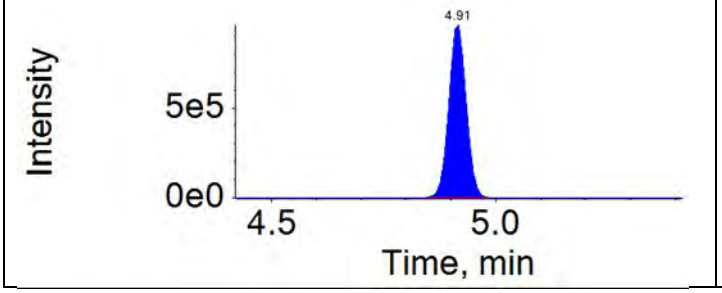
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

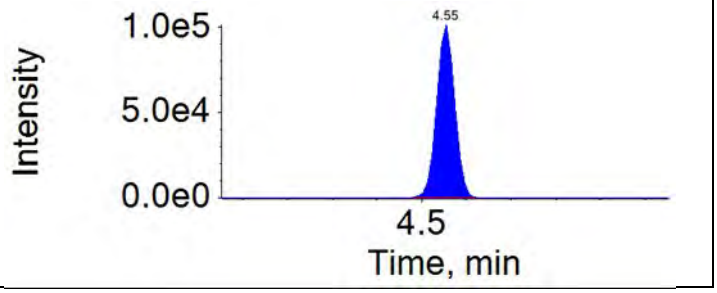
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



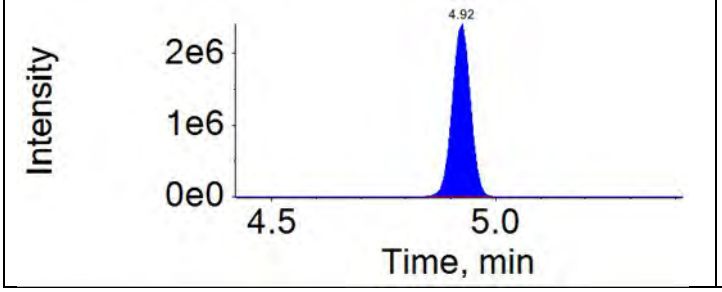



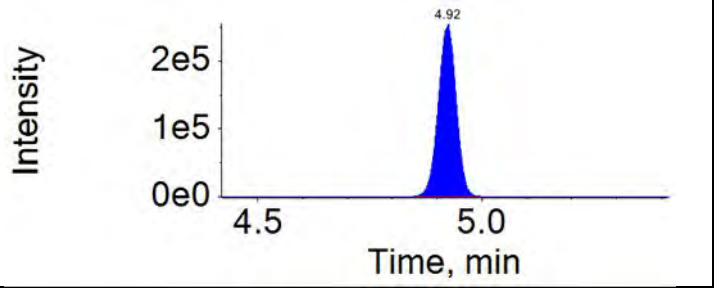

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



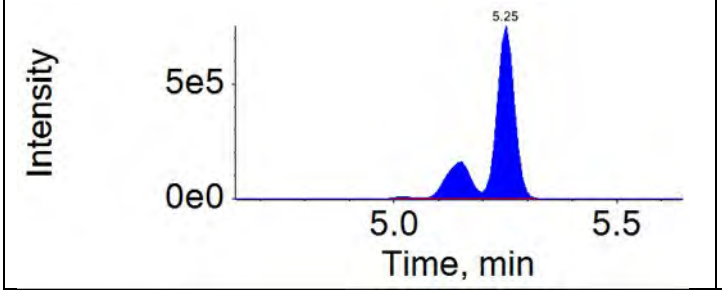



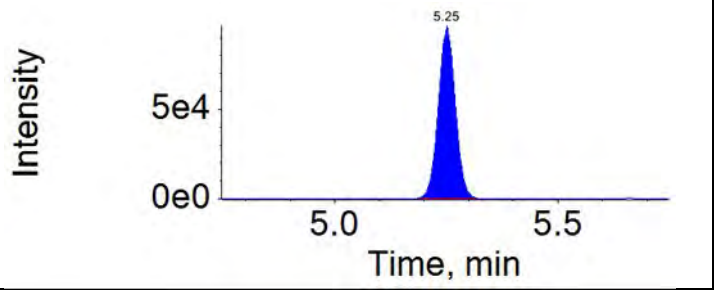

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



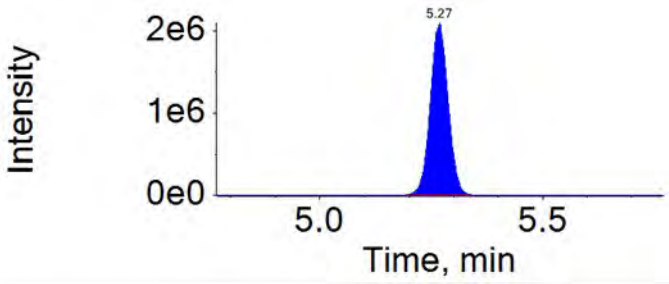

APPROVED
*By MCD at 6:33 pm, 11/12/18*

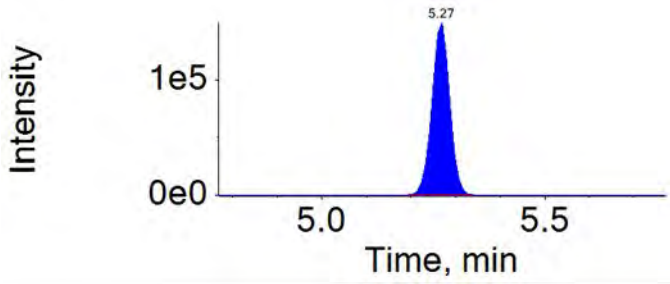


REVIEWED
*By HMK at 10:53 am, 11/13/18*

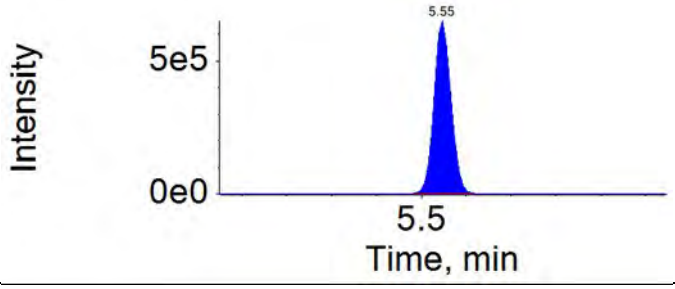
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

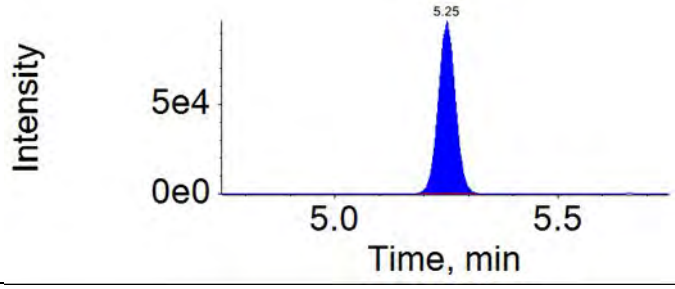
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



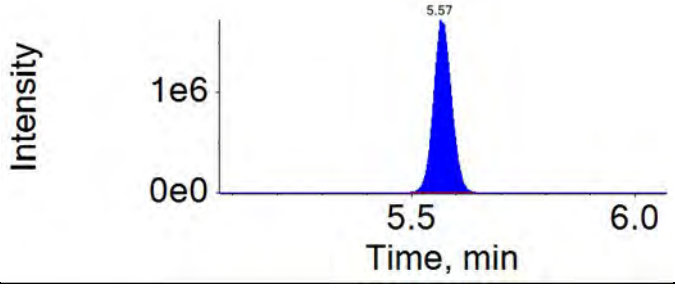



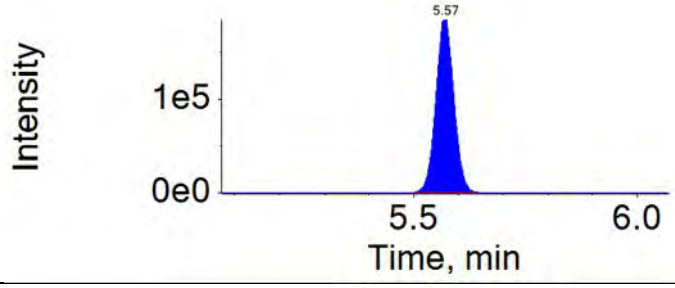

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



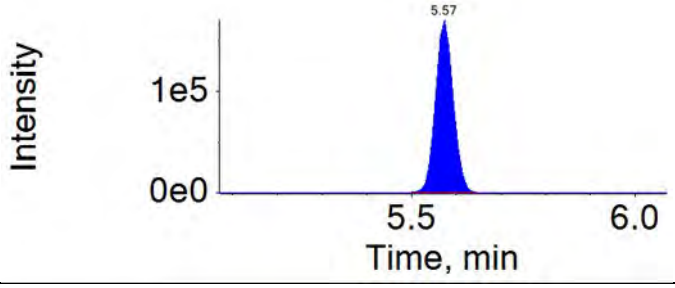



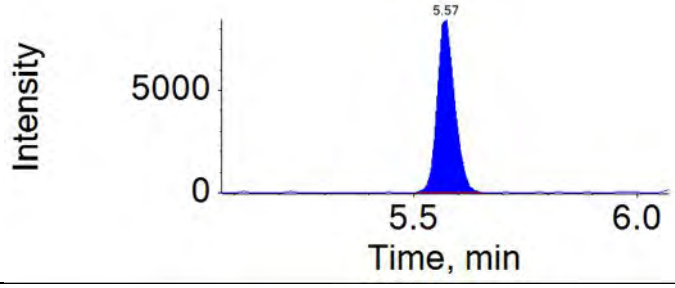

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



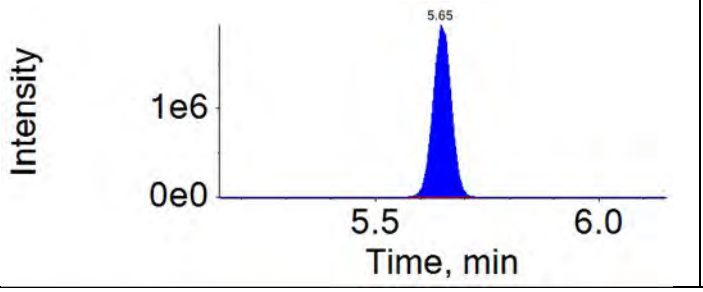

APPROVED
*By MCD at 6:33 pm, 11/12/18*

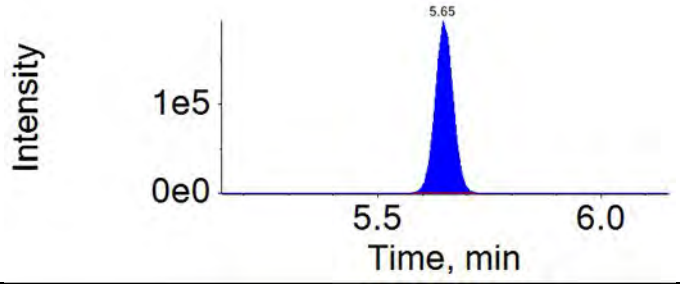


REVIEWED
*By HMK at 10:53 am, 11/13/18*

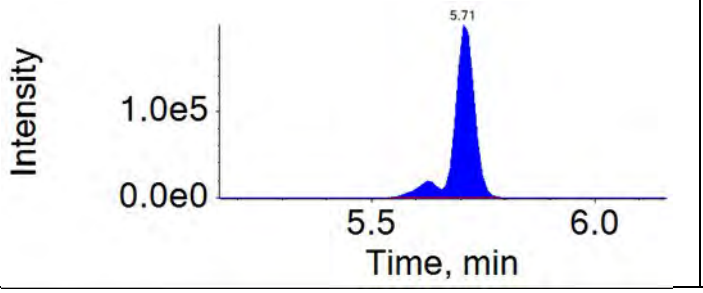
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

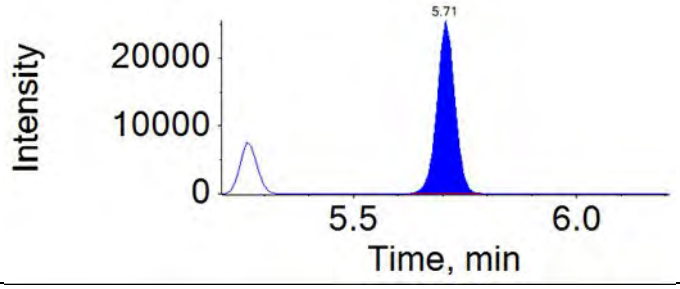
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



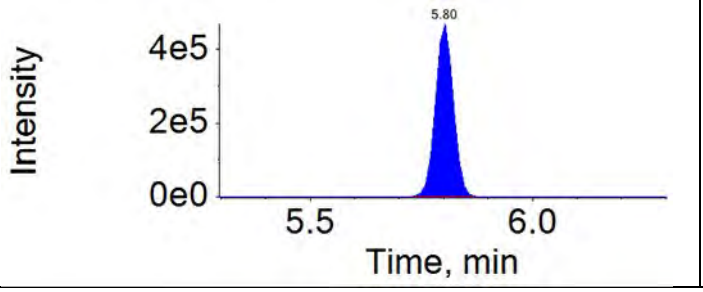



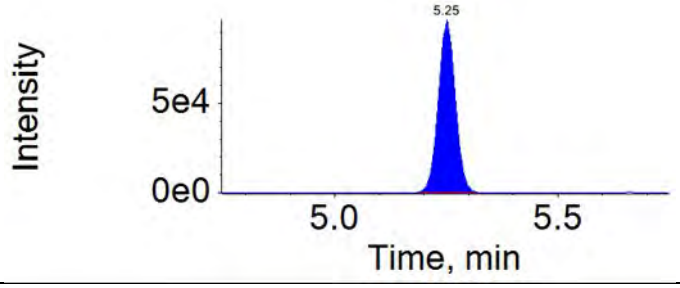

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



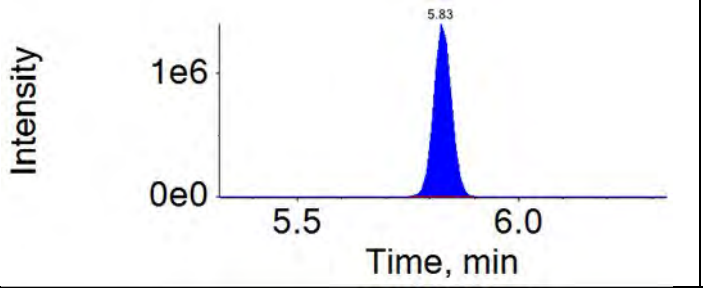



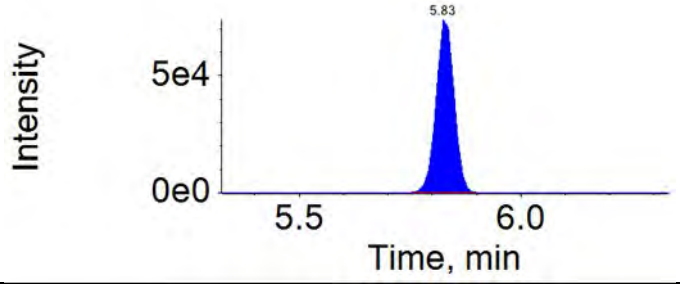

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



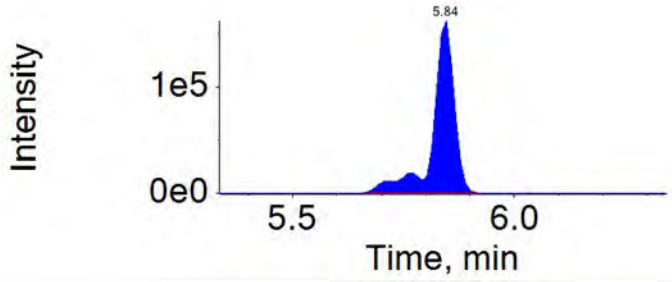

APPROVED
*By MCD at 6:33 pm, 11/12/18*

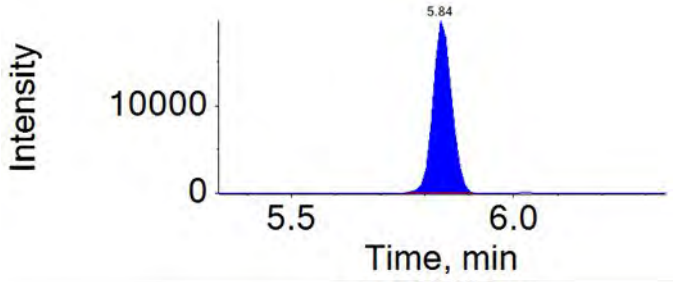


REVIEWED
*By HMK at 10:53 am, 11/13/18*

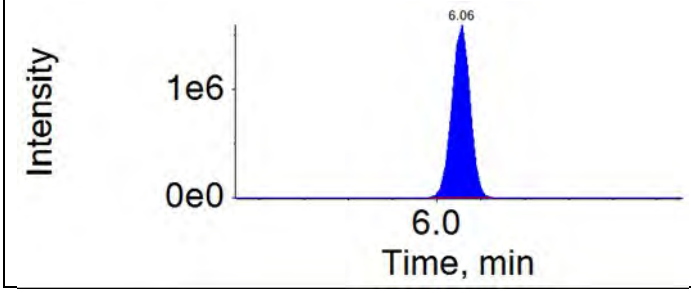
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

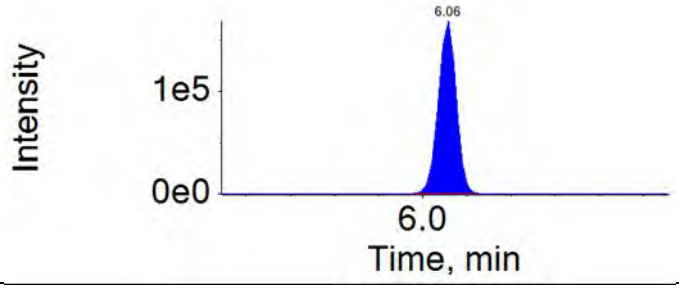
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



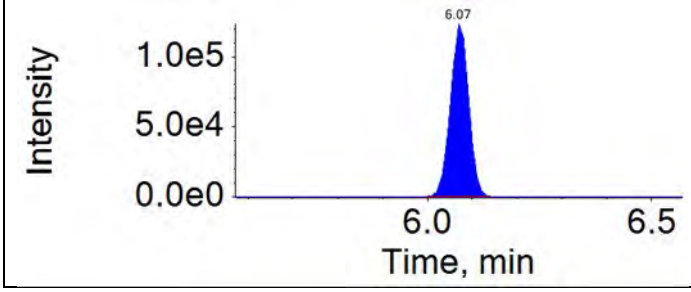



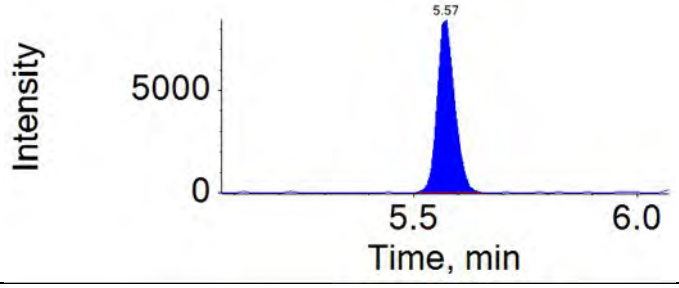

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



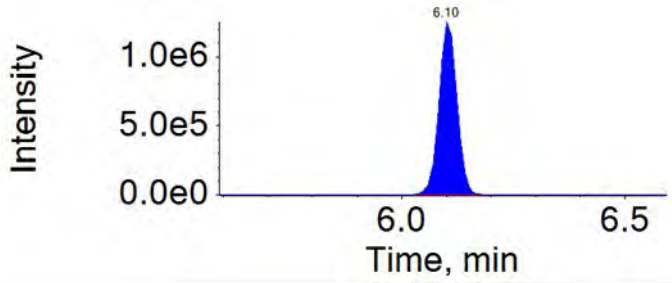



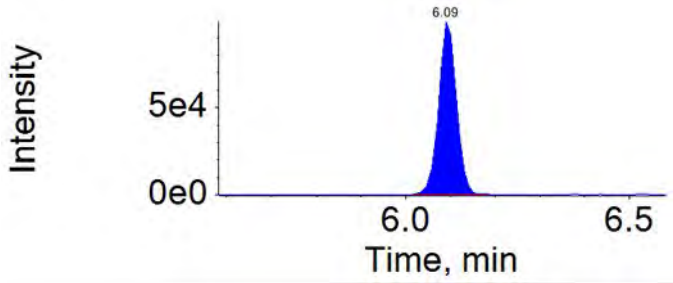

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



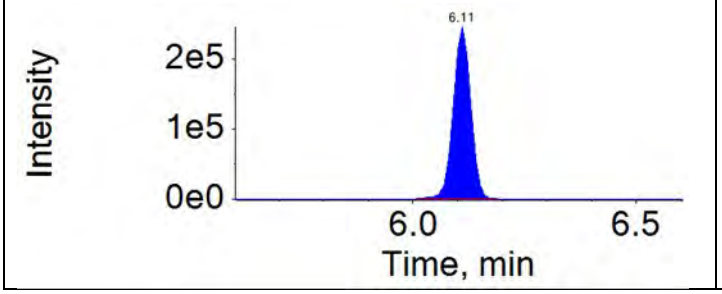

APPROVED
*By MCD at 6:33 pm, 11/12/18*

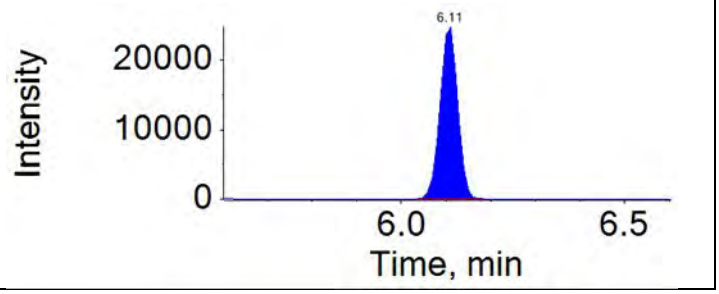


REVIEWED
*By HMK at 10:53 am, 11/13/18*

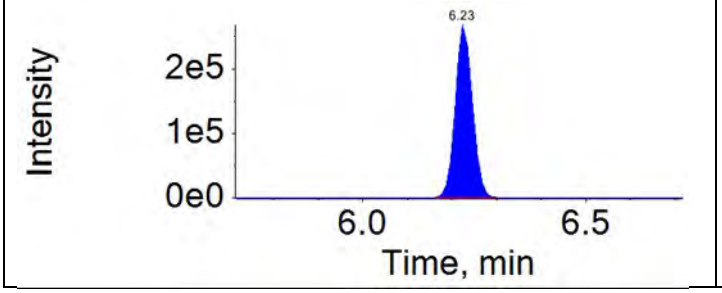
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

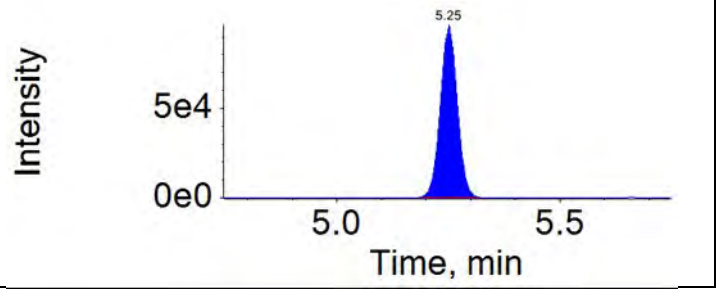
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



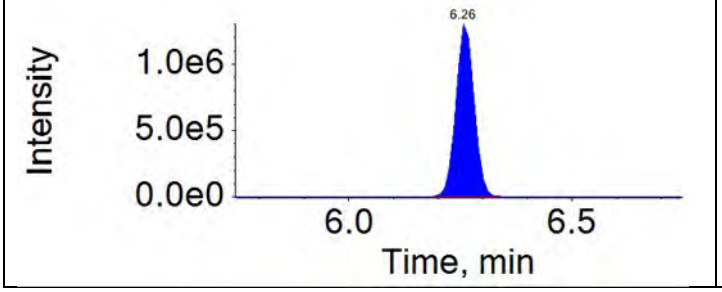



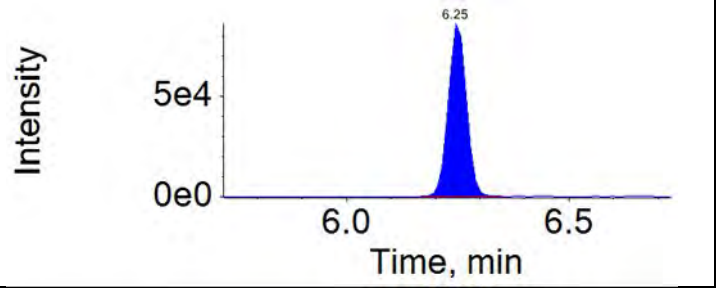

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



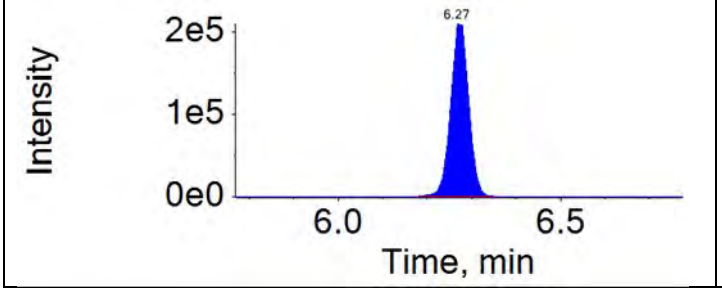



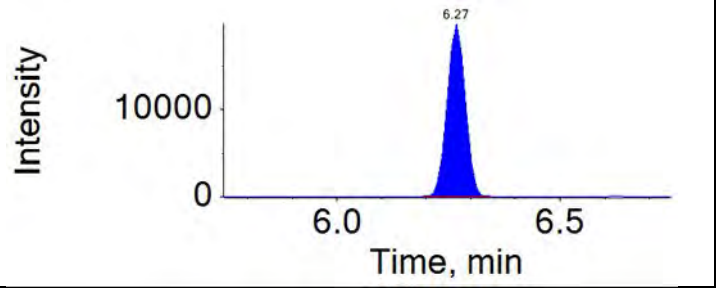

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



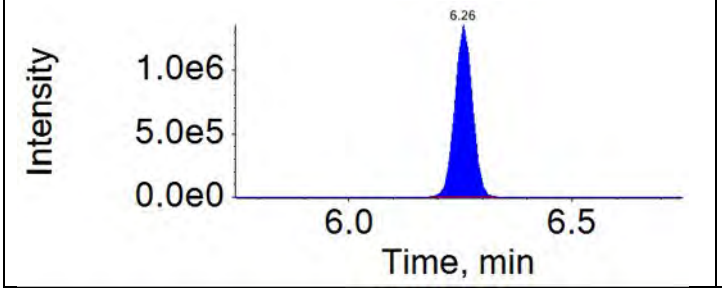

APPROVED
*By MCD at 6:33 pm, 11/12/18*

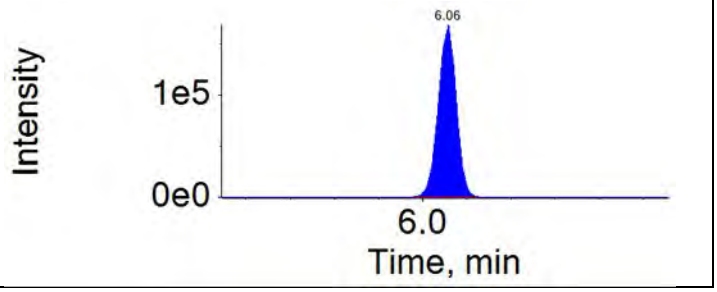


REVIEWED
*By HMK at 10:53 am, 11/13/18*

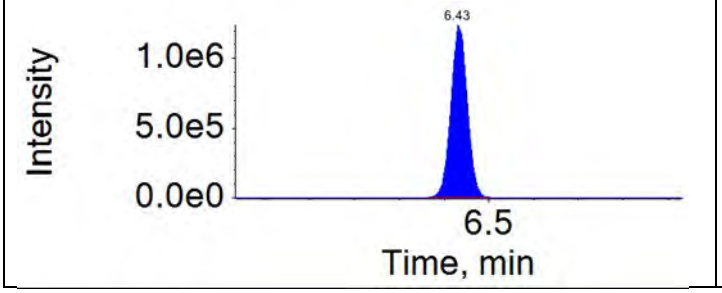
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

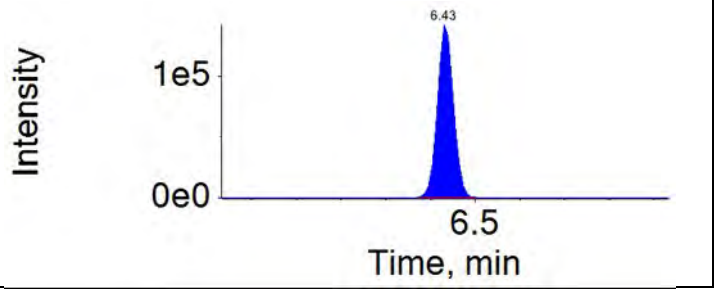
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



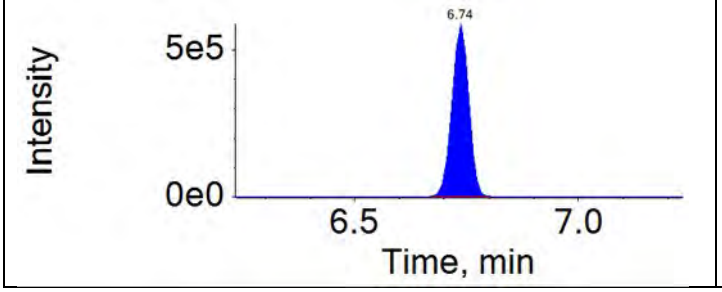



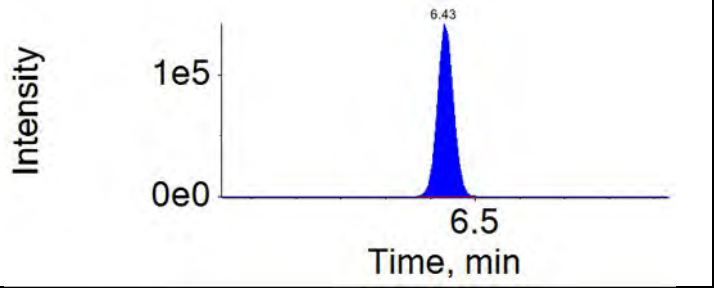

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



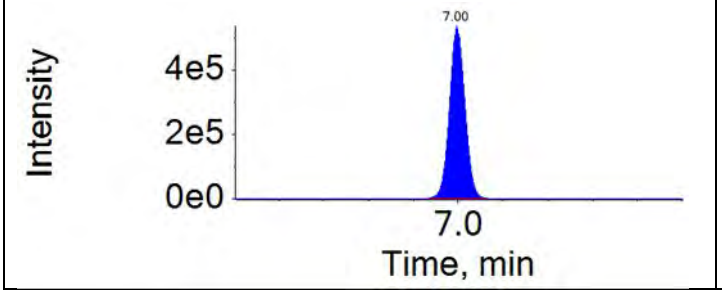



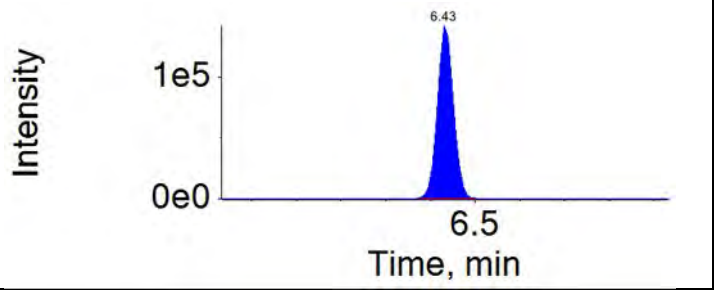

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




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



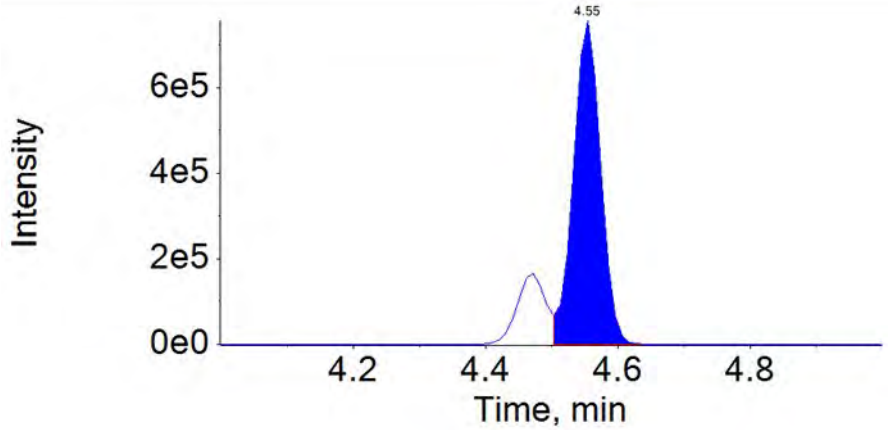

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

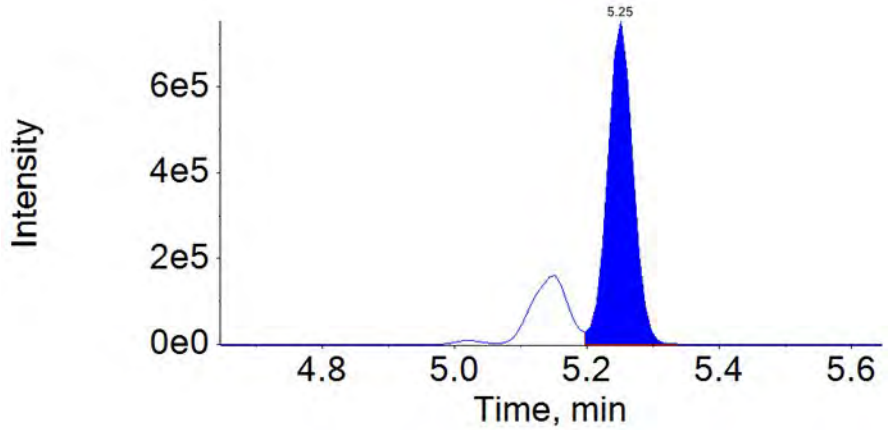
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS
**RT (min.):**
4.55
**Peak Area:**
2168276.79
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6



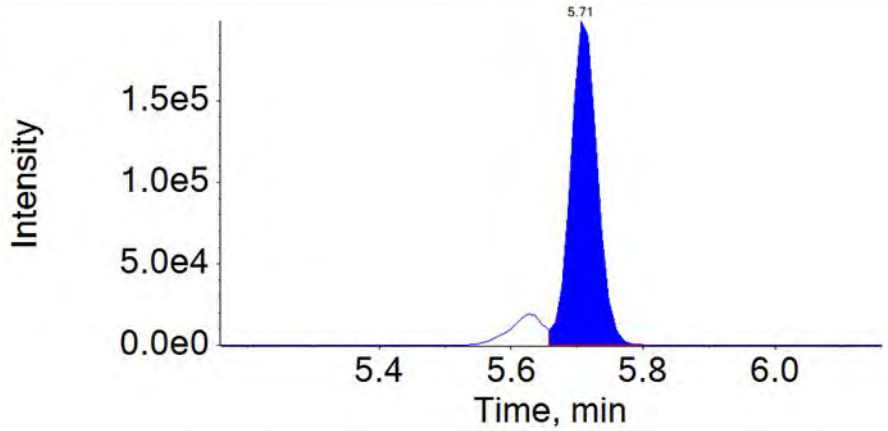

**Integration Comment:** incorrect integration

**Component Name:**
PFOS
**RT (min.):**
5.25
**Peak Area:**
2015391.27
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6




**Integration Comment:** incorrect integration

**Component Name:**
NMeFOSAA
**RT (min.):**
5.71
**Peak Area:**
561930.92
**Mass Range:**
570.0 / 419.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6




**Integration Comment:** incorrect integration

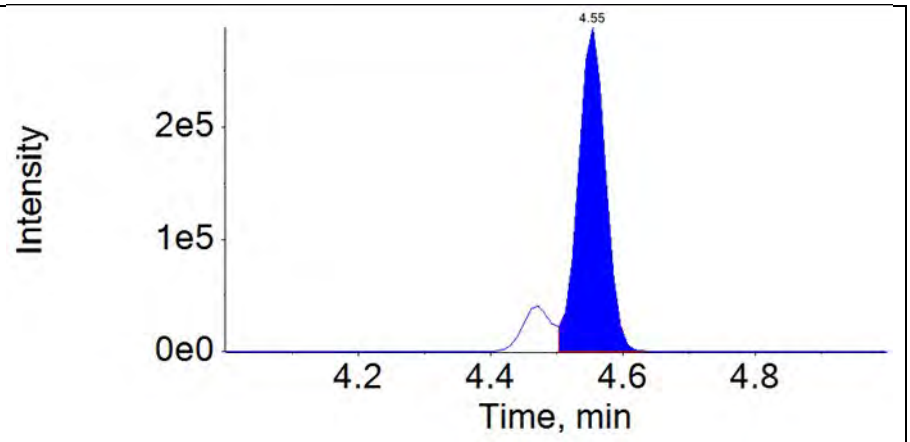
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

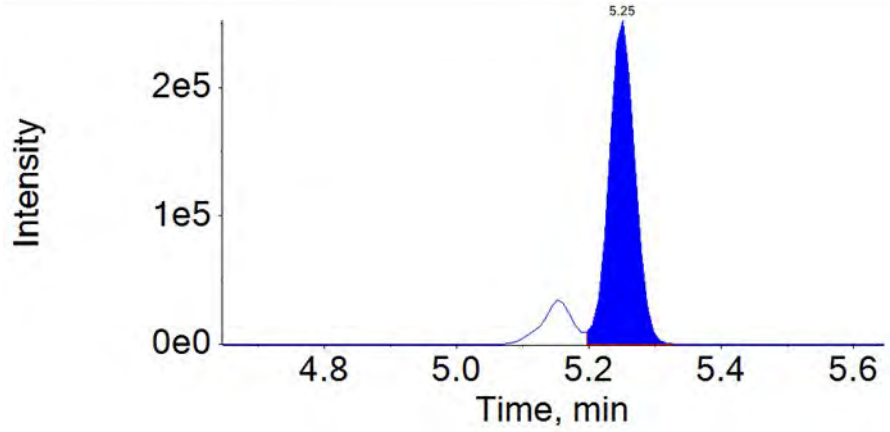
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS_2
**RT (min.):**
4.55
**Peak Area:**
827831.34
**Mass Range:**
399.0 / 99.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6



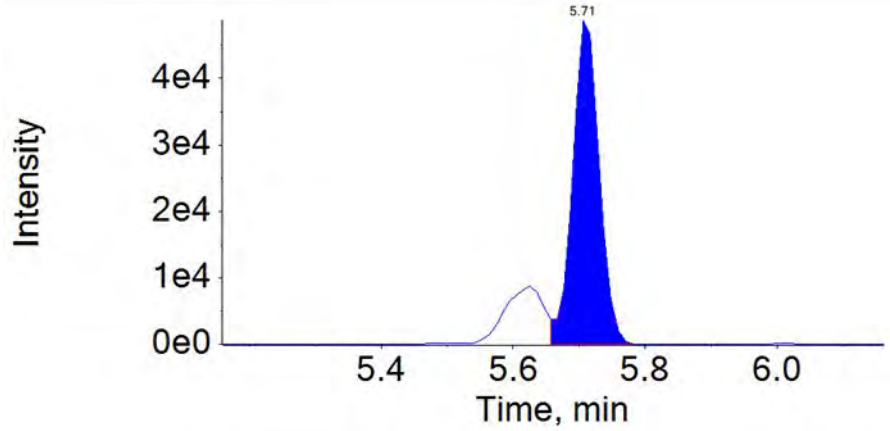

**Integration Comment:** incorrect integration

**Component Name:**
PFOS_2
**RT (min.):**
5.25
**Peak Area:**
689553.42
**Mass Range:**
499.0 / 99.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6




**Integration Comment:** incorrect integration

**Component Name:**
NMeFOSAA_2
**RT (min.):**
5.71
**Peak Area:**
136171.13
**Mass Range:**
570.0 / 483.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6




**Integration Comment:** incorrect integration

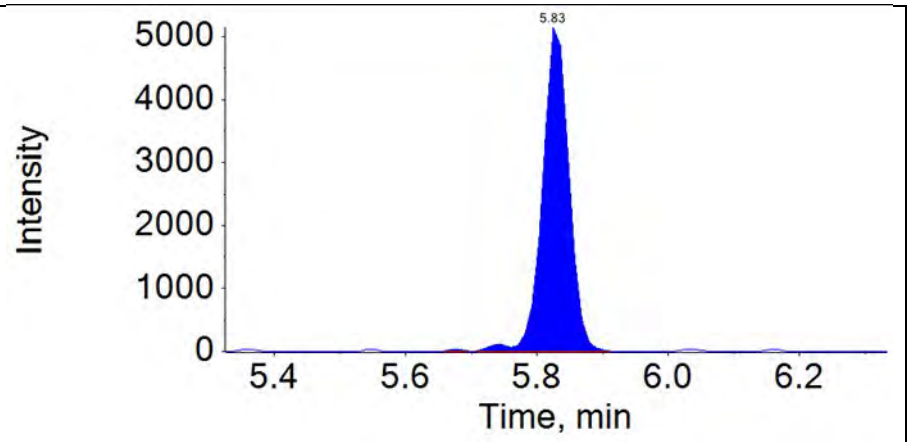
APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

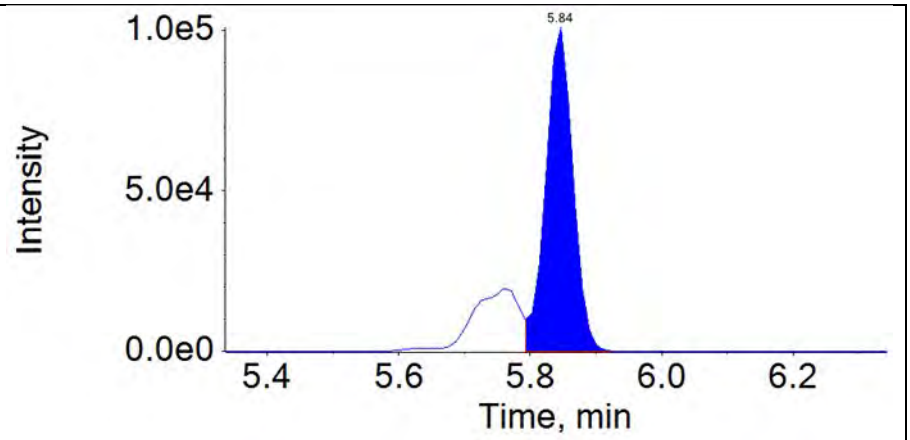
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFUnDA_2
**RT (min.):**
5.83
**Peak Area:**
14552.55
**Mass Range:**
563.0 / 169.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6



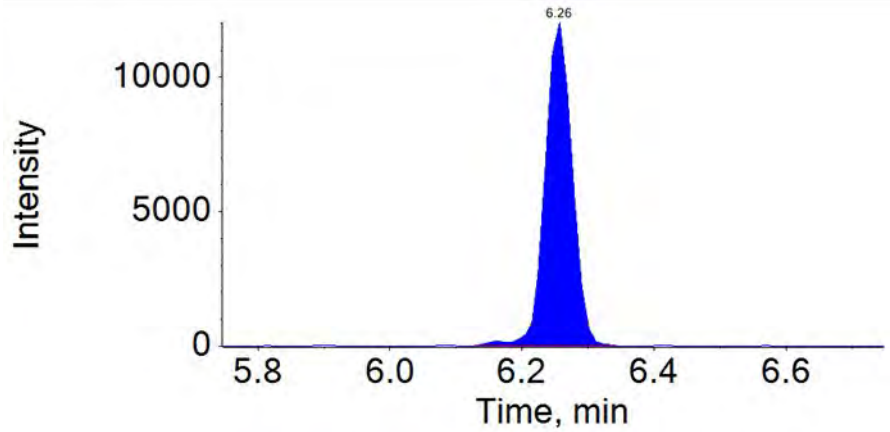

**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA_2
**RT (min.):**
5.84
**Peak Area:**
290918.50
**Mass Range:**
584.0 / 526.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6




**Integration Comment:** incorrect integration

**Component Name:**
PFTrDA_2
**RT (min.):**
6.26
**Peak Area:**
34575.92
**Mass Range:**
663.0 / 169.0
**File Name:**
18NOV12DCAL-47.wiff
**Sample Name:**
CAL6




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

## Ion Ratio Report

**Sample Name:** CAL6 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-47.wiff

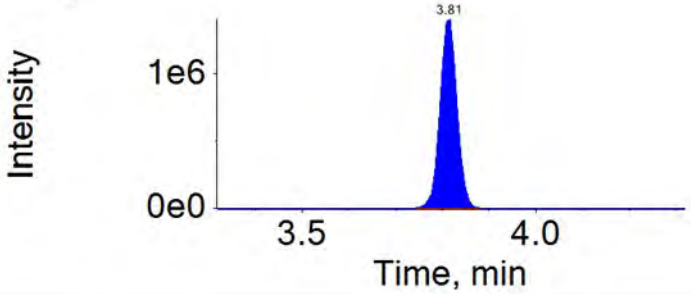
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 3588084.15 | A | 0.3619 | 0.3688 | | | |
| PFBS_2 | 3.81 | 1.00 | 1323155.38 | A | 0.3619 | 0.3688 | 2 | 50 | |
| 4:2-FTS | 4.13 | 1.00 | 738293.95 | A | 0.6730 | 0.6272 | | | |
| 4:2 FTS_2 | 4.13 | 1.00 | 463074.71 | A | 0.6730 | 0.6272 | | #NA! | |
| PFHxA | 4.16 | 1.00 | 6593778.96 | A | 0.0117 | 0.0113 | | | |
| PFHxA_2 | 4.16 | 1.00 | 74578.79 | A | 0.0117 | 0.0113 | -3 | 50 | |
| PFPeS | 4.18 | 1.10 | 1847826.78 | A | 0.5191 | 0.5187 | | | |
| PFPeS_2 | 4.18 | 1.10 | 958558.40 | A | 0.5191 | 0.5187 | 0 | 50 | |
| PFHpA | 4.55 | 1.00 | 6648455.32 | A | 0.0563 | 0.0564 | | | |
| PFHpA_2 | 4.55 | 1.00 | 375071.53 | A | 0.0563 | 0.0564 | 0 | 50 | |
| PFHxS | 4.55 | 1.00 | 2662852.00 | M | 0.3428 | 0.3565 | | | |
| PFHxS_2 | 4.55 | 1.00 | 949378.20 | M | 0.3428 | 0.3565 | 4 | 50 | |
| 6:2-FTS | 4.91 | 1.00 | 523949.46 | A | 0.6604 | 0.6368 | | | |
| 6:2 FTS_2 | 4.91 | 1.00 | 333633.12 | A | 0.6604 | 0.6368 | | #NA! | |
| PFHpS | 4.91 | 1.08 | 2604868.63 | A | 0.4066 | 0.4130 | | | |
| PFHpS_2 | 4.91 | 1.08 | 1075742.12 | A | 0.4066 | 0.4130 | 2 | 50 | |
| PFOA | 4.92 | 1.00 | 6758642.79 | A | 0.0562 | 0.0574 | | | |
| PFOA_2 | 4.92 | 1.00 | 387863.69 | A | 0.0562 | 0.0574 | 2 | 50 | |
| PFOS | 5.25 | 1.00 | 2664957.22 | M | 0.2968 | 0.3006 | | | |
| PFOS_2 | 5.25 | 1.00 | 801195.47 | M | 0.2968 | 0.3006 | 1 | 50 | |
| PFNA | 5.27 | 1.00 | 5820576.59 | A | 0.0229 | 0.0205 | | | |
| PFNA_2 | 5.27 | 1.00 | 119436.95 | A | 0.0229 | 0.0205 | -10 | 50 | |
| PFNS | 5.55 | 1.06 | 1709959.45 | A | 0.4828 | 0.4693 | | | |
| PFNS_2 | 5.55 | 1.06 | 802535.42 | A | 0.4828 | 0.4693 | -3 | 50 | |
| PFDA | 5.57 | 1.00 | 4802967.81 | A | 0.0081 | 0.0072 | | | |
| PFDA_2 | 5.57 | 1.00 | 34768.56 | A | 0.0081 | 0.0072 | -10 | 50 | |
| 8:2-FTS | 5.57 | 1.00 | 469719.63 | A | 0.6814 | 0.5683 | | | |
| 8:2 FTS_2 | 5.57 | 1.00 | 266934.57 | A | 0.6814 | 0.5683 | | #NA! | |
| NMeFOSAA | 5.71 | 1.00 | 627854.43 | M | 0.2569 | 0.2739 | | | |
| NMeFOSAA_2 | 5.71 | 1.00 | 171981.91 | M | 0.2569 | 0.2739 | 7 | 50 | |
| PFDS | 5.80 | 1.10 | 1313570.32 | A | 0.5144 | 0.4832 | | | |
| PFDS_2 | 5.80 | 1.11 | 634717.73 | A | 0.5144 | 0.4832 | -6 | 50 | |
| PFUnDA | 5.83 | 1.00 | 3923979.21 | A | 0.0058 | 0.0036 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 14257.68 | M | 0.0058 | 0.0036 | -38 | 50 | |
| NEtFOSAA | 5.84 | 1.00 | 551865.73 | A | 0.7253 | 0.6936 | | | |
| NEtFOSAA_2 | 5.84 | 1.00 | 382778.11 | M | 0.7253 | 0.6936 | -4 | 50 | |
| PFDoDA | 6.06 | 1.00 | 4582985.49 | A | 0.0157 | 0.0136 | | | |
| PFDoDA_2 | 6.06 | 1.00 | 62235.50 | A | 0.0157 | 0.0136 | -13 | 50 | |
| 10:2-FTS | 6.07 | 1.09 | 348263.21 | A | 0.6356 | 0.6654 | | | |
| 10:2 FTS_2 | 6.07 | 1.09 | 231731.38 | A | 0.6356 | 0.6654 | | #NA! | |
| PFTrDA | 6.26 | 1.03 | 3691733.76 | A | 0.0086 | 0.0093 | | | |
| PFTrDA_2 | 6.26 | 1.03 | 34255.33 | M | 0.0086 | 0.0093 | 8 | 50 | |
| PFTeDA | 6.43 | 1.00 | 3149020.22 | A | 0.0062 | 0.0065 | | | |
| PFTeDA_2 | 6.43 | 1.00 | 20486.74 | A | 0.0062 | 0.0065 | 4 | 50 | |
| PFHxDA | 6.74 | 1.05 | 1533920.21 | A | 0.0683 | 0.0655 | | | |
| PFHxDA_2 | 6.73 | 1.05 | 100532.17 | A | 0.0683 | 0.0655 | -4 | 50 | |
| PFODA | 7.00 | 1.09 | 1270897.62 | A | 0.0277 | 0.0264 | | | |
| PFODA_2 | 7.00 | 1.09 | 33518.79 | A | 0.0277 | 0.0264 | -5 | 50 | |

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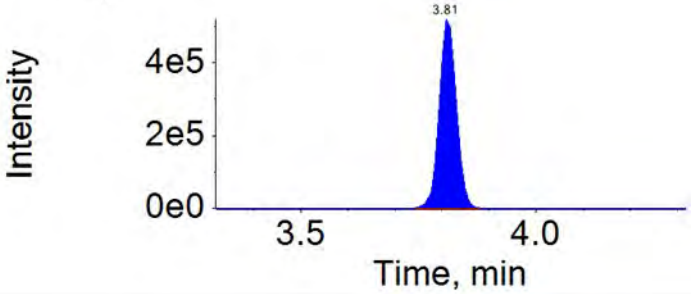


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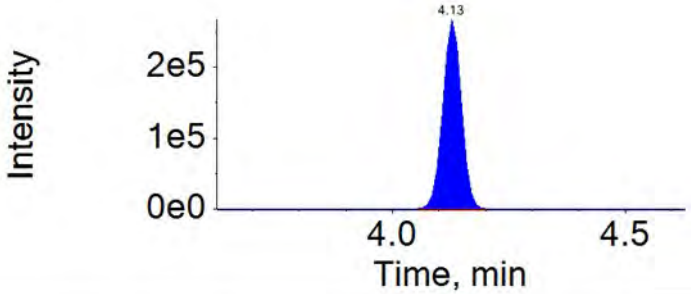
Component: PFBS
Primary Mass: 299.0 / 80.0



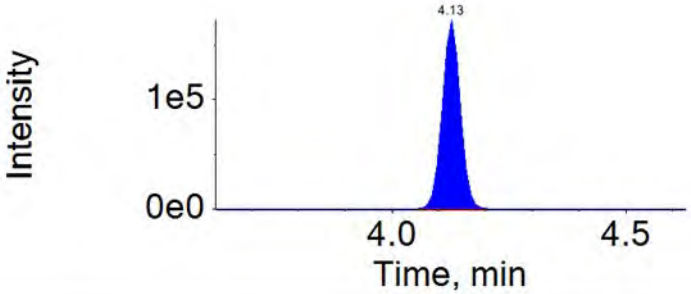

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



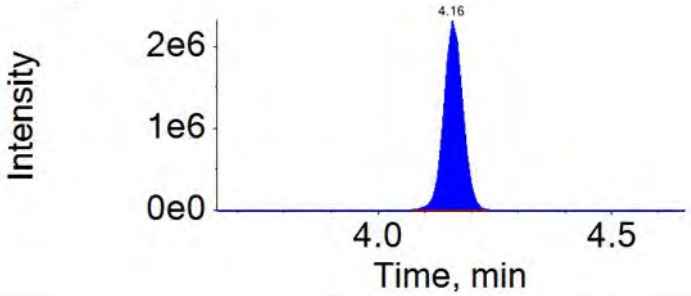

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



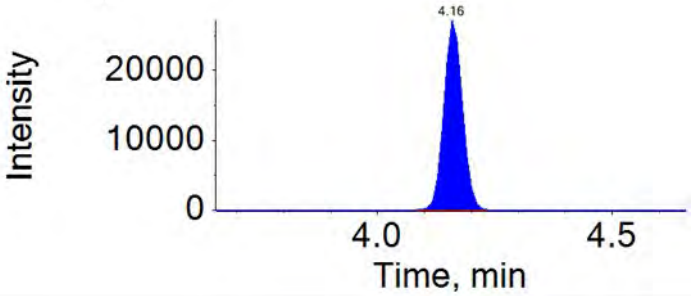

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



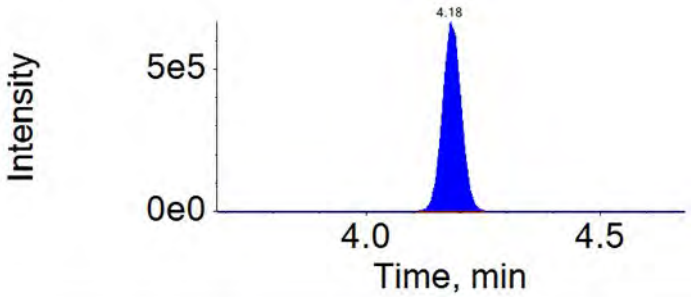

Component: PFHxA
Primary Mass: 313.0 / 269.0



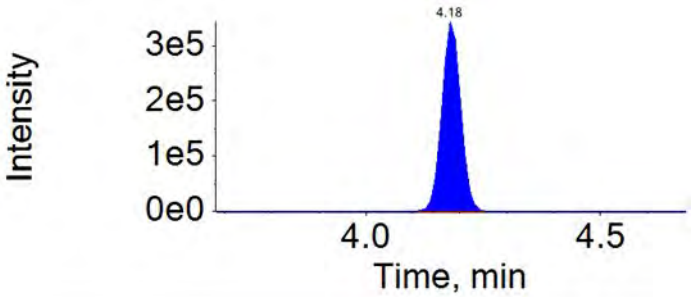

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

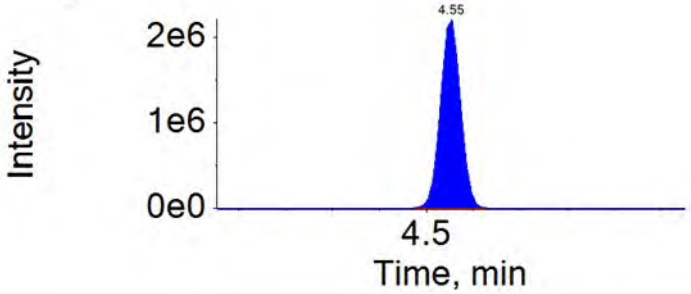



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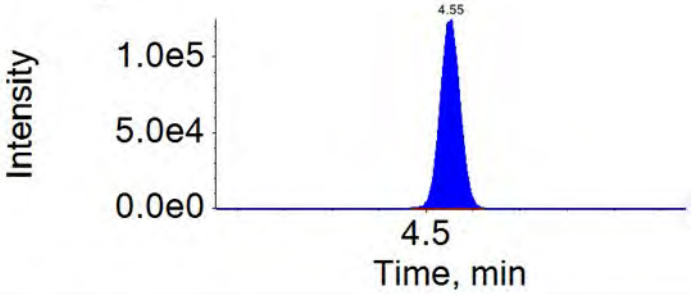


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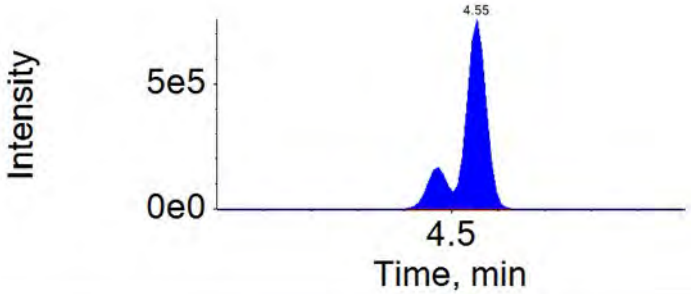
Component: PFHpA
Primary Mass: 363.0 / 319.0



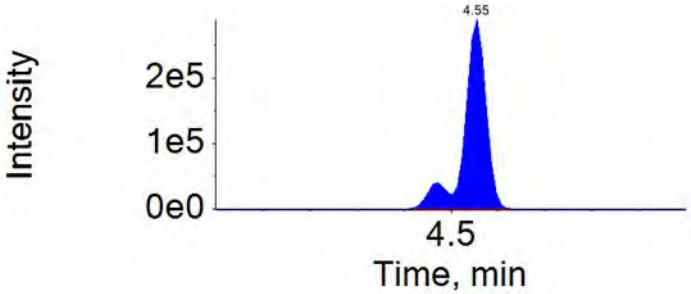

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



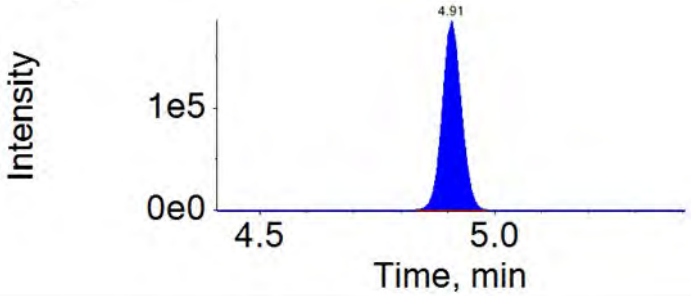

Component: PFHxS
Primary Mass: 399.0 / 80.0



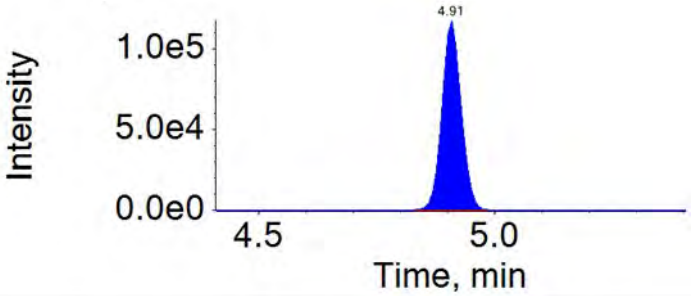

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



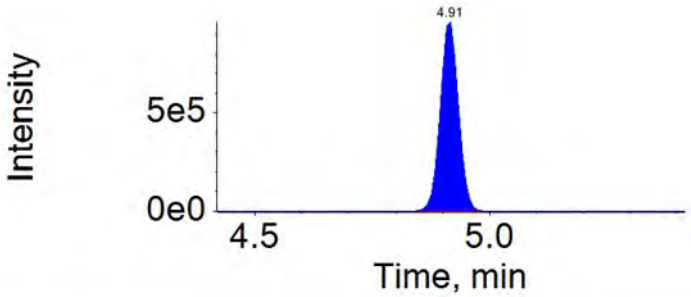

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



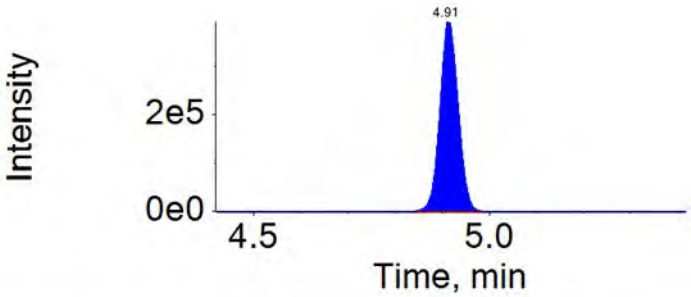

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

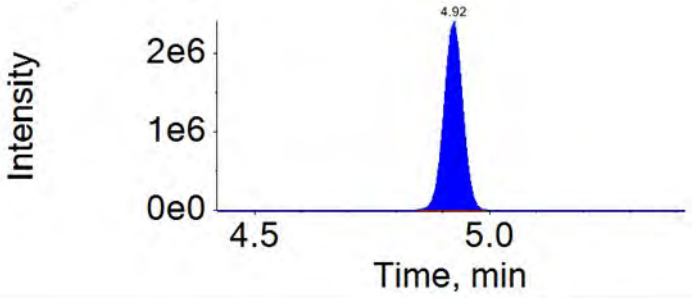



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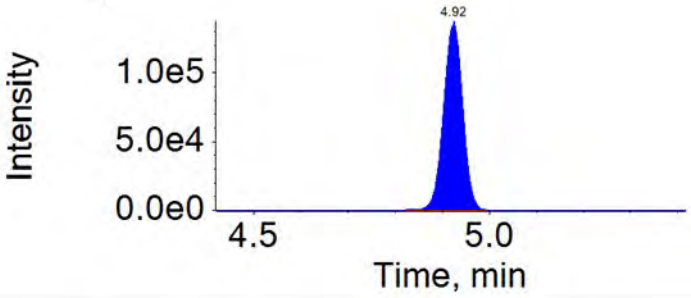


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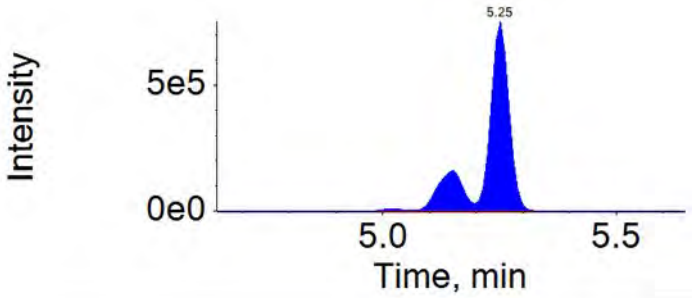
Component: PFOA
Primary Mass: 413.0 / 369.0



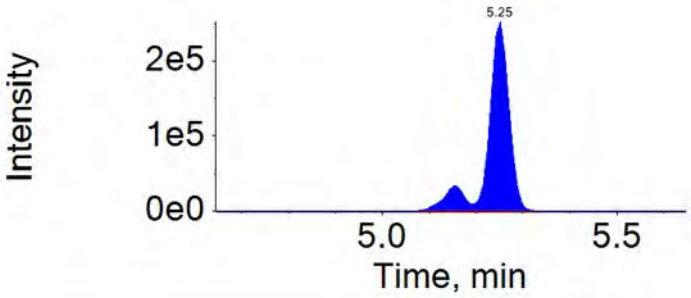

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



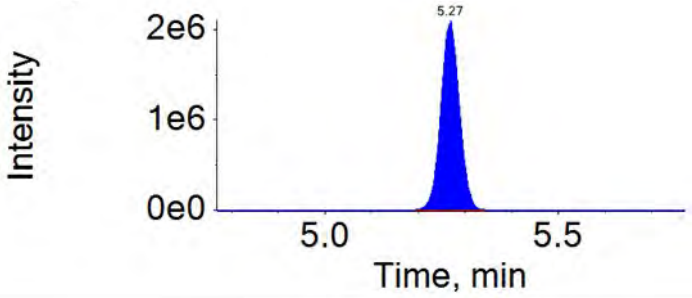

Component: PFOS
Primary Mass: 499.0 / 80.0



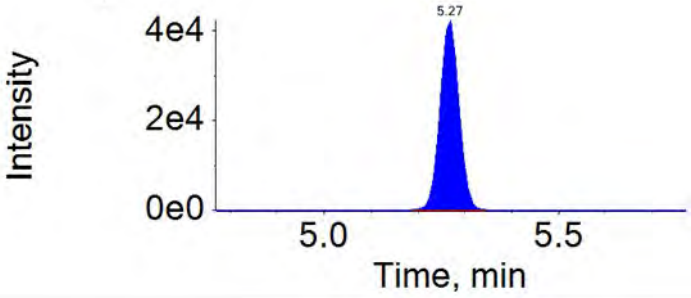

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



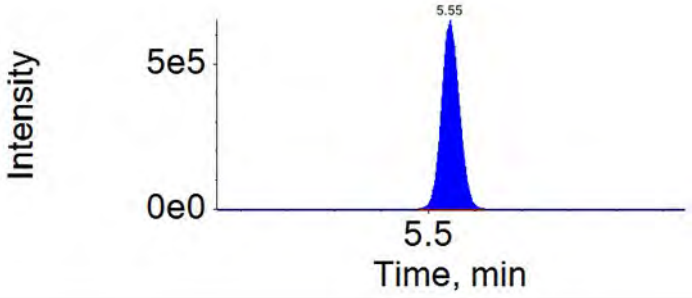

Component: PFNA
Primary Mass: 463.0 / 419.0



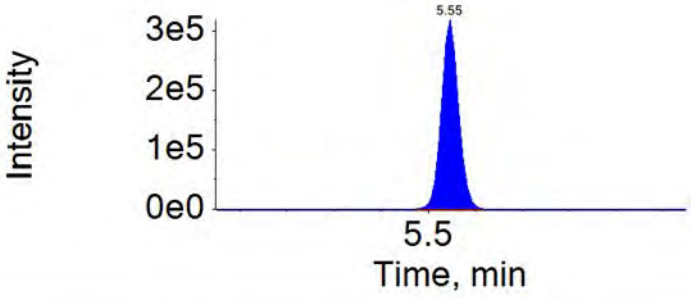

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

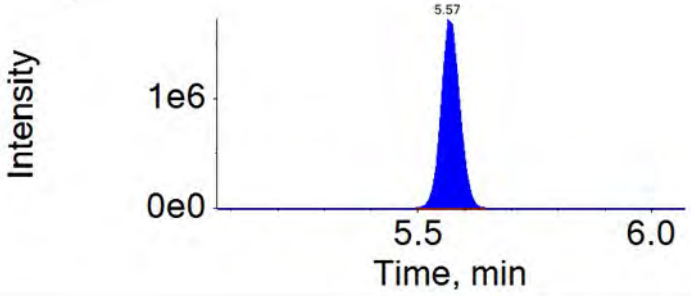



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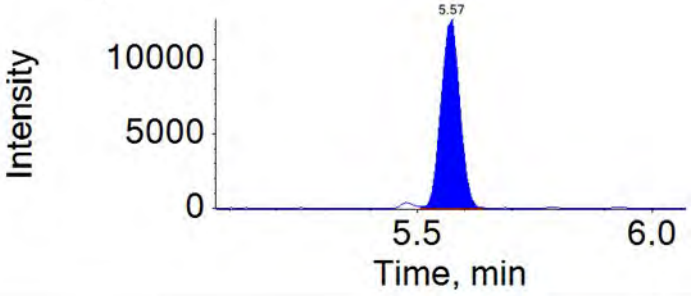


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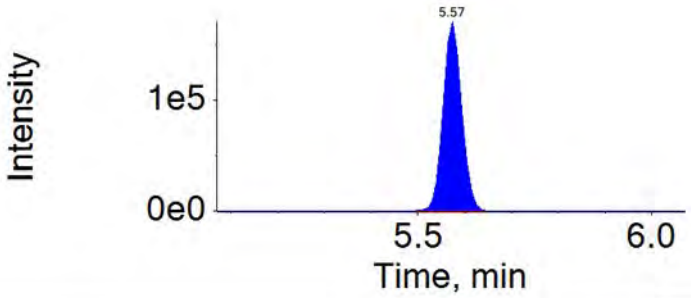
Component: PFDA
Primary Mass: 513.0 / 469.0



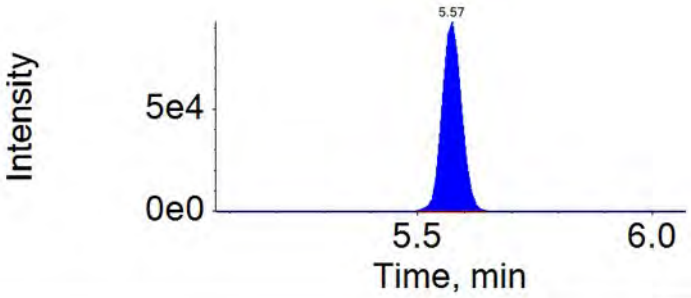

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



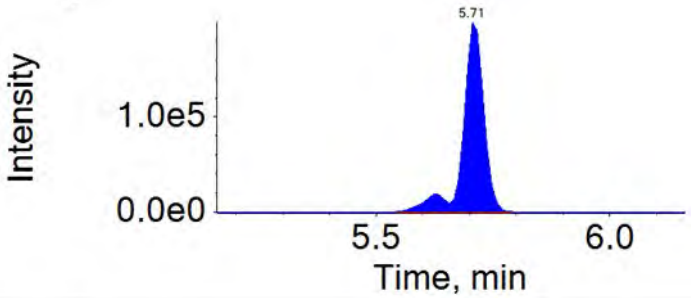

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



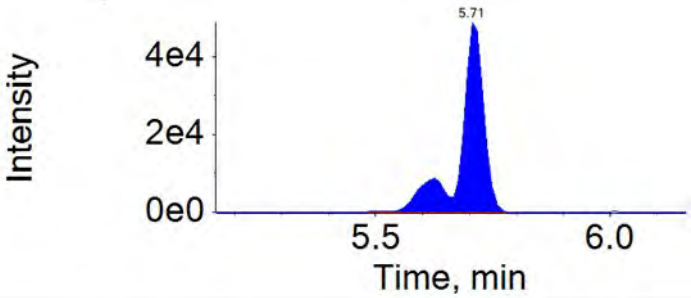

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



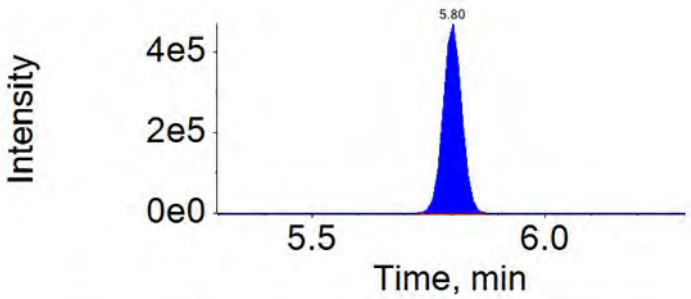

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



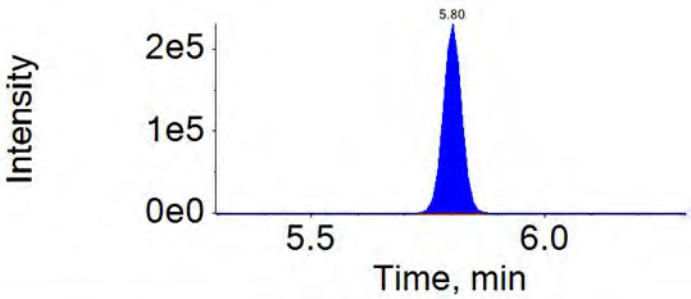

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

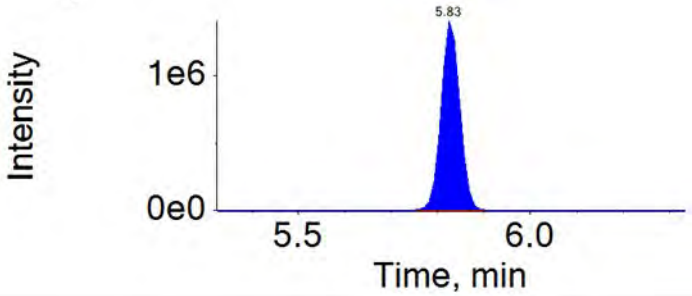



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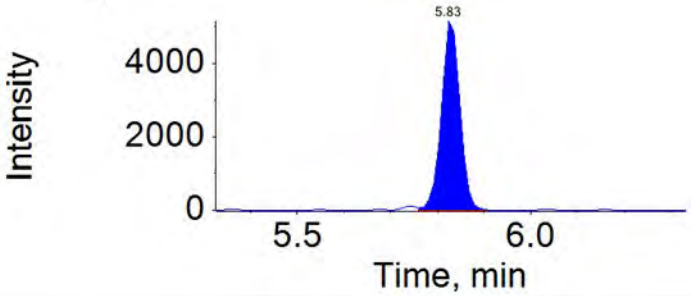


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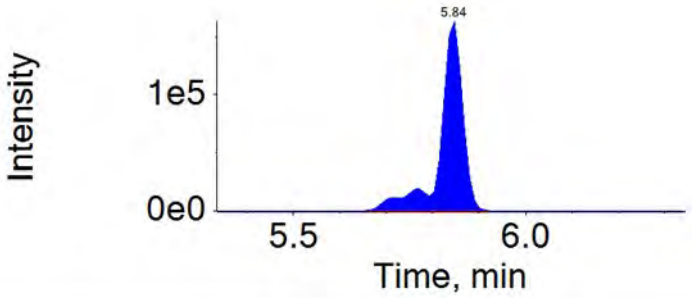
Component: PFUnDA
Primary Mass: 563.0 / 519.0



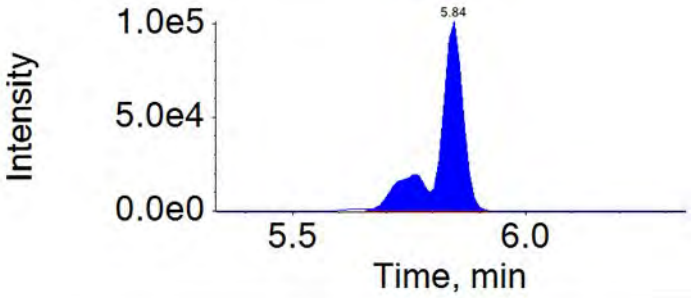

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



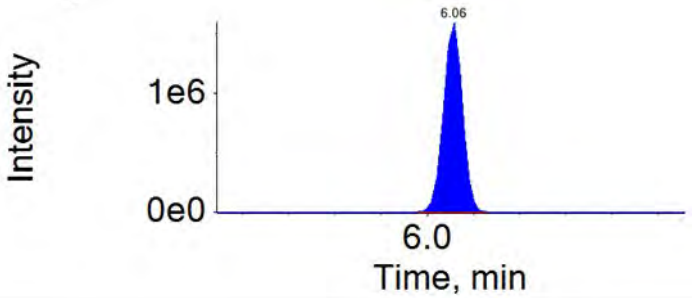

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



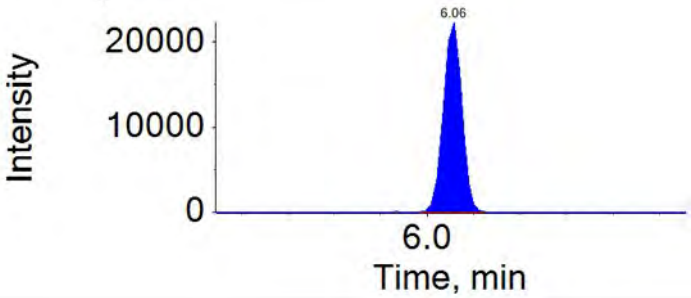

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



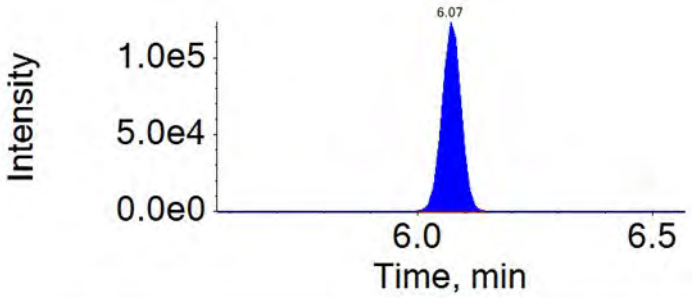

Component: PFDoDA
Primary Mass: 613.0 / 569.0



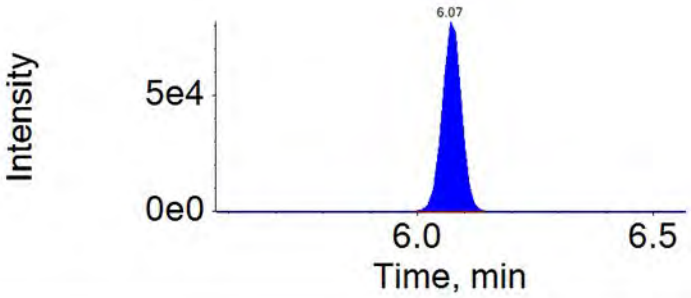

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

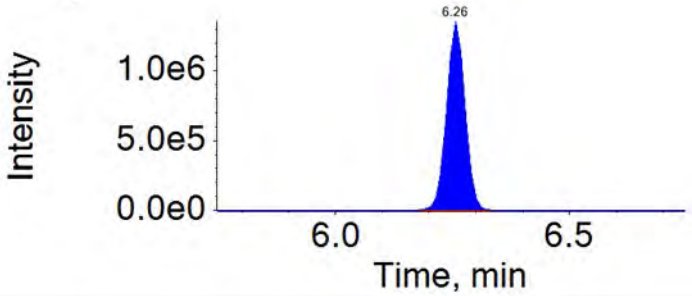



APPROVED
*By MCD at 6:33 pm, 11/12/18*

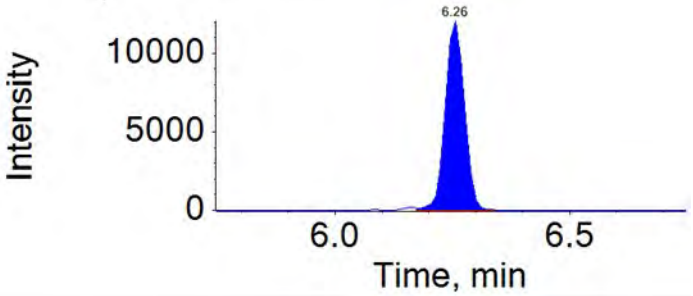


REVIEWED
*By HMK at 10:53 am, 11/13/18*

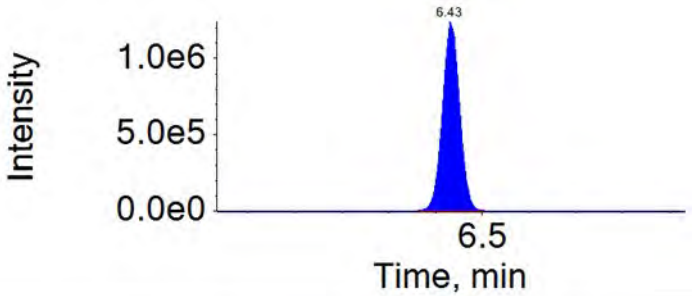
Component: PFTrDA
Primary Mass: 663.0 / 619.0



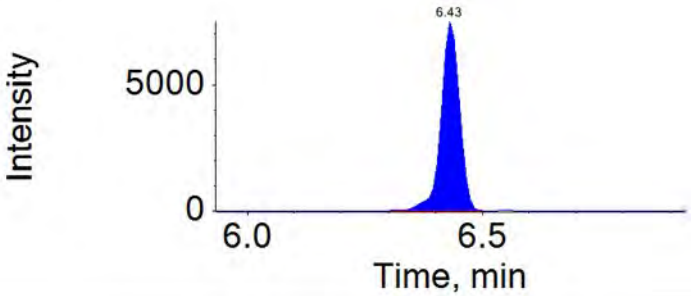

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



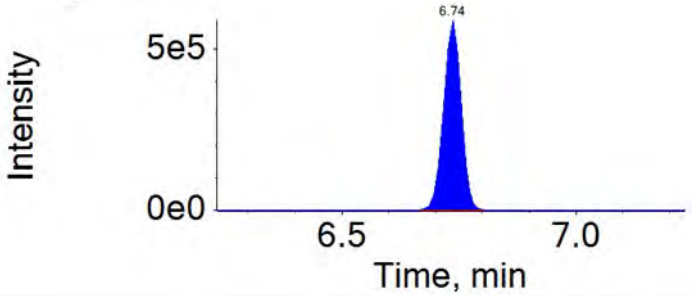

Component: PFTeDA
Primary Mass: 713.0 / 669.0



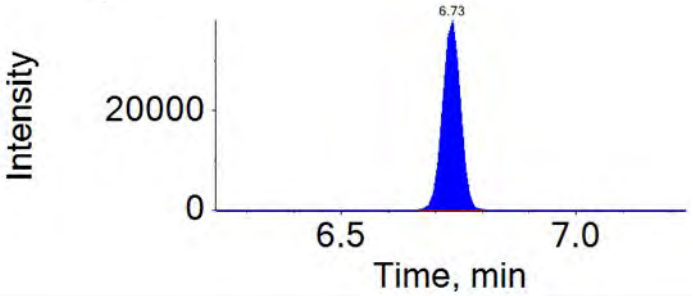

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



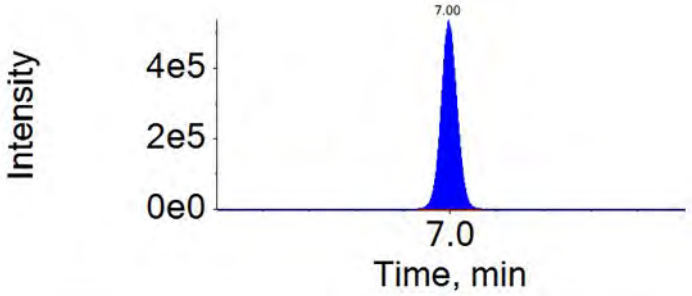

Component: PFHxDA
Primary Mass: 813.0 / 769.0



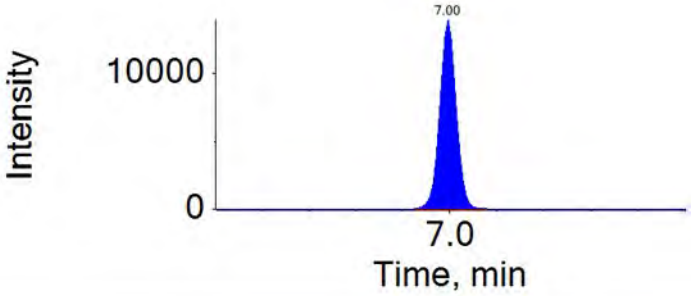

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CAL7 | | | **Data File:** | | 18NOV12DCAL-48.wiff |
| **Sample ID:** | CALBRN71833B | | | **Acquis Date:** | | 2018-11-12T16:00:06 |
| **Sample Type:** | Standard | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 9 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 510525.8 | 659926.2 | -23 | 50 | |
| 13C2-PFOA | 5.0 | 368158.3 | 450219.7 | -18 | 50 | |
| 13C4-PFOS | 4.8 | 233532.7 | 249205.8 | -6 | 50 | |
| 13C2-PFDA | 5.0 | 233825.1 | 278743.9 | -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 | 557392.8 | 13C3-PFBA | 510525.8 | 1.092 | 5.000 | 4.895 | 98 | 70-130 | |
| E13C5-PFPeA | 581688.7 | 13C3-PFBA | 510525.8 | 1.139 | 5.000 | 5.110 | 102 | 70-130 | |
| E13C3-PFBS | 361166.0 | 13C3-PFBA | 510525.8 | 0.707 | 4.650 | 4.994 | 107 | 70-130 | |
| E13C2-4:2-FTS | 40505.1 | 13C2-PFOA | 368158.3 | 0.110 | 4.670 | 4.900 | 105 | 70-130 | |
| E13C5-PFHxA | 509808.0 | 13C2-PFOA | 368158.3 | 1.385 | 5.000 | 5.002 | 100 | 70-130 | |
| E13C3-PFHxS | 267182.8 | 13C2-PFOA | 368158.3 | 0.726 | 4.730 | 4.980 | 105 | 70-130 | |
| E13C4-PFHpA | 401203.9 | 13C2-PFOA | 368158.3 | 1.090 | 5.000 | 4.910 | 98 | 70-130 | |
| E13C2-6:2-FTS | 27180.2 | 13C2-PFOA | 368158.3 | 0.074 | 4.750 | 4.939 | 104 | 70-130 | |
| E13C8-PFOA | 607669.5 | 13C2-PFOA | 368158.3 | 1.651 | 5.000 | 4.548 | 91 | 70-130 | |
| E13C8-PFOS | 242617.5 | 13C4-PFOS | 233532.7 | 1.039 | 4.780 | 4.603 | 96 | 70-130 | |
| E13C9-PFNA | 377369.8 | 13C4-PFOS | 233532.7 | 1.616 | 5.000 | 4.505 | 90 | 70-130 | |
| E13C6-PFDA | 479333.1 | 13C2-PFDA | 233825.1 | 2.050 | 5.000 | 4.784 | 96 | 70-130 | |
| E13C2-8:2-FTS | 22711.0 | 13C2-PFDA | 233825.1 | 0.097 | 4.790 | 4.844 | 101 | 70-130 | |
| E13C8-PFOSA | 554092.6 | 13C2-PFDA | 233825.1 | 2.370 | 5.000 | 5.254 | 105 | 70-130 | |
| Ed3-NMeFOSAA | 67250.5 | 13C2-PFDA | 233825.1 | 0.288 | 5.000 | 5.192 | 104 | 70-130 | |
| E13C7-PFUnDA | 199746.8 | 13C2-PFDA | 233825.1 | 0.854 | 5.000 | 4.960 | 99 | 70-130 | |
| Ed5-NEtFOSAA | 58049.5 | 13C2-PFDA | 233825.1 | 0.248 | 5.000 | 5.252 | 105 | 70-130 | |
| E13C2-PFDoDA | 474393.8 | 13C2-PFDA | 233825.1 | 2.029 | 5.000 | 5.268 | 105 | 70-130 | |
| Ed7-NMePFOSAE | 272283.1 | 13C2-PFDA | 233825.1 | 1.164 | 5.000 | 5.039 | 101 | 70-130 | |
| Ed3-NMePFOSA | 74110.3 | 13C2-PFDA | 233825.1 | 0.317 | 5.000 | 5.758 | 115 | 70-130 | |
| Ed9-NEtPFOSAE | 240346.5 | 13C2-PFDA | 233825.1 | 1.028 | 5.000 | 5.346 | 107 | 70-130 | |
| Ed5-NEtPFOSA | 53297.9 | 13C2-PFDA | 233825.1 | 0.228 | 5.000 | 5.347 | 107 | 70-130 | |
| E13C2-PFTeDA | 346256.6 | 13C2-PFDA | 233825.1 | 1.481 | 5.000 | 5.199 | 104 | 70-130 | |

APPROVED
By MCD at 6:33 pm, 11/12/18



REVIEWED
By HMK at 10:53 am, 11/13/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

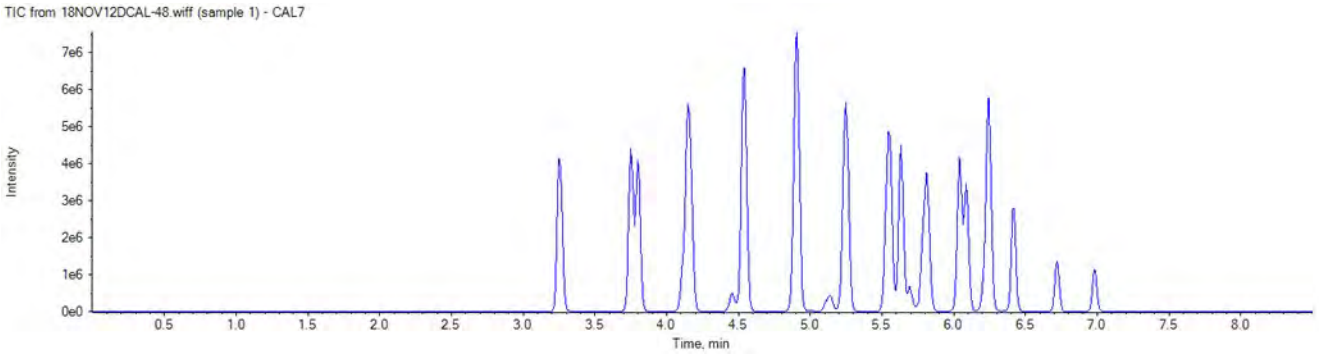
## Analyte Quantitation Peak Table

**Sample Name:** CAL7 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-48.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 | 9834601.7 | | A | 13C4-PFBA | 3.25 | 557392.8 | 17.644 | 97.743 |
| PFPeA | 3.75 | 1.000 | 9756431.5 | | A | 13C5-PFPeA | 3.75 | 581688.7 | 16.773 | 97.094 |
| PFBS | 3.80 | 1.000 | 6615935.3 | | A | 13C3-PFBS | 3.80 | 361166.0 | 18.318 | 87.136 |
| 4:2-FTS | 4.11 | 1.000 | 1379983.9 | | A | 13C2-4:2-FTS | 4.11 | 40505.1 | 34.069 | 92.499 |
| PFHxA | 4.15 | 1.000 | 11059420.3 | | A | 13C5-PFHxA | 4.15 | 509808.0 | 21.693 | 90.577 |
| PFPeS | 4.17 | 1.100 | 3482095.9 | | A | 13C3-PFBS | 3.80 | 361166.0 | 9.641 | 93.602 |
| PFHpA | 4.54 | 1.000 | 10981922.8 | | A | 13C4-PFHpA | 4.54 | 401203.9 | 27.372 | 90.732 |
| PFHxS | 4.54 | 1.000 | 5048349.8 | | M | 13C3-PFHxS | 4.54 | 267182.8 | 18.895 | 91.615 |
| 6:2-FTS | 4.89 | 1.000 | 869227.2 | | A | 13C2-6:2-FTS | 4.89 | 27180.2 | 31.980 | 77.388 |
| PFHpS | 4.90 | 1.080 | 4784682.8 | | A | 13C3-PFHxS | 4.54 | 267182.8 | 17.908 | 94.267 |
| PFOA | 4.91 | 1.000 | 10991740.1 | | A | 13C8-PFOA | 4.91 | 607669.5 | 18.088 | 96.608 |
| PFOS | 5.24 | 1.000 | 5138367.0 | | M | 13C8-PFOS | 5.24 | 242617.5 | 21.179 | 92.617 |
| PFNA | 5.25 | 1.000 | 10084288.3 | | A | 13C9-PFNA | 5.25 | 377369.8 | 26.723 | 96.360 |
| PFNS | 5.53 | 1.060 | 3386860.5 | | A | 13C8-PFOS | 5.24 | 242617.5 | 13.960 | 97.666 |
| PFDA | 5.55 | 1.000 | 8104726.6 | | A | 13C6-PFDA | 5.55 | 479333.1 | 16.908 | 89.640 |
| 8:2-FTS | 5.56 | 1.000 | 804019.5 | | A | 13C2-8:2-FTS | 5.56 | 22711.0 | 35.402 | 82.540 |
| PFOSA | 5.63 | 1.000 | 10169176.9 | | A | 13C8-PFOSA | 5.63 | 554092.6 | 18.353 | 89.642 |
| NMeFOSAA | 5.69 | 1.000 | 1191981.7 | | M | d3-NMeFOSAA | 5.69 | 67250.5 | 17.725 | 100.173 |
| PFDS | 5.79 | 1.110 | 2606720.7 | | A | 13C8-PFOS | 5.24 | 242617.5 | 10.744 | 97.353 |
| PFUnDA | 5.81 | 1.000 | 6802701.2 | | A | 13C7-PFUnDA | 5.81 | 199746.8 | 34.057 | 89.032 |
| NEtFOSAA | 5.83 | 1.000 | 1046636.1 | | M | d5-NEtFOSAA | 5.82 | 58049.5 | 18.030 | 94.517 |
| PFDoDA | 6.04 | 1.000 | 8171355.4 | | A | 13C2-PFDoDA | 6.04 | 474393.8 | 17.225 | 87.711 |
| 10:2-FTS | 6.06 | 1.090 | 632223.7 | | A | 13C2-8:2-FTS | 5.56 | 22711.0 | 27.838 | 92.724 |
| NMePFOSAE | 6.09 | 1.000 | 6272486.3 | | A | d7-NMePFOSAE | 6.08 | 272283.1 | 23.037 | 95.876 |
| NMePFOSA | 6.09 | 1.000 | 1310162.9 | | A | d3-NMePFOSA | 6.09 | 74110.3 | 17.679 | 87.214 |
| PFDoS | 6.21 | 1.190 | 1336765.3 | | A | 13C8-PFOS | 5.24 | 242617.5 | 5.510 | 96.500 |
| NEtPFOSAE | 6.25 | 1.000 | 6557402.5 | | A | d9-NEtPFOSAE | 6.23 | 240346.5 | 27.283 | 87.532 |
| NEtPFOSA | 6.26 | 1.000 | 1148933.0 | | A | d5-NEtPFOSA | 6.25 | 53297.9 | 21.557 | 98.999 |
| PFTrDA | 6.24 | 1.030 | 6281239.0 | | A | 13C2-PFDoDA | 6.04 | 474393.8 | 13.241 | 83.569 |
| PFTeDA | 6.42 | 1.000 | 6092875.7 | | A | 13C2-PFTeDA | 6.42 | 346256.6 | 17.596 | 98.638 |
| PFHxDA | 6.72 | 1.050 | 2866097.3 | | A | 13C2-PFTeDA | 6.42 | 346256.6 | 8.277 | 98.615 |
| PFODA | 6.98 | 1.090 | 2488863.6 | | A | 13C2-PFTeDA | 6.42 | 346256.6 | 7.188 | 100.107 |

## Total Ion Chromatogram



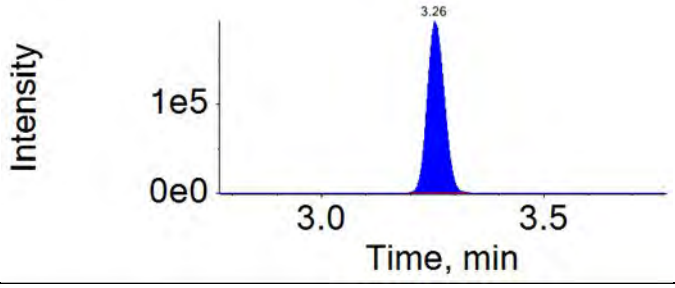

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*By MCD at 6:33 pm, 11/12/18*



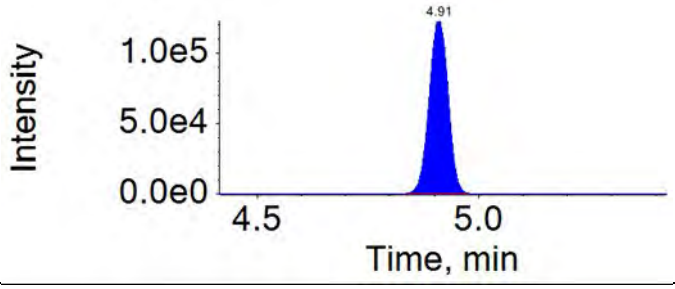
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

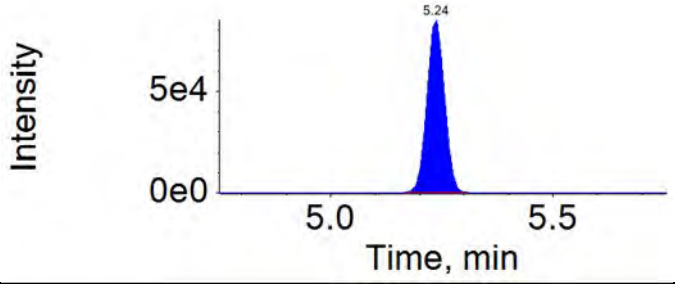
Injection Standard: 13C3-PFBA
216.0 / 172.0



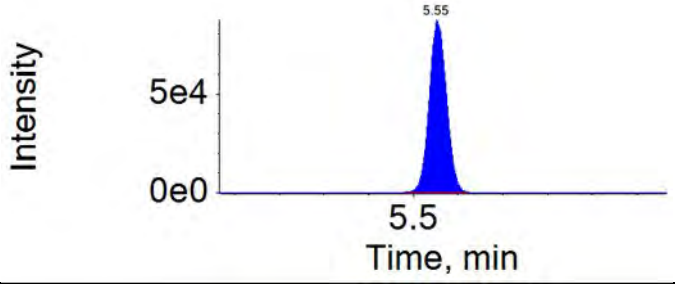

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



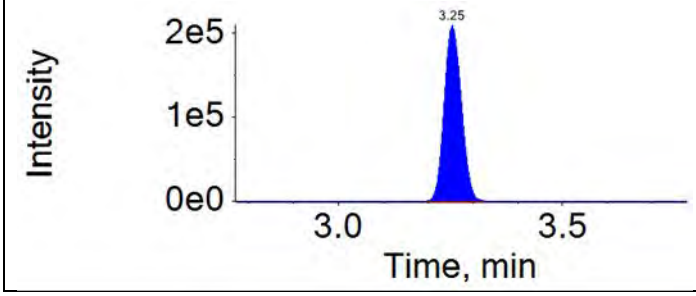

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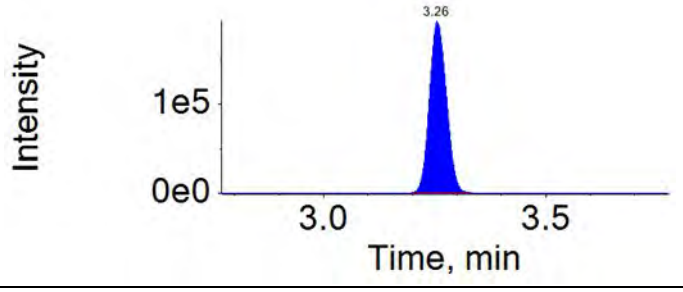


REVIEWED
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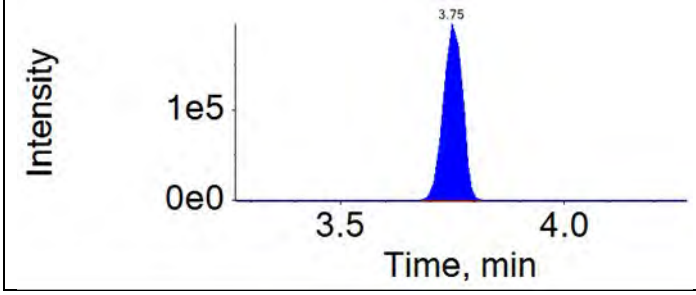
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**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

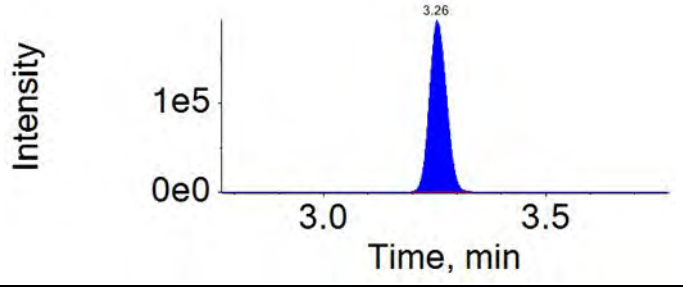
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



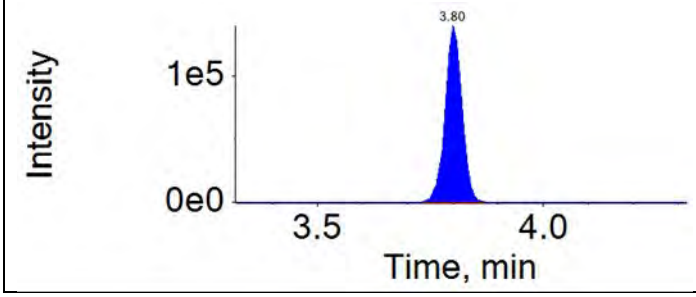



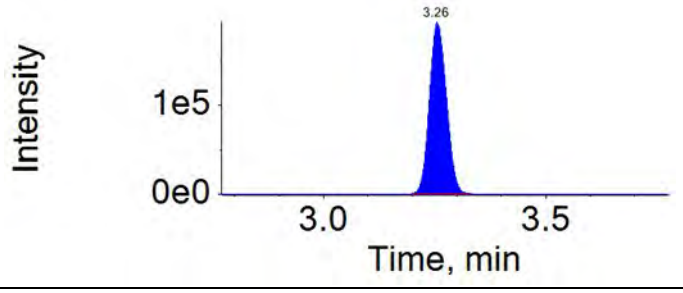

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



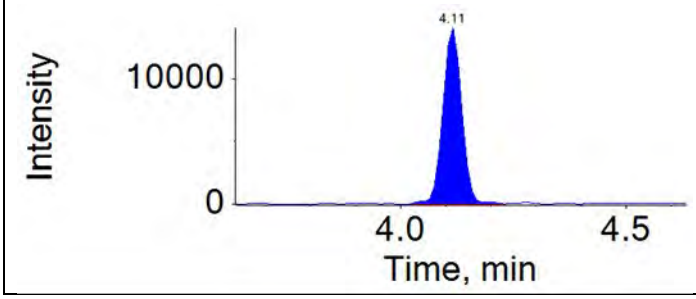



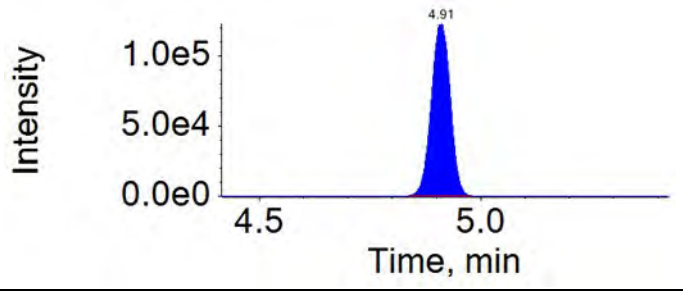

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



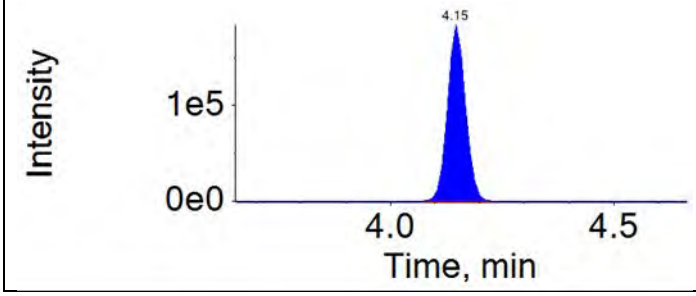

APPROVED
*By MCD at 6:33 pm, 11/12/18*

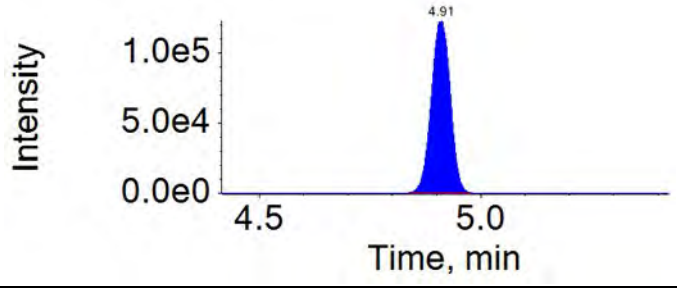


REVIEWED
*By HMK at 10:53 am, 11/13/18*

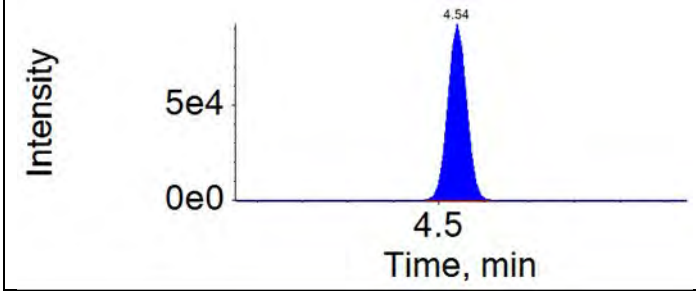
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

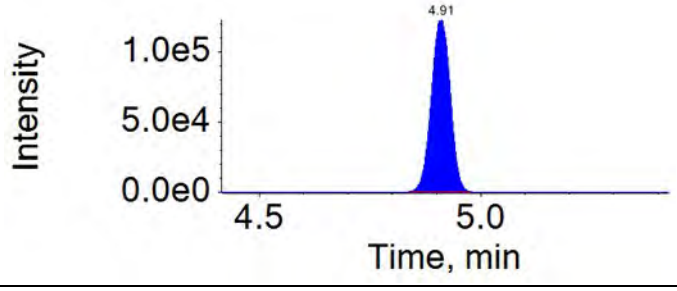
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



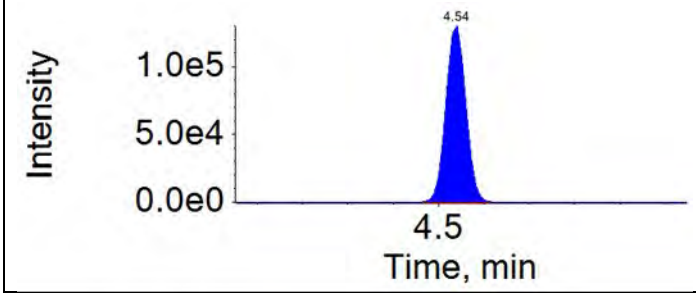



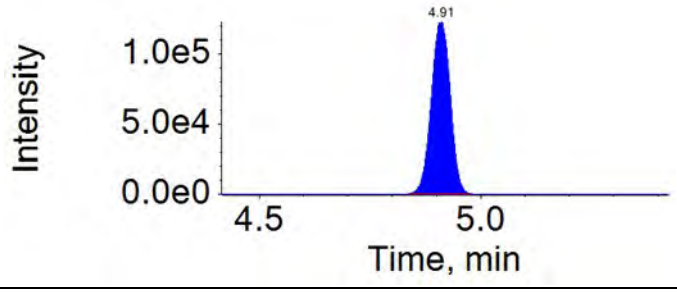

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



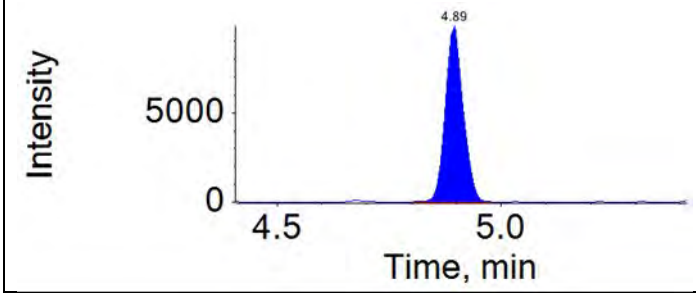



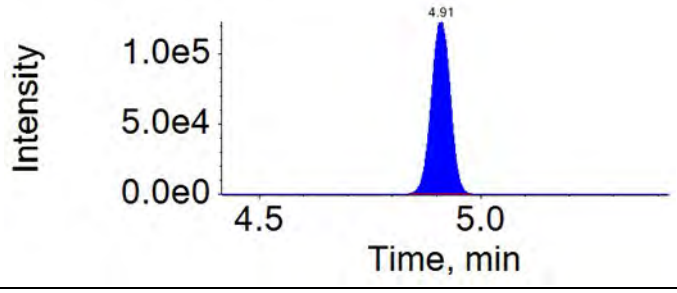

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



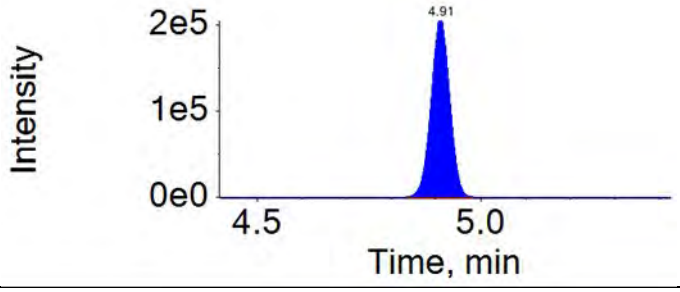
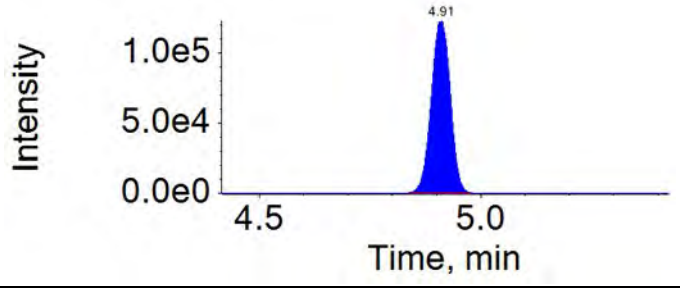




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*By MCD at 6:33 pm, 11/12/18*



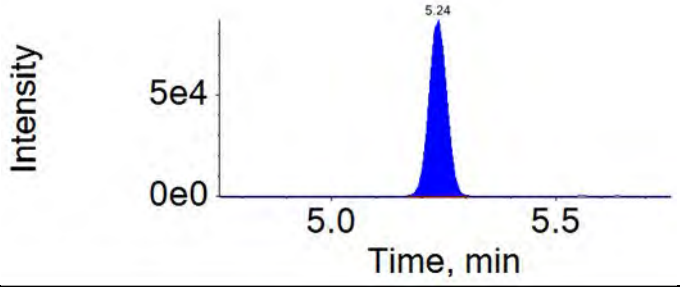
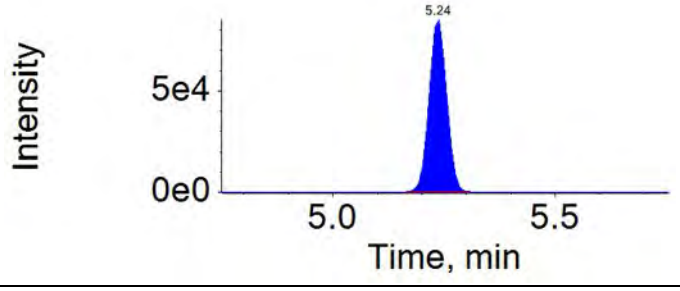
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

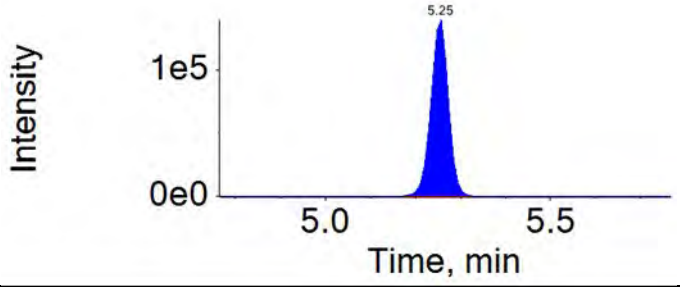
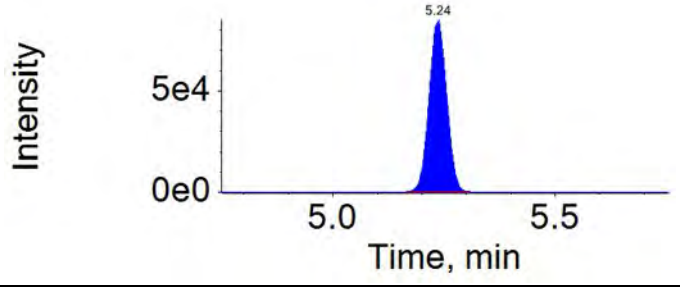




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

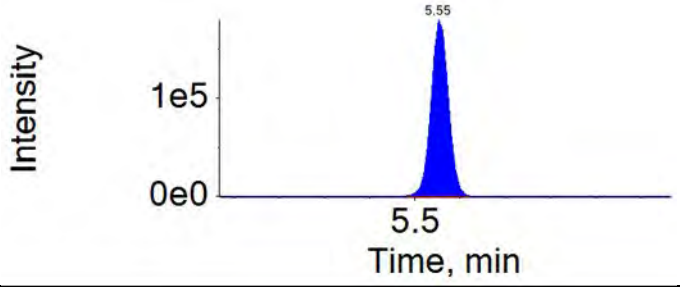
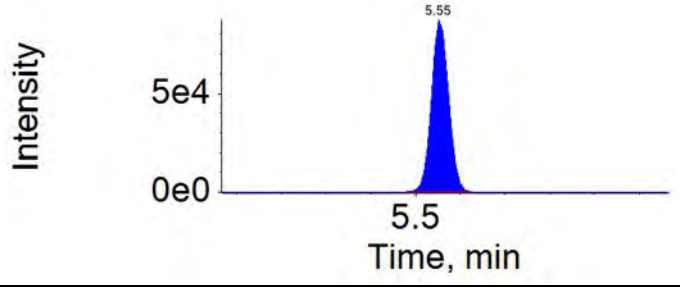




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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



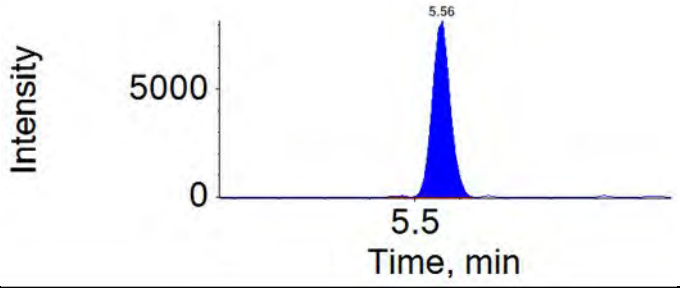
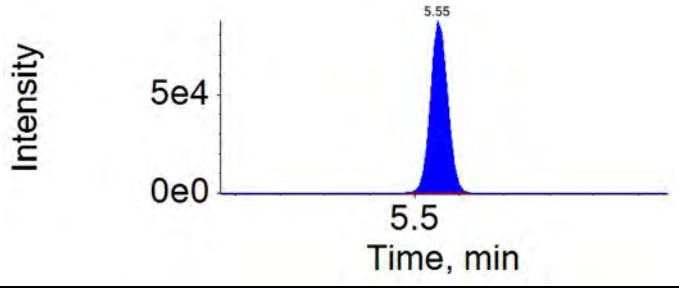


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*By MCD at 6:33 pm, 11/12/18*



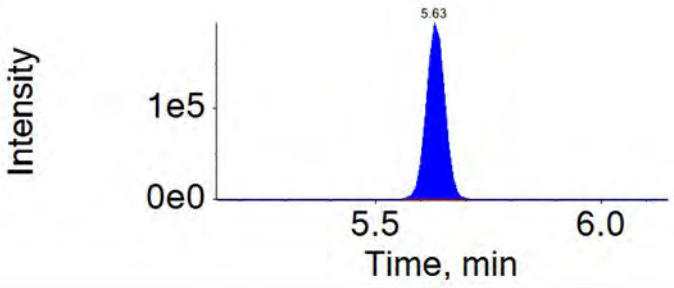
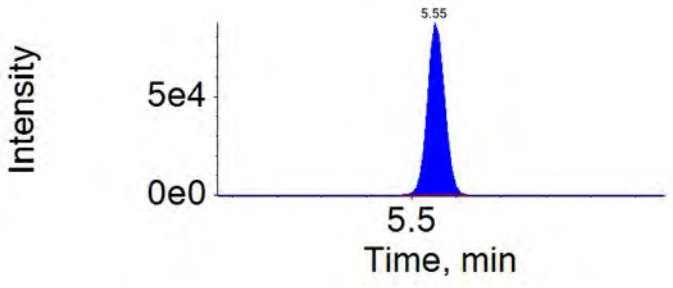
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

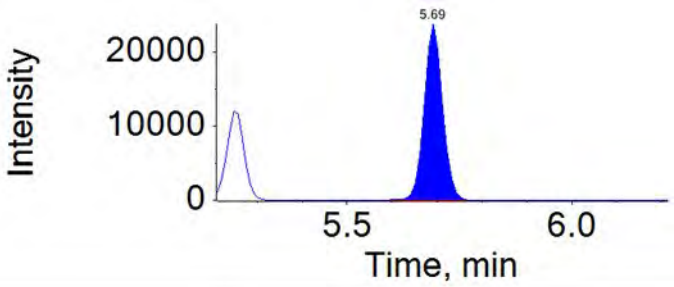
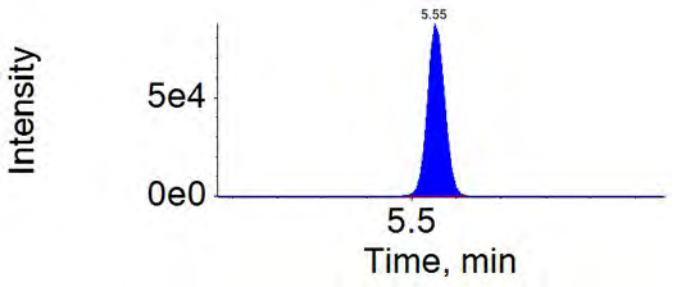




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

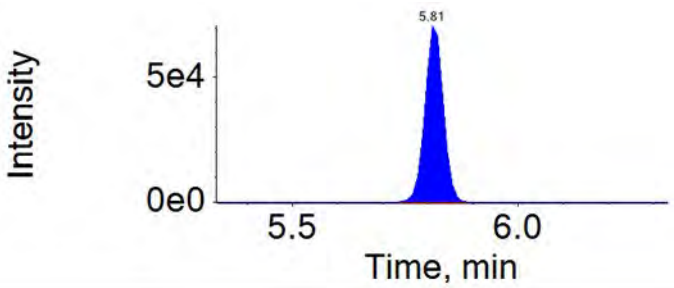
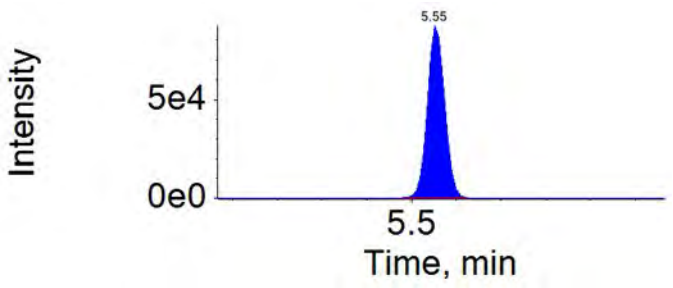




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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





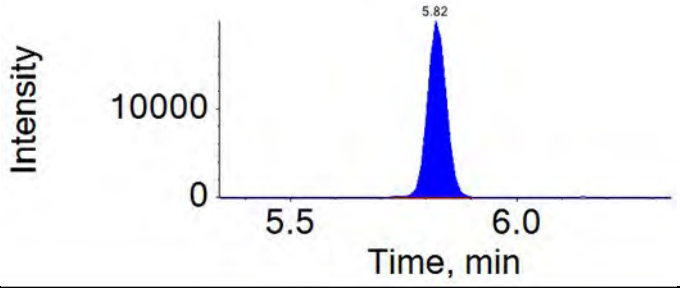
APPROVED
*By MCD at 6:33 pm, 11/12/18*

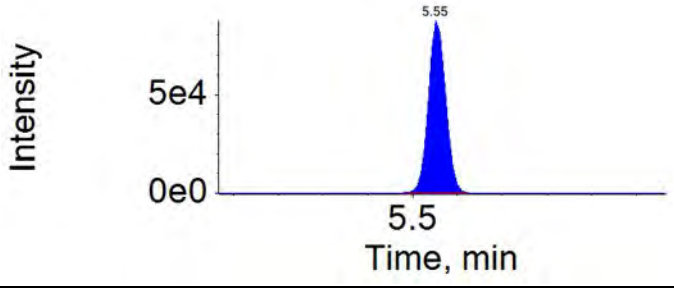


REVIEWED
*By HMK at 10:53 am, 11/13/18*

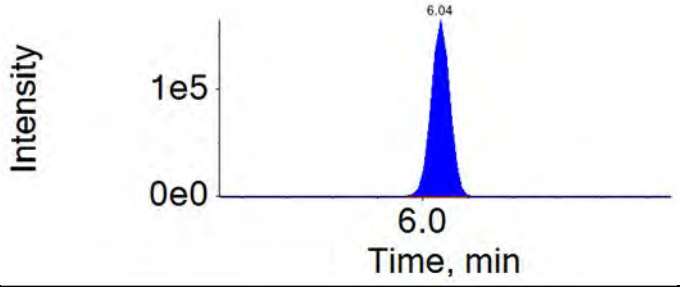
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

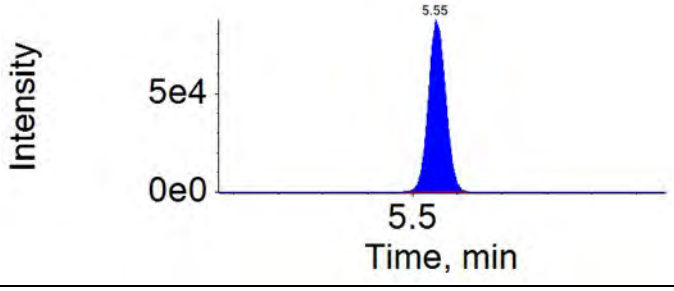
| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |



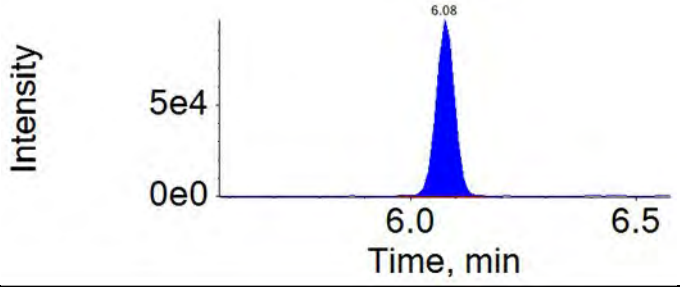



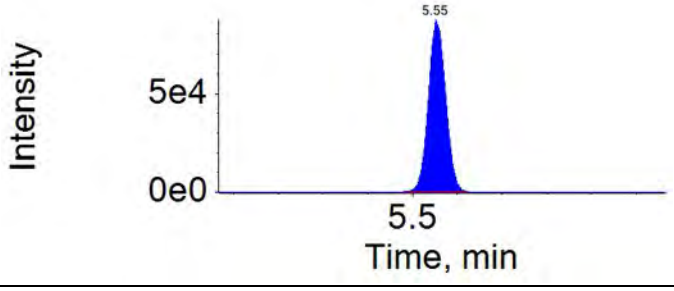

| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |



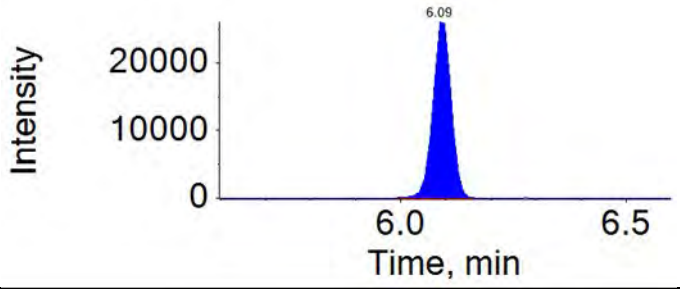



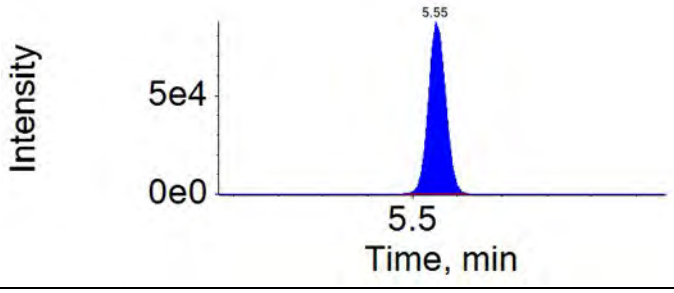

| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |




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



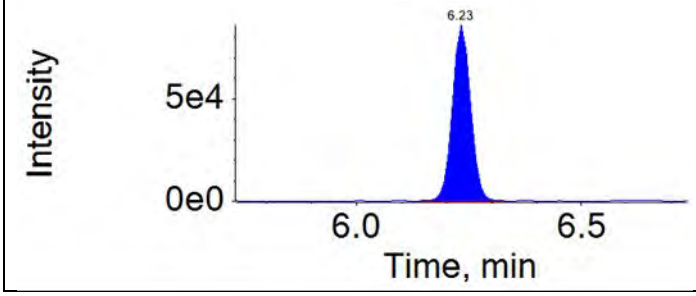

APPROVED
*By MCD at 6:33 pm, 11/12/18*

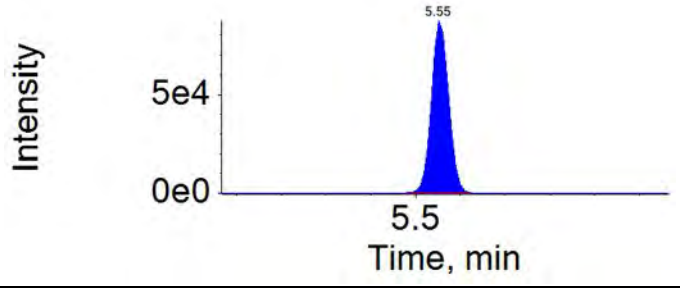


REVIEWED
*By HMK at 10:53 am, 11/13/18*

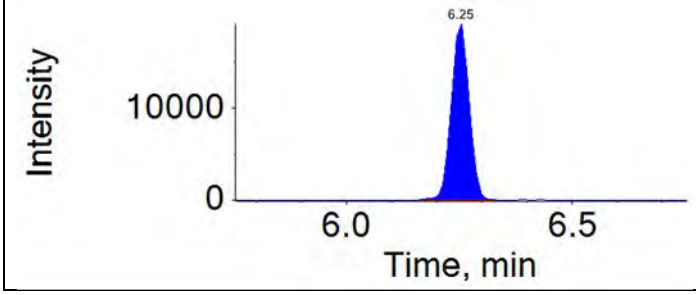
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

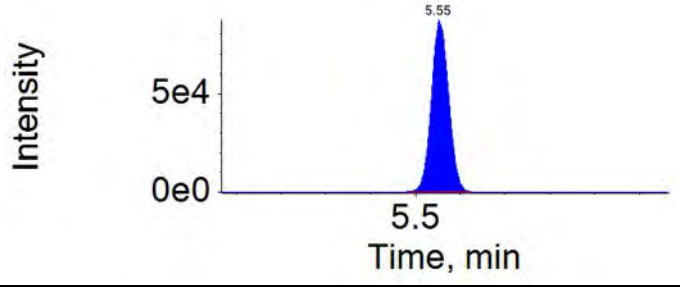
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



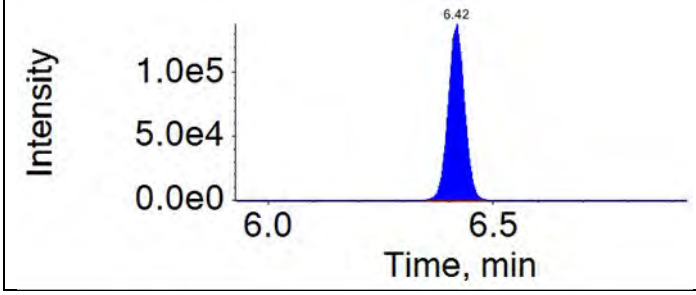



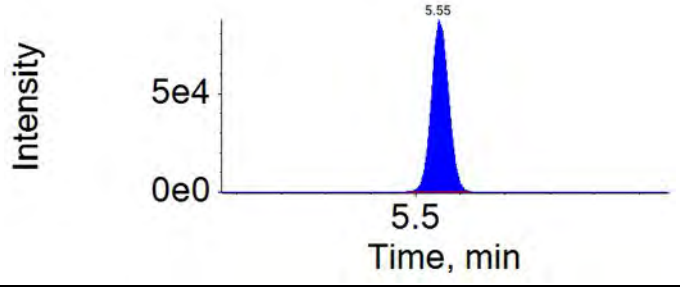

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



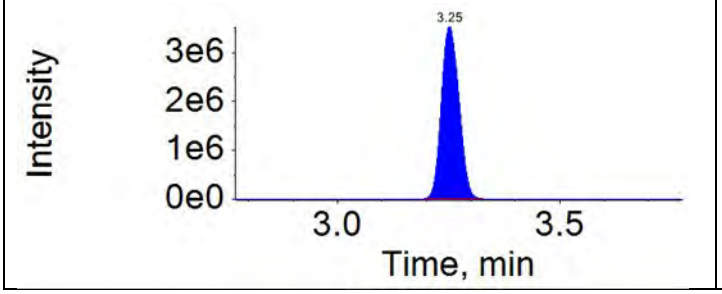

APPROVED
*By MCD at 6:33 pm, 11/12/18*

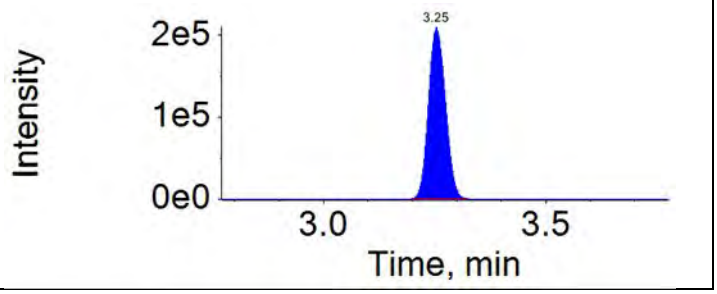


REVIEWED
*By HMK at 10:53 am, 11/13/18*

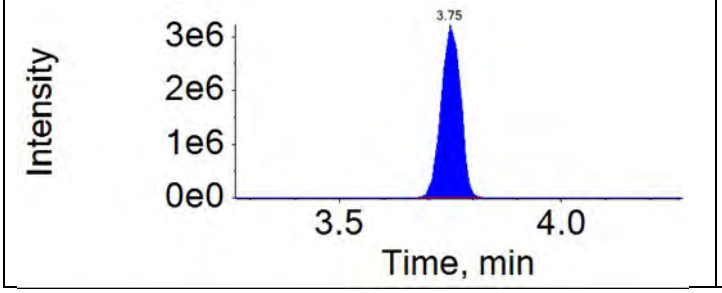
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

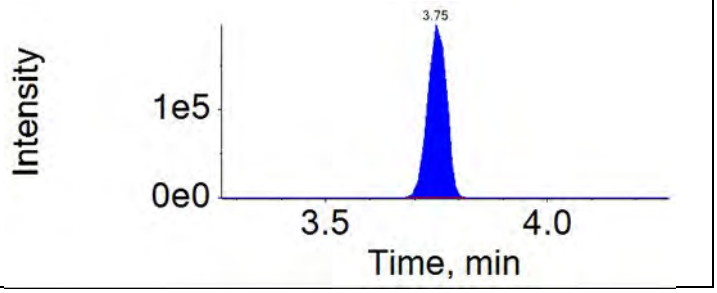
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



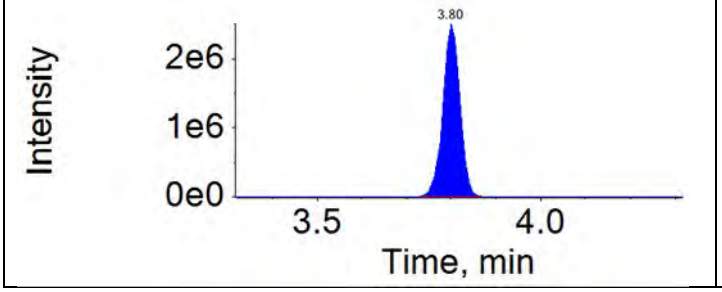



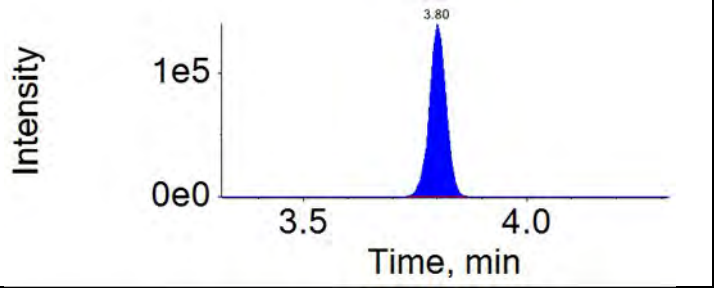

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



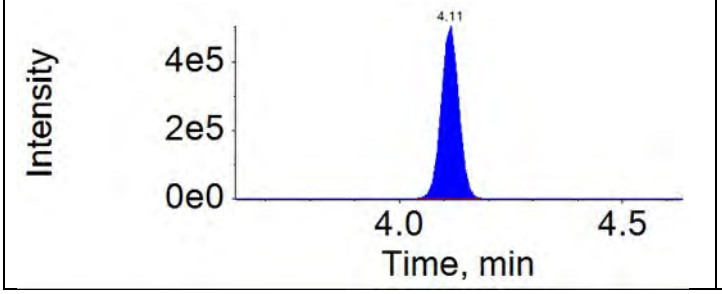



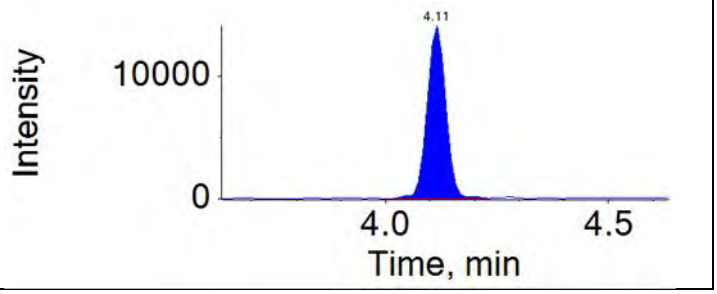

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



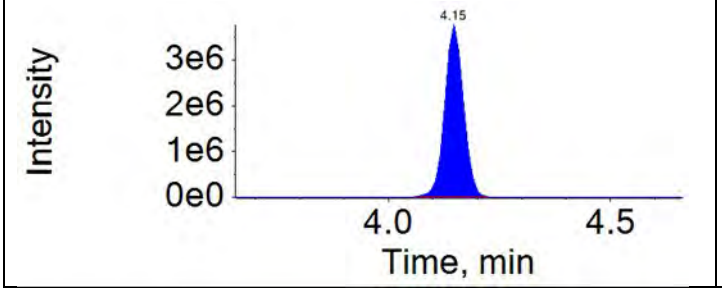

APPROVED
*By MCD at 6:33 pm, 11/12/18*

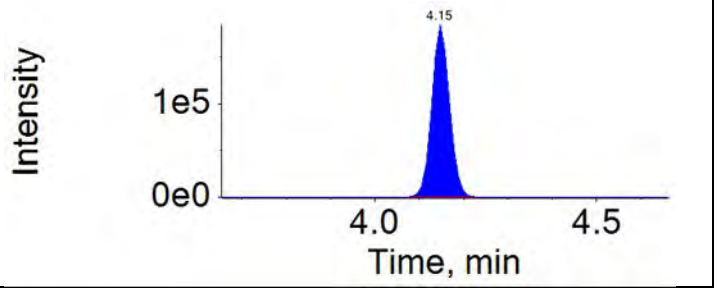


REVIEWED
*By HMK at 10:53 am, 11/13/18*

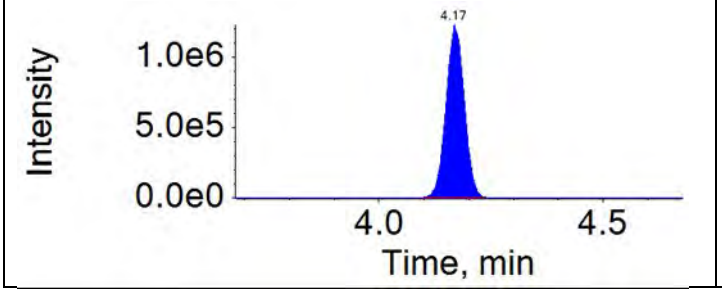
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

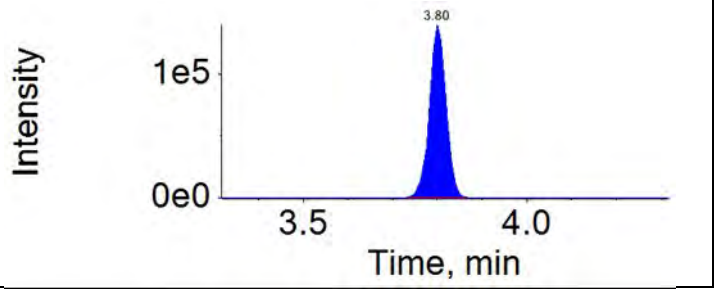
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



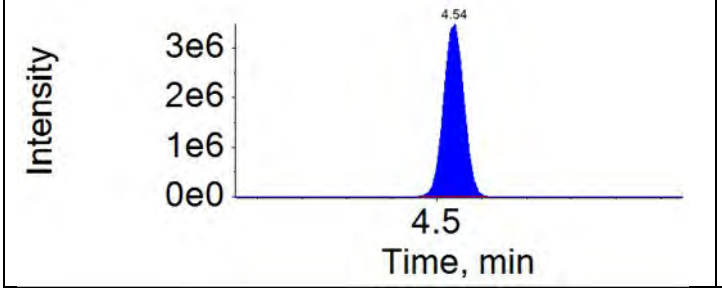



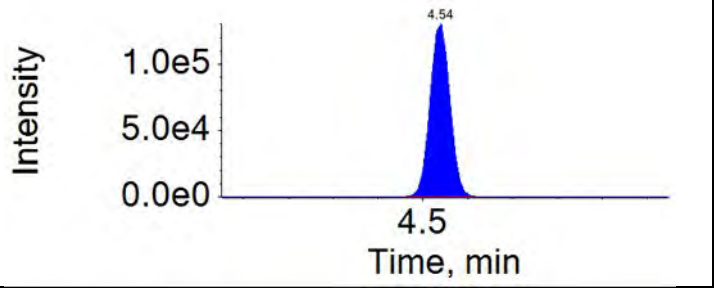

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



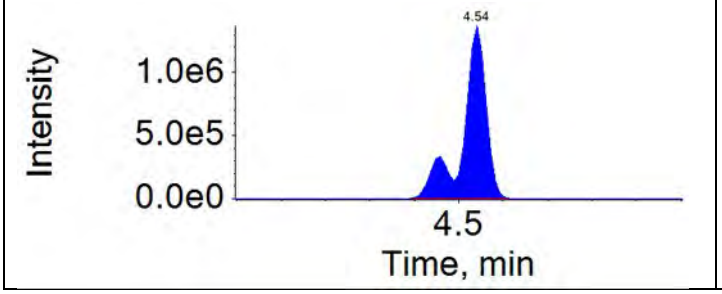



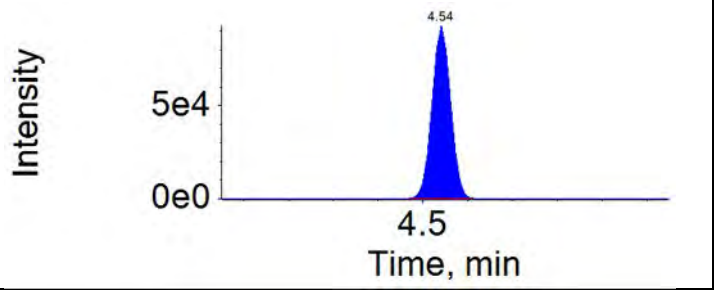

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



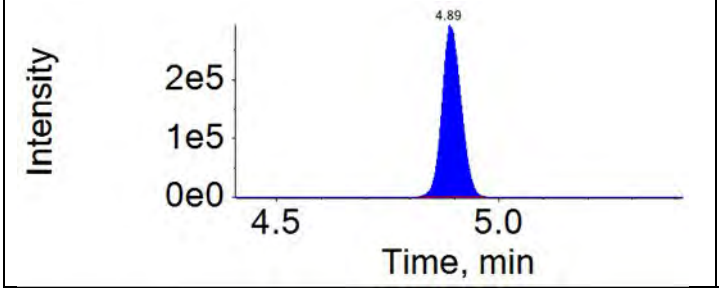

APPROVED
*By MCD at 6:33 pm, 11/12/18*

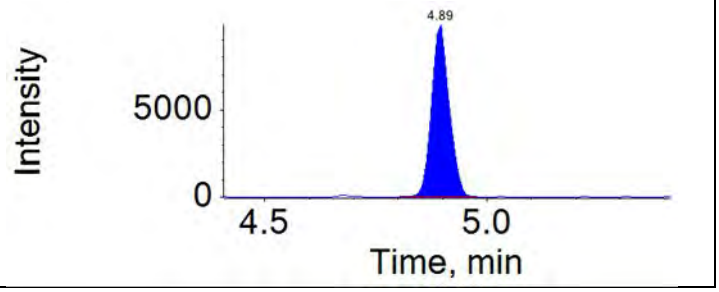


REVIEWED
*By HMK at 10:53 am, 11/13/18*

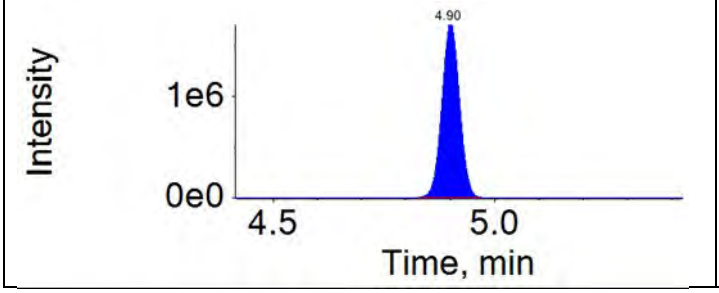
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

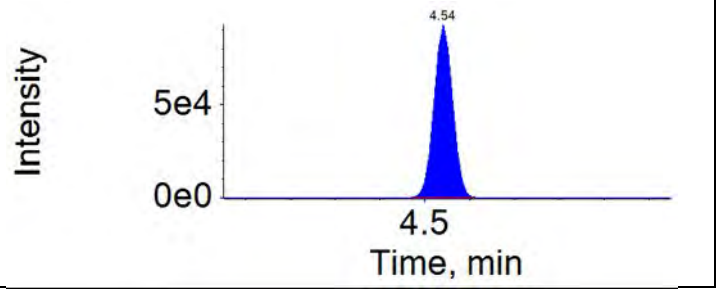
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



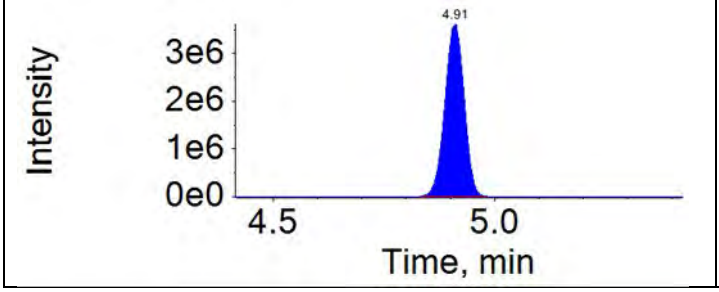



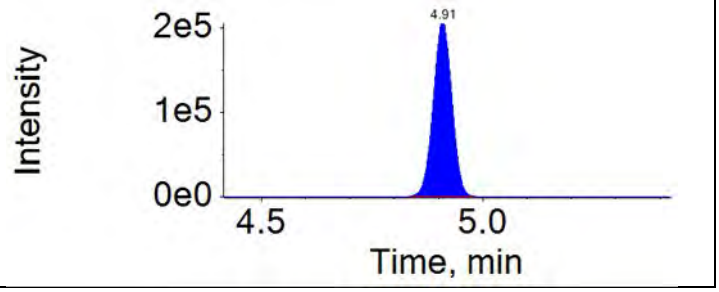

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



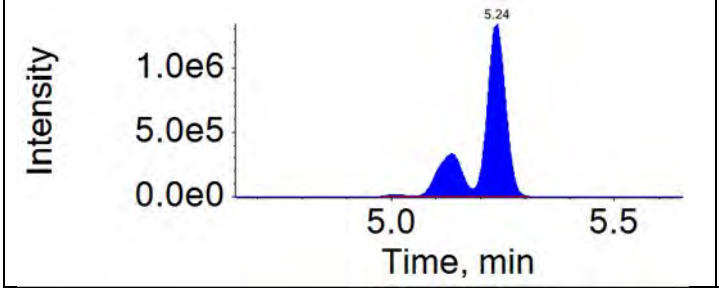



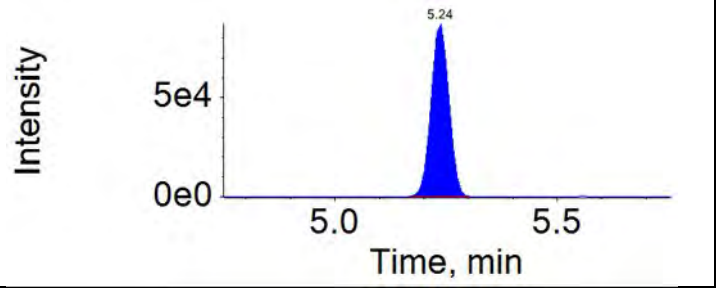

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



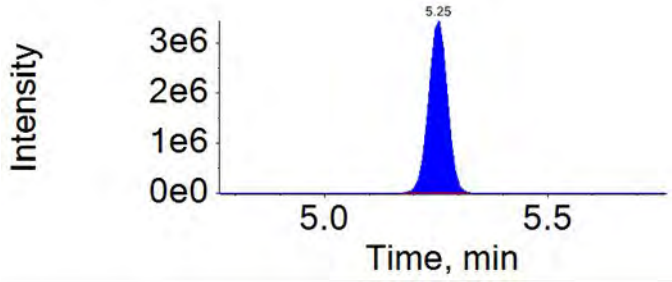

APPROVED
*By MCD at 6:33 pm, 11/12/18*

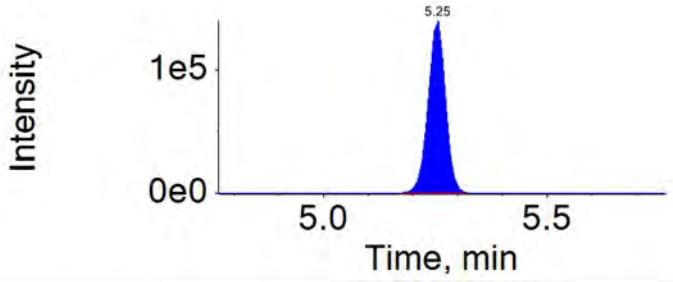


REVIEWED
*By HMK at 10:53 am, 11/13/18*

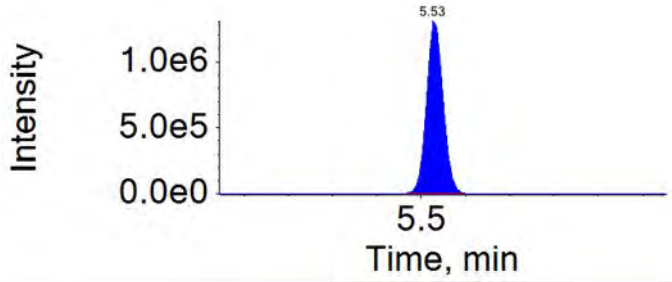
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

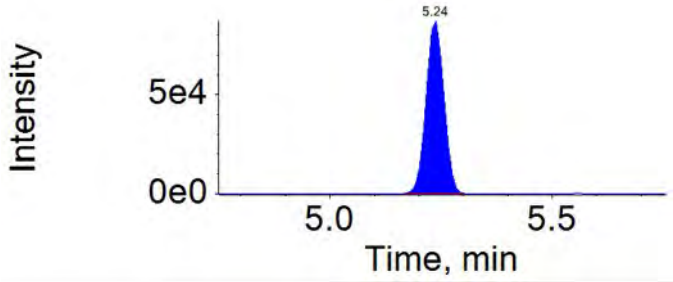
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



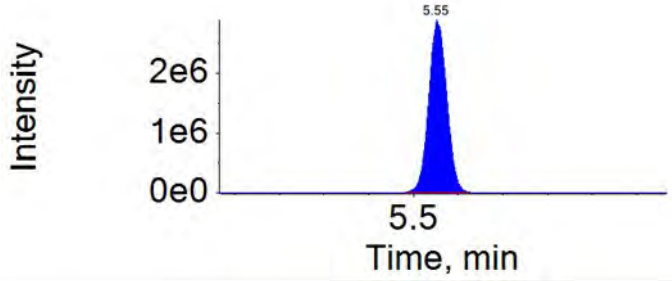



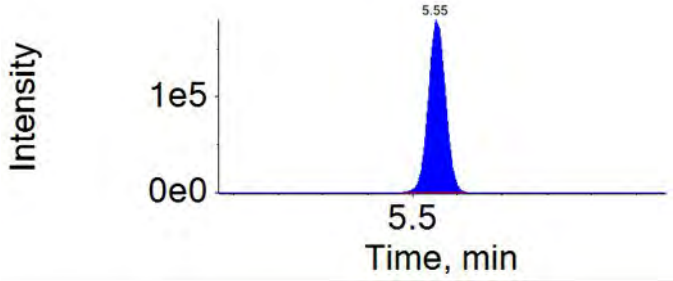

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



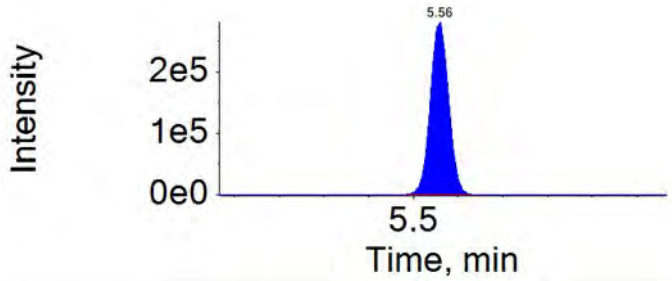



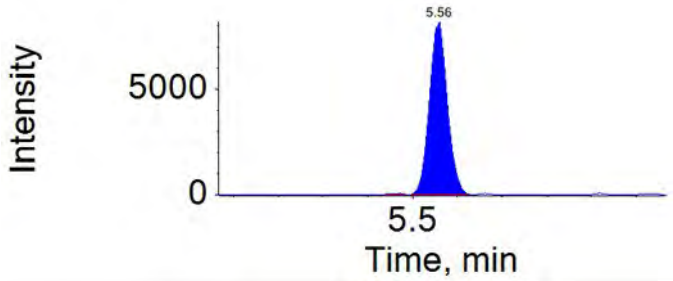

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



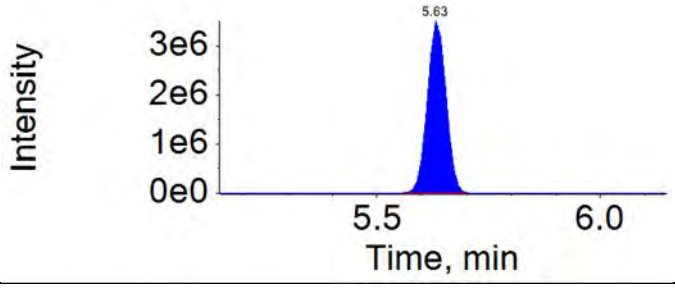

APPROVED
*By MCD at 6:33 pm, 11/12/18*

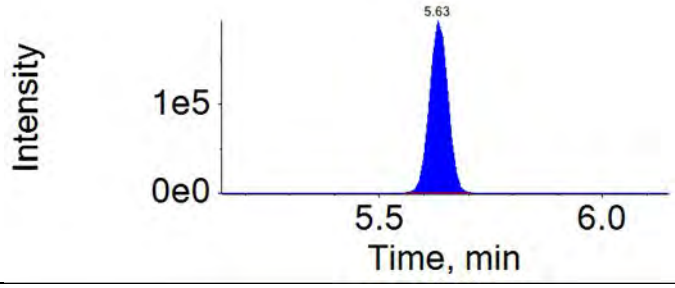


REVIEWED
*By HMK at 10:53 am, 11/13/18*

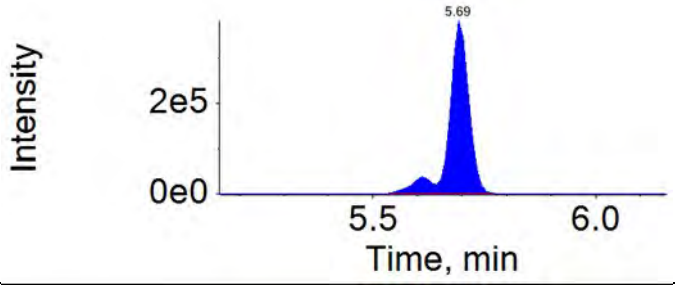
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

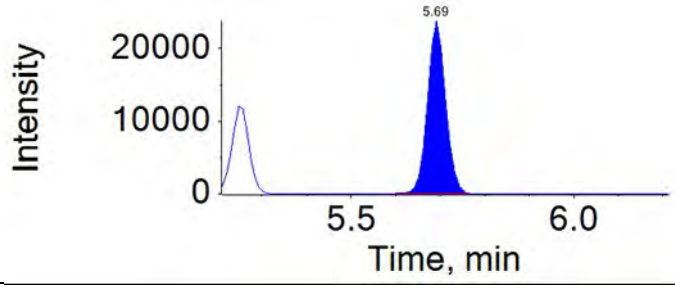
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



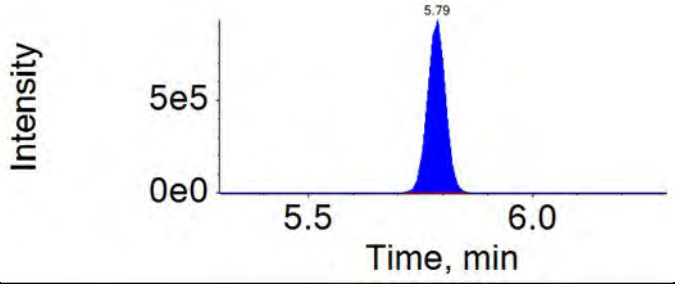



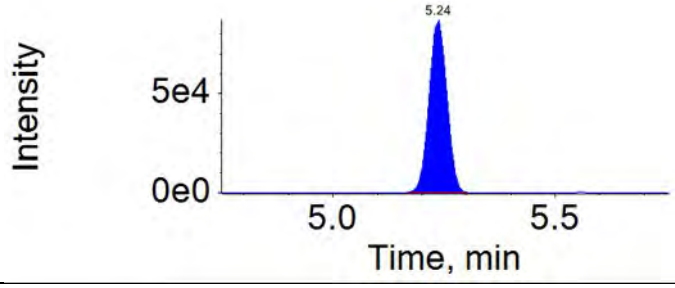

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



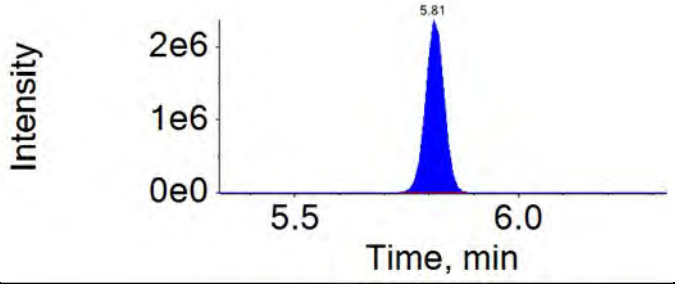



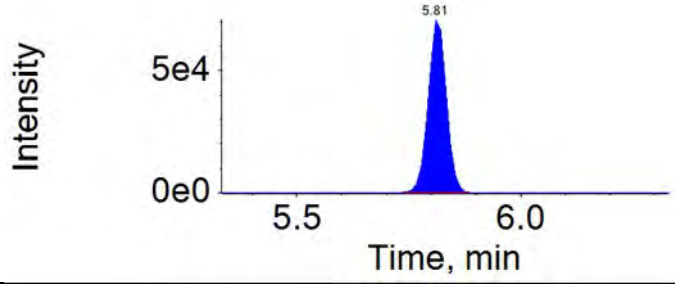

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



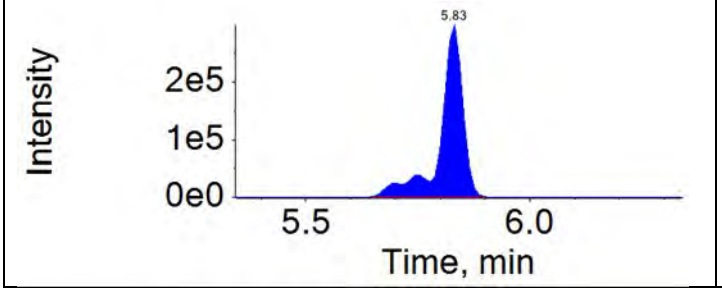

APPROVED
*By MCD at 6:33 pm, 11/12/18*

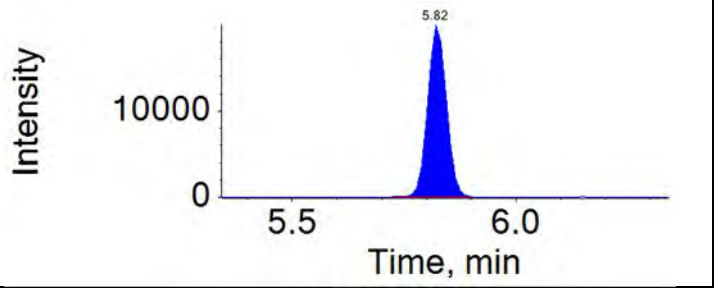


REVIEWED
*By HMK at 10:53 am, 11/13/18*

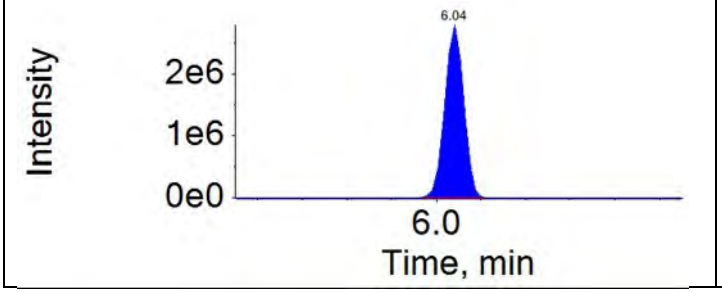
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

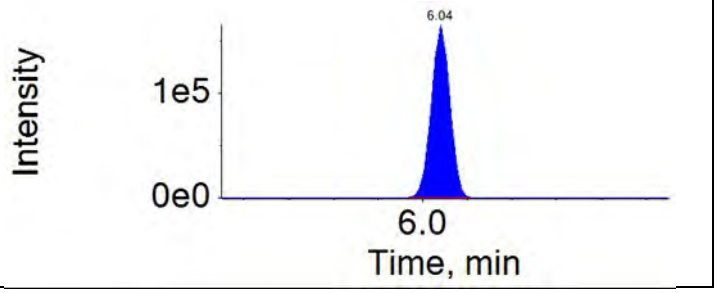
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



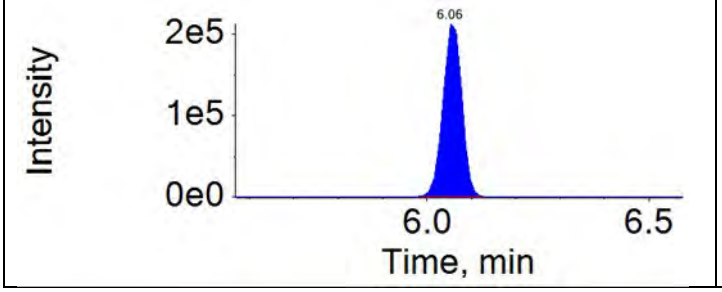



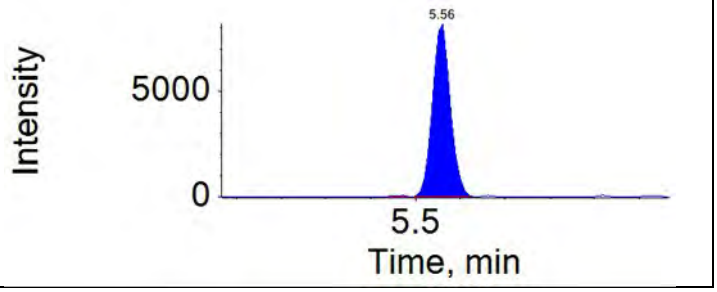

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



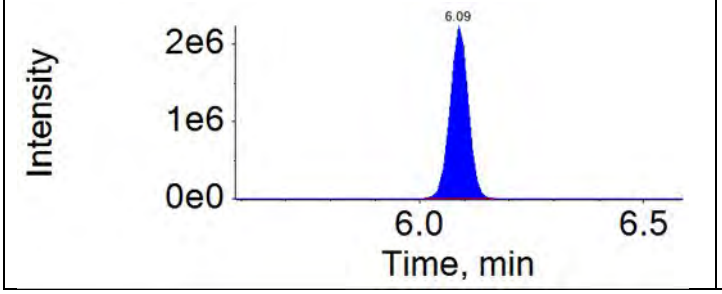



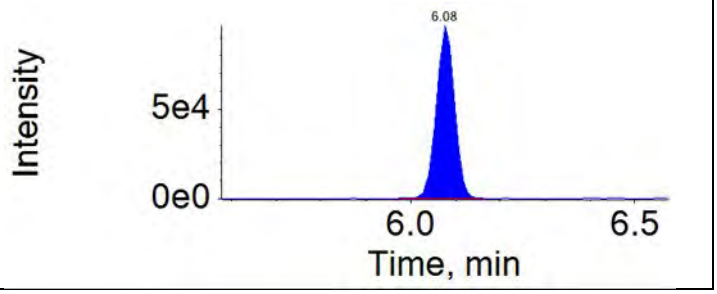

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



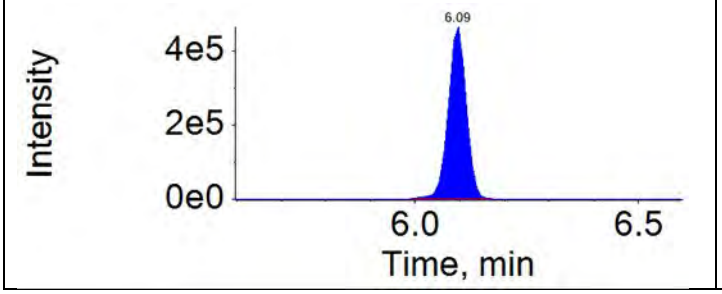

APPROVED
*By MCD at 6:33 pm, 11/12/18*

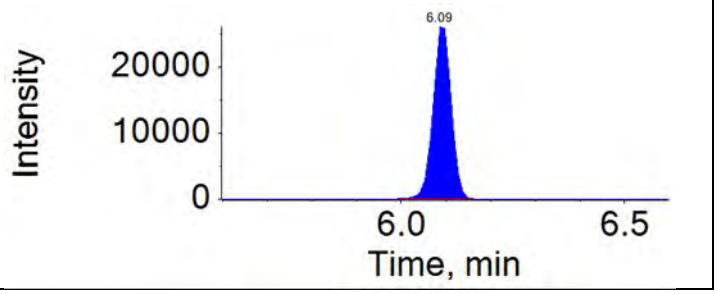


REVIEWED
*By HMK at 10:53 am, 11/13/18*

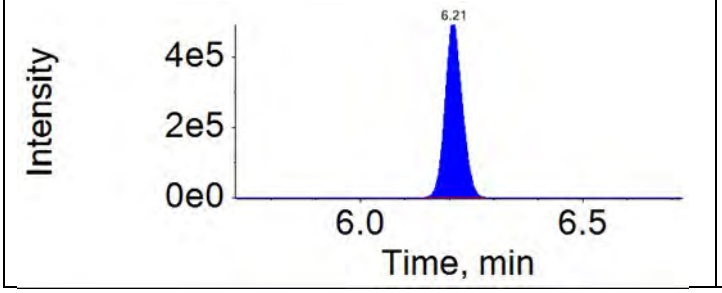
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

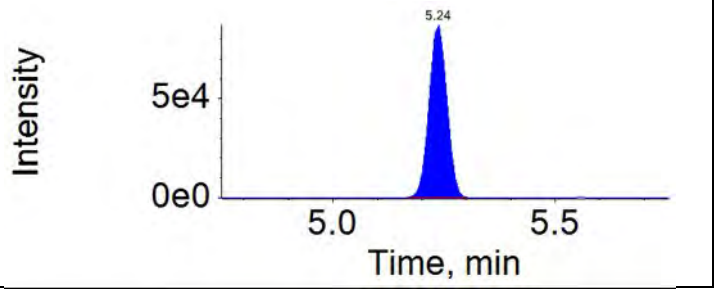
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



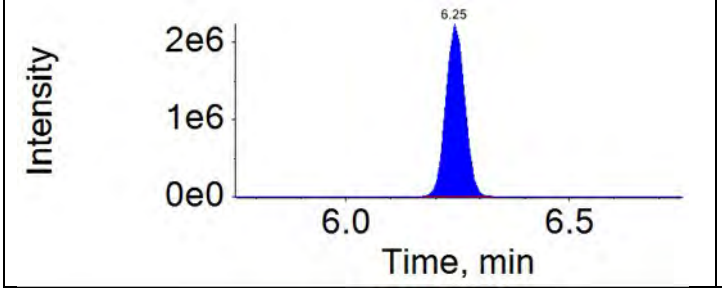



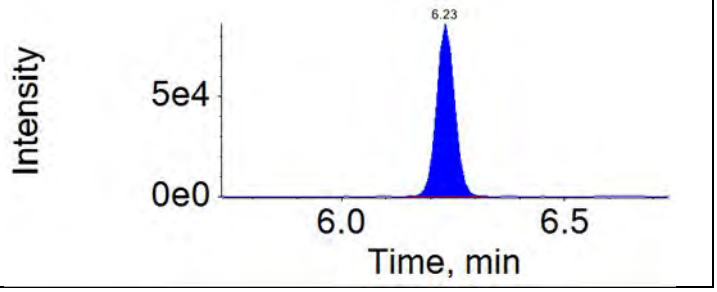

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



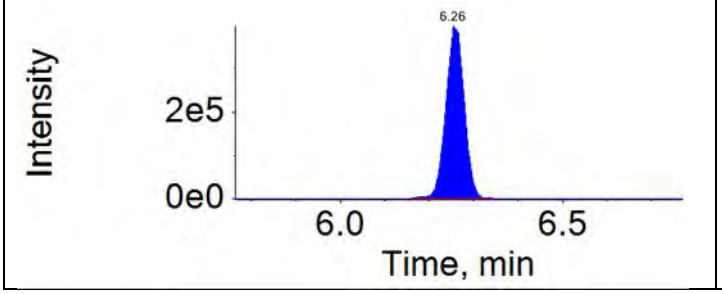



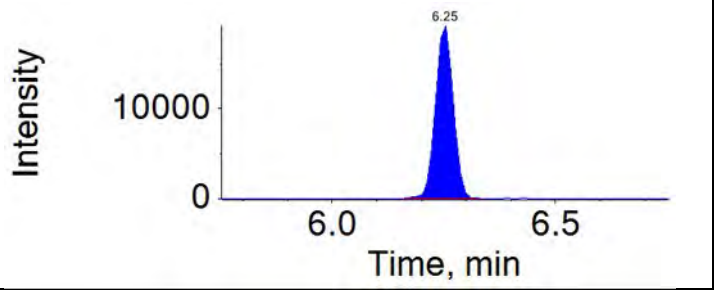

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



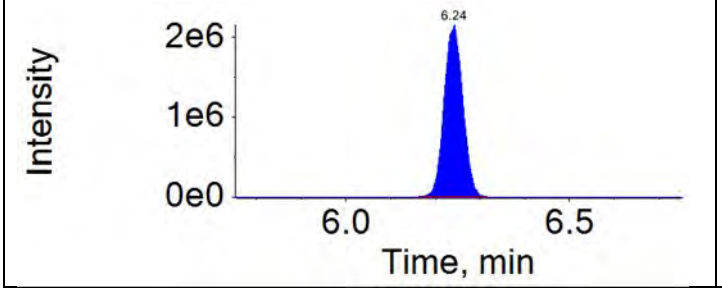

APPROVED
*By MCD at 6:33 pm, 11/12/18*

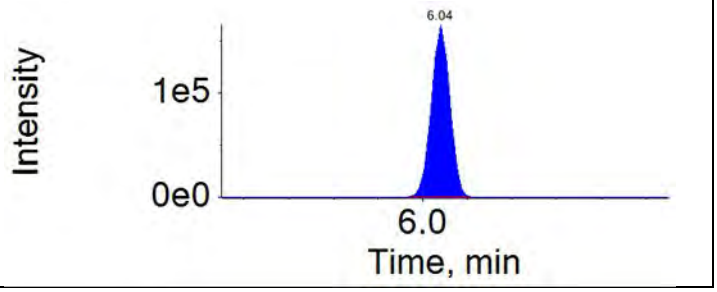


REVIEWED
*By HMK at 10:53 am, 11/13/18*

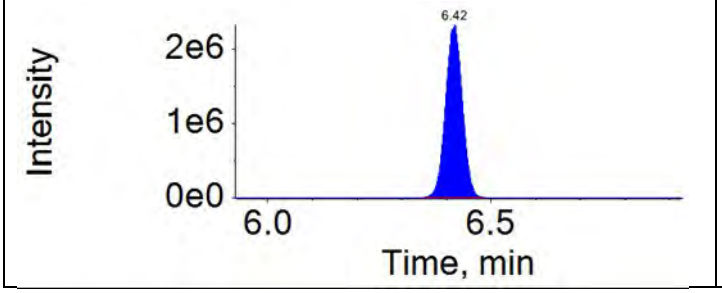
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

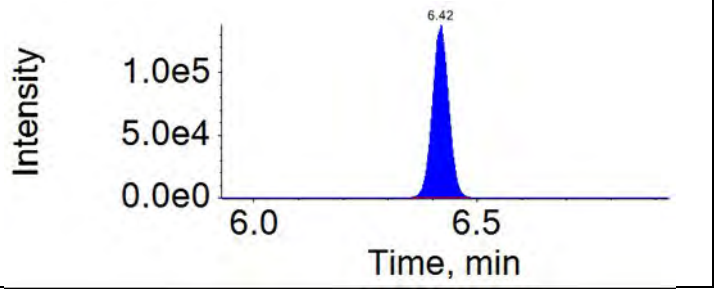
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



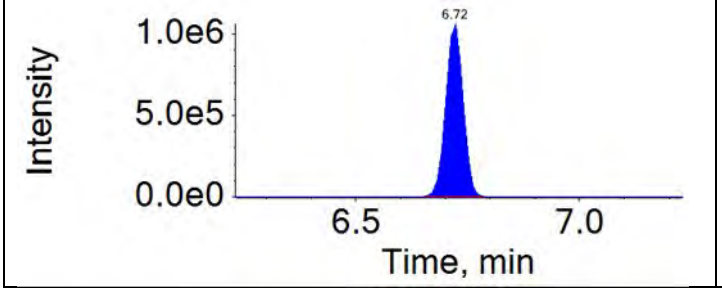



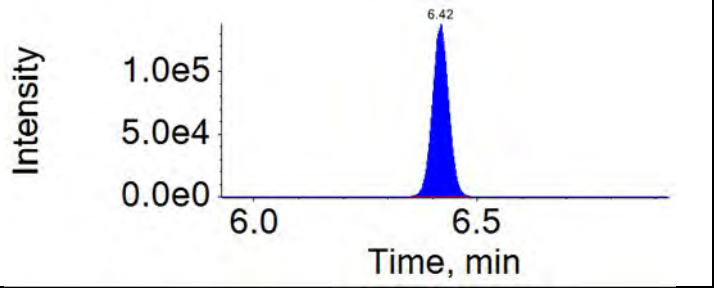

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



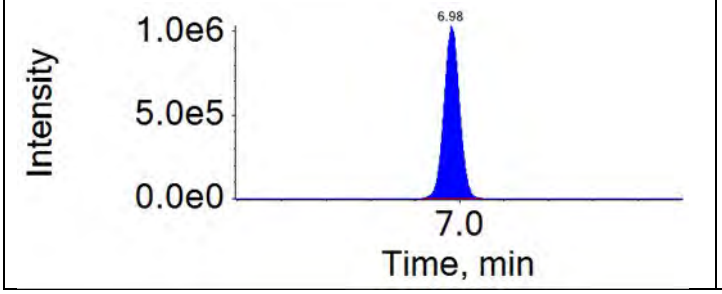



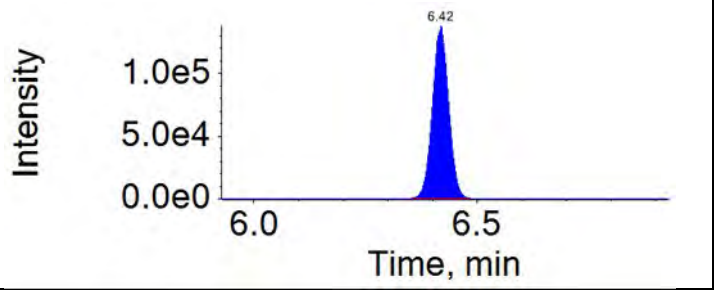

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




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



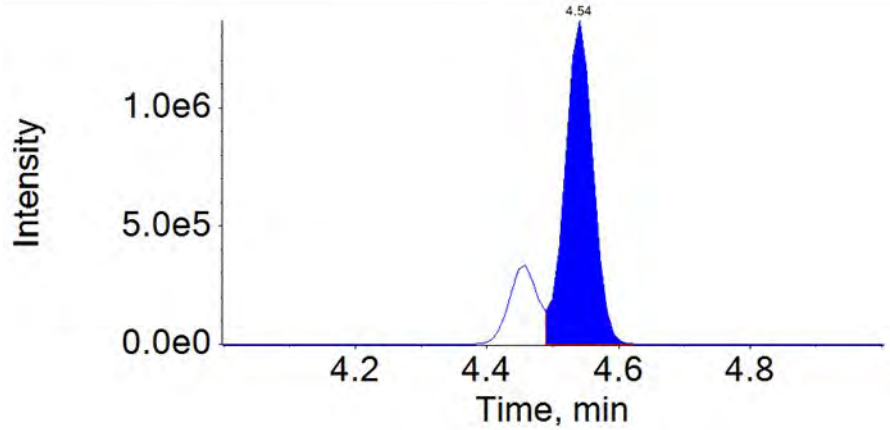

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*By MCD at 6:33 pm, 11/12/18*



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*By HMK at 10:53 am, 11/13/18*

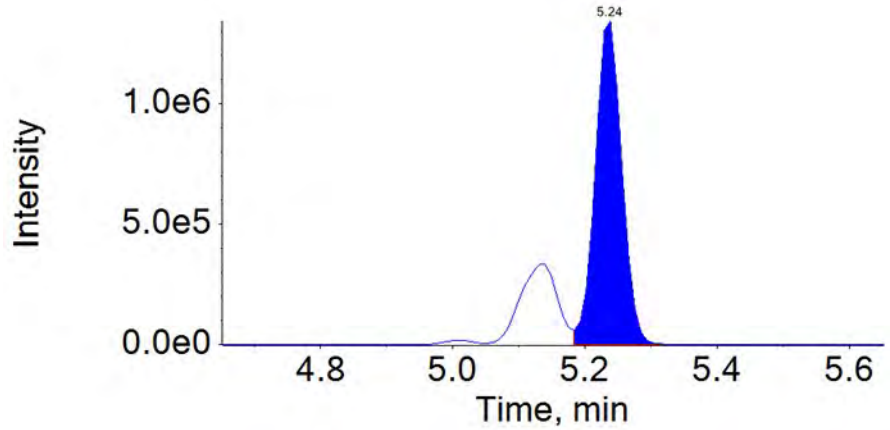
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS
**RT (min.):**
4.54
**Peak Area:**
4044983.17
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV12DCAL-48.wiff
**Sample Name:**
CAL7



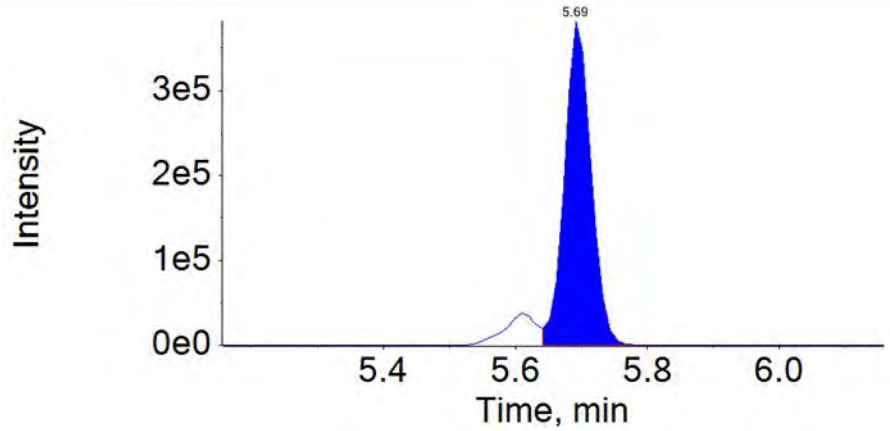

**Integration Comment:** incorrect integration

**Component Name:**
PFOS
**RT (min.):**
5.24
**Peak Area:**
3770924.60
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-48.wiff
**Sample Name:**
CAL7




**Integration Comment:** incorrect integration

**Component Name:**
NMeFOSAA
**RT (min.):**
5.69
**Peak Area:**
1065914.33
**Mass Range:**
570.0 / 419.0
**File Name:**
18NOV12DCAL-48.wiff
**Sample Name:**
CAL7



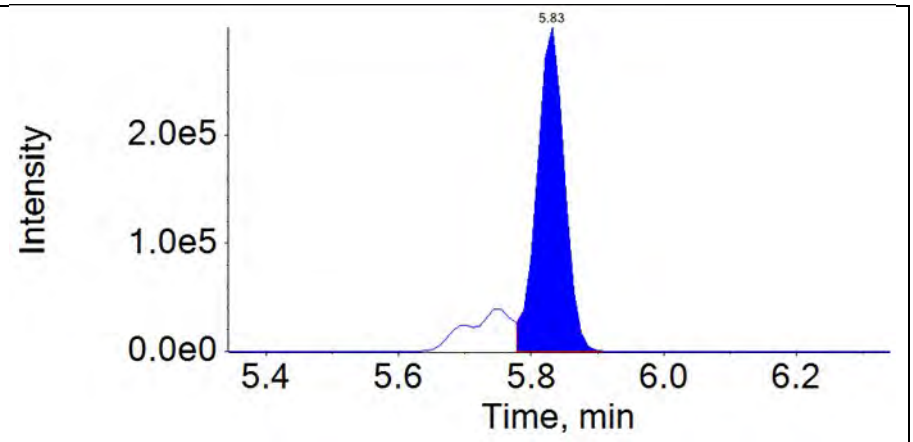

**Integration Comment:** incorrect integration

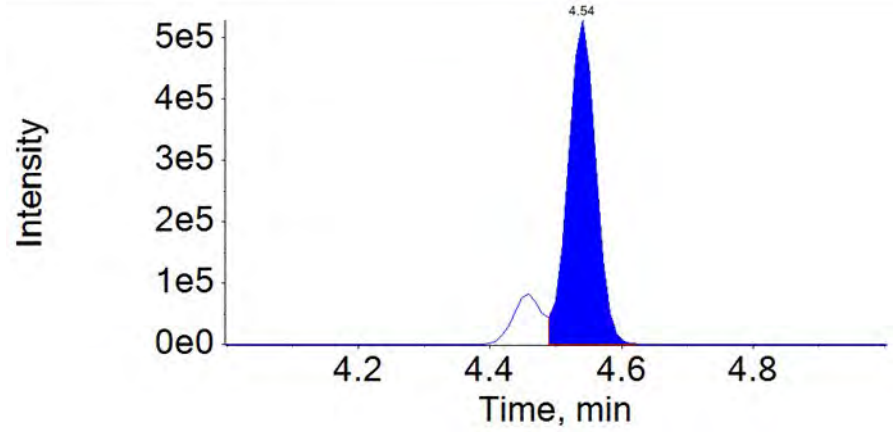
APPROVED
*By MCD at 6:33 pm, 11/12/18*

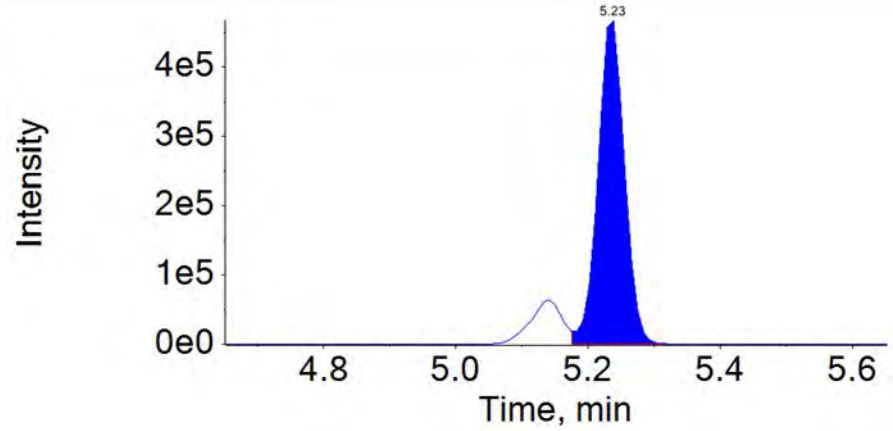


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** NEtFOSAA<br>**RT (min.):** 5.83<br>**Peak Area:** 862135.47<br>**Mass Range:** 584.0 / 419.0<br>**File Name:** 18NOV12DCAL-48.wiff<br>**Sample Name:** CAL7 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFHxS_2<br>**RT (min.):** 4.54<br>**Peak Area:** 1552233.65<br>**Mass Range:** 399.0 / 99.0<br>**File Name:** 18NOV12DCAL-48.wiff<br>**Sample Name:** CAL7 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.23<br>**Peak Area:** 1316284.93<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV12DCAL-48.wiff<br>**Sample Name:** CAL7 | <br>**Integration Comment:** incorrect integration |

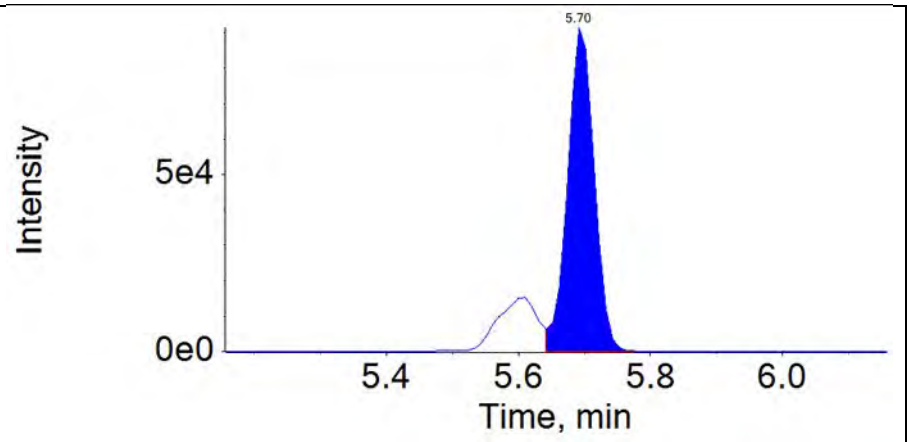
APPROVED
*By MCD at 6:33 pm, 11/12/18*



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*By HMK at 10:53 am, 11/13/18*

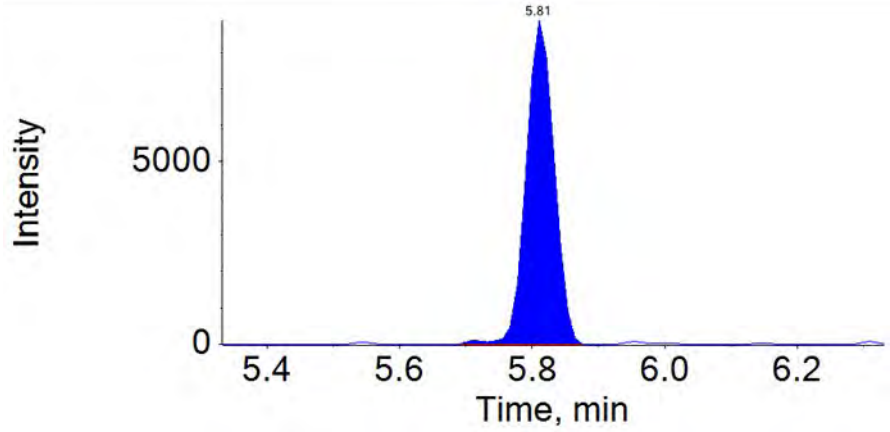
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NMeFOSAA_2
**RT (min.):**
5.70
**Peak Area:**
256419.22
**Mass Range:**
570.0 / 483.0
**File Name:**
18NOV12DCAL-48.wiff
**Sample Name:**
CAL7



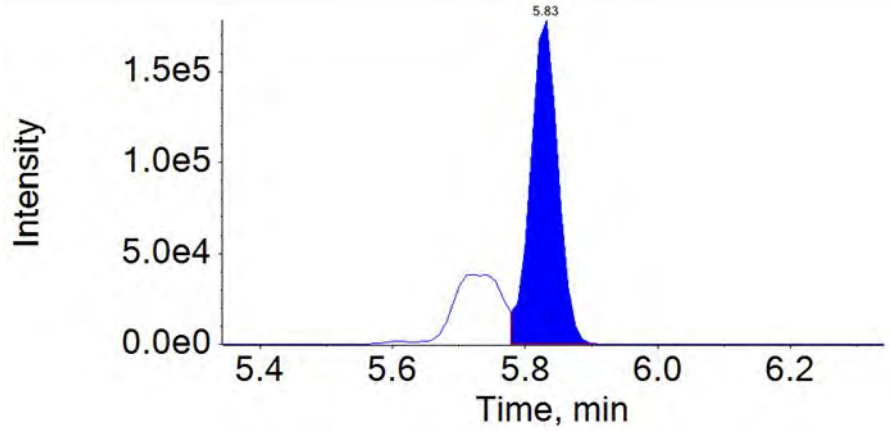

**Integration Comment:** incorrect integration

**Component Name:**
PFUnDA_2
**RT (min.):**
5.81
**Peak Area:**
26121.92
**Mass Range:**
563.0 / 169.0
**File Name:**
18NOV12DCAL-48.wiff
**Sample Name:**
CAL7




**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA_2
**RT (min.):**
5.83
**Peak Area:**
517079.85
**Mass Range:**
584.0 / 526.0
**File Name:**
18NOV12DCAL-48.wiff
**Sample Name:**
CAL7




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:33 pm, 11/12/18*

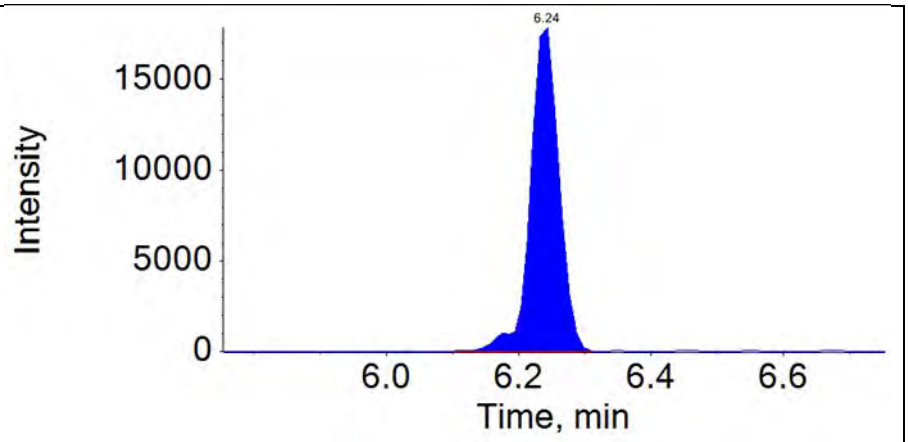


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

**Component Name:**
PFTrDA_2
**RT (min.):**
6.24
**Peak Area:**
53950.01
**Mass Range:**
663.0 / 169.0
**File Name:**
18NOV12DCAL-48.wiff
**Sample Name:**
CAL7




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

## Ion Ratio Report

**Sample Name:** CAL7 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-48.wiff

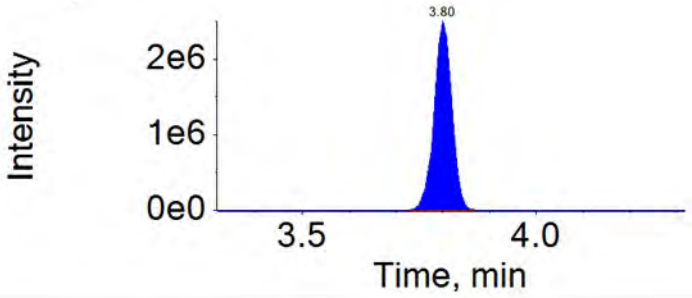
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.80 | 1.00 | 6615935.34 | A | 0.3619 | 0.3803 | | | |
| PFBS_2 | 3.80 | 1.00 | 2515947.77 | A | 0.3619 | 0.3803 | 5 | 50 | |
| 4:2-FTS | 4.11 | 1.00 | 1379983.90 | A | 0.6730 | 0.6491 | | | |
| 4:2 FTS_2 | 4.11 | 1.00 | 895801.93 | A | 0.6730 | 0.6491 | | #NA! | |
| PFHxA | 4.15 | 1.00 | 11059420.28 | A | 0.0117 | 0.0124 | | | |
| PFHxA_2 | 4.15 | 1.00 | 136818.87 | A | 0.0117 | 0.0124 | 6 | 50 | |
| PFPeS | 4.17 | 1.10 | 3482095.87 | A | 0.5191 | 0.5217 | | | |
| PFPeS_2 | 4.17 | 1.10 | 1816709.54 | A | 0.5191 | 0.5217 | 1 | 50 | |
| PFHpA | 4.54 | 1.00 | 10981922.82 | A | 0.0563 | 0.0563 | | | |
| PFHpA_2 | 4.54 | 1.00 | 618128.71 | A | 0.0563 | 0.0563 | 0 | 50 | |
| PFHxS | 4.54 | 1.00 | 5048349.82 | M | 0.3428 | 0.3562 | | | |
| PFHxS_2 | 4.54 | 1.00 | 1798400.55 | M | 0.3428 | 0.3562 | 4 | 50 | |
| 6:2-FTS | 4.89 | 1.00 | 869227.19 | A | 0.6604 | 0.6365 | | | |
| 6:2 FTS_2 | 4.89 | 1.00 | 553300.52 | A | 0.6604 | 0.6365 | | #NA! | |
| PFHpS | 4.90 | 1.08 | 4784682.82 | A | 0.4066 | 0.4068 | | | |
| PFHpS_2 | 4.90 | 1.08 | 1946425.33 | A | 0.4066 | 0.4068 | 0 | 50 | |
| PFOA | 4.91 | 1.00 | 10991740.12 | A | 0.0562 | 0.0611 | | | |
| PFOA_2 | 4.91 | 1.00 | 671295.39 | A | 0.0562 | 0.0611 | 9 | 50 | |
| PFOS | 5.24 | 1.00 | 5138366.95 | M | 0.2968 | 0.2975 | | | |
| PFOS_2 | 5.23 | 1.00 | 1528751.71 | M | 0.2968 | 0.2975 | 0 | 50 | |
| PFNA | 5.25 | 1.00 | 10084288.28 | A | 0.0229 | 0.0213 | | | |
| PFNA_2 | 5.25 | 1.00 | 214560.66 | A | 0.0229 | 0.0213 | -7 | 50 | |
| PFNS | 5.53 | 1.06 | 3386860.46 | A | 0.4828 | 0.4408 | | | |
| PFNS_2 | 5.53 | 1.06 | 1492987.09 | A | 0.4828 | 0.4408 | -9 | 50 | |
| PFDA | 5.55 | 1.00 | 8104726.61 | A | 0.0081 | 0.0071 | | | |
| PFDA_2 | 5.55 | 1.00 | 57305.88 | A | 0.0081 | 0.0071 | -12 | 50 | |
| 8:2-FTS | 5.56 | 1.00 | 804019.53 | A | 0.6814 | 0.5854 | | | |
| 8:2 FTS_2 | 5.56 | 1.00 | 470706.51 | A | 0.6814 | 0.5854 | | #NA! | |
| NMeFOSAA | 5.69 | 1.00 | 1191981.70 | M | 0.2569 | 0.2688 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 320371.24 | M | 0.2569 | 0.2688 | 5 | 50 | |
| PFDS | 5.79 | 1.11 | 2606720.69 | A | 0.5144 | 0.4749 | | | |
| PFDS_2 | 5.79 | 1.10 | 1238034.03 | A | 0.5144 | 0.4749 | -8 | 50 | |
| PFUnDA | 5.81 | 1.00 | 6802701.21 | A | 0.0058 | 0.0038 | | | |
| PFUnDA_2 | 5.81 | 1.00 | 25933.20 | M | 0.0058 | 0.0038 | -34 | 50 | |
| NEtFOSAA | 5.83 | 1.00 | 1046636.11 | M | 0.7253 | 0.6803 | | | |
| NEtFOSAA_2 | 5.83 | 1.00 | 711980.18 | M | 0.7253 | 0.6803 | -6 | 50 | |
| PFDoDA | 6.04 | 1.00 | 8171355.35 | A | 0.0157 | 0.0138 | | | |
| PFDoDA_2 | 6.04 | 1.00 | 113144.85 | A | 0.0157 | 0.0138 | -12 | 50 | |
| 10:2-FTS | 6.06 | 1.09 | 632223.71 | A | 0.6356 | 0.6817 | | | |
| 10:2 FTS_2 | 6.06 | 1.09 | 431003.27 | A | 0.6356 | 0.6817 | | #NA! | |
| PFTrDA | 6.24 | 1.03 | 6281239.03 | A | 0.0086 | 0.0083 | | | |
| PFTrDA_2 | 6.24 | 1.03 | 52325.72 | M | 0.0086 | 0.0083 | -3 | 50 | |
| PFTeDA | 6.42 | 1.00 | 6092875.66 | A | 0.0062 | 0.0060 | | | |
| PFTeDA_2 | 6.42 | 1.00 | 36395.60 | A | 0.0062 | 0.0060 | -4 | 50 | |
| PFHxDA | 6.72 | 1.05 | 2866097.32 | A | 0.0683 | 0.0642 | | | |
| PFHxDA_2 | 6.72 | 1.05 | 183981.95 | A | 0.0683 | 0.0642 | -6 | 50 | |
| PFODA | 6.98 | 1.09 | 2488863.64 | A | 0.0277 | 0.0267 | | | |
| PFODA_2 | 6.98 | 1.09 | 66332.27 | A | 0.0277 | 0.0267 | -4 | 50 | |

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By MCD at 6:33 pm, 11/12/18

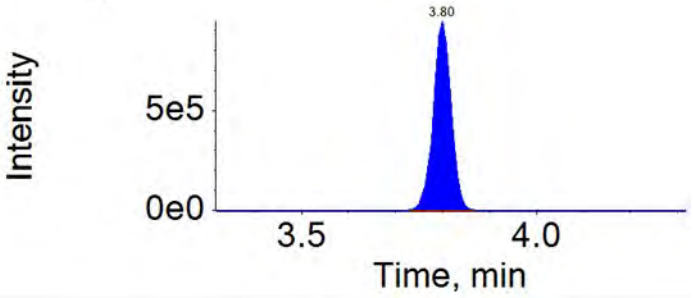


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By HMK at 10:53 am, 11/13/18

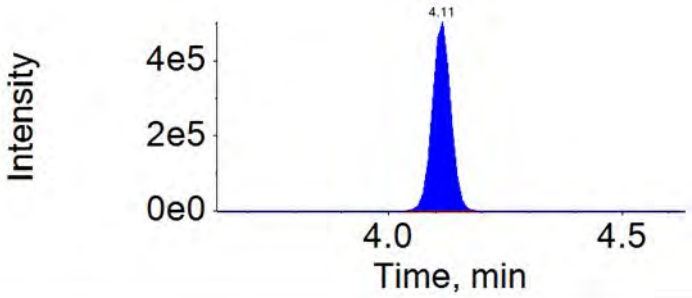
Component: PFBS
Primary Mass: 299.0 / 80.0



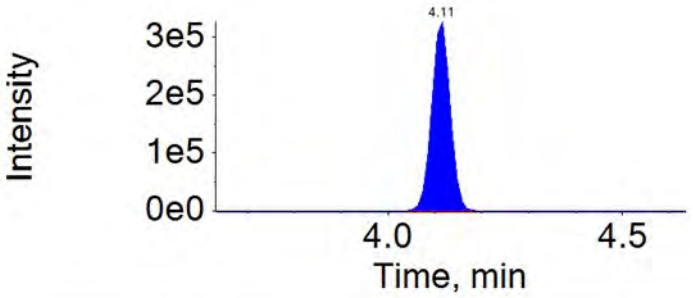

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



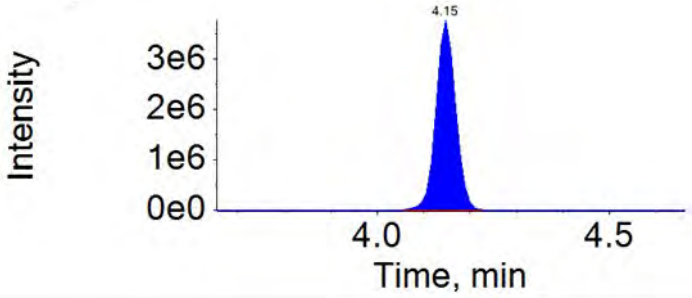

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



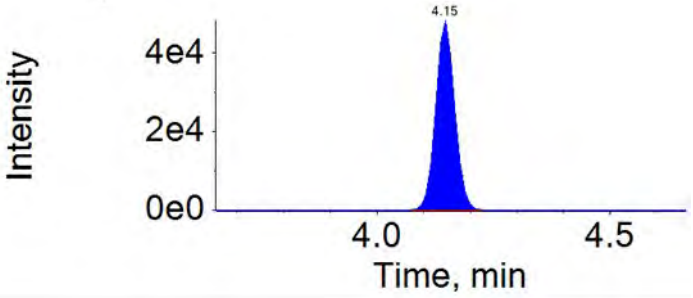

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



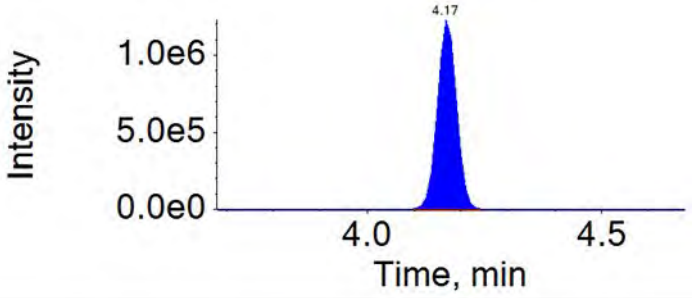

Component: PFHxA
Primary Mass: 313.0 / 269.0



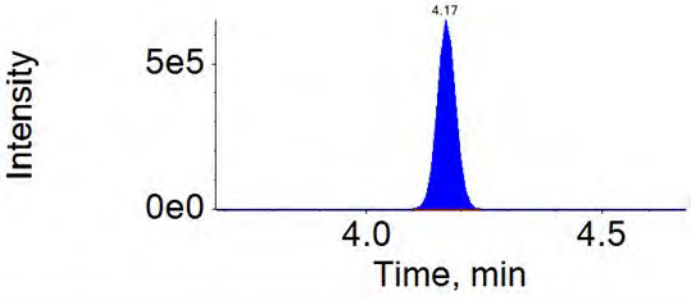

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

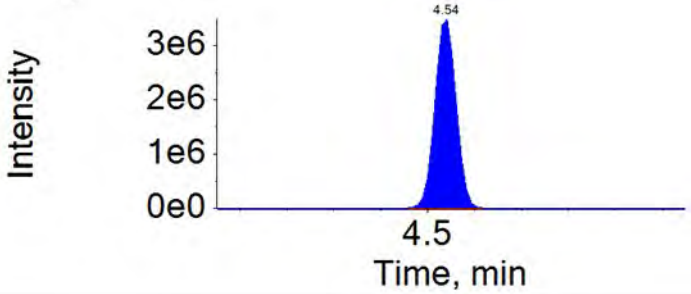



APPROVED
*By MCD at 6:33 pm, 11/12/18*

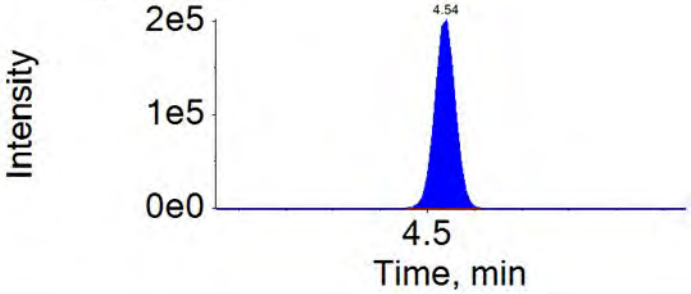


REVIEWED
*By HMK at 10:53 am, 11/13/18*

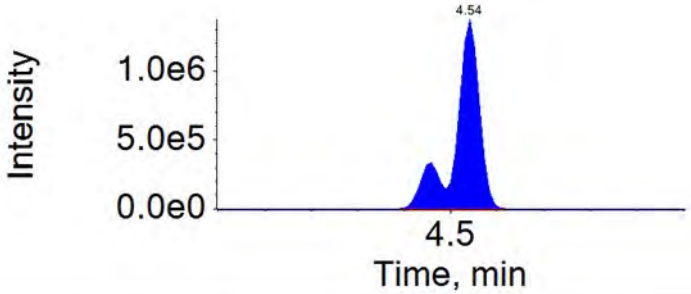
Component: PFHpA
Primary Mass: 363.0 / 319.0



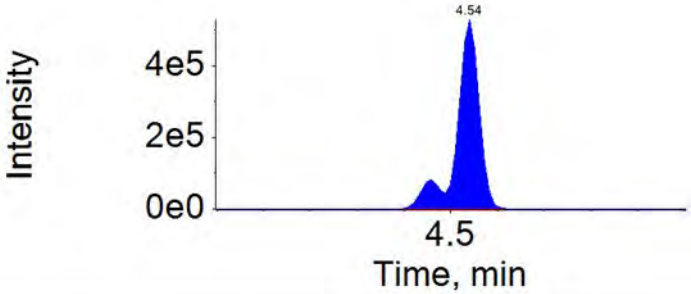

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



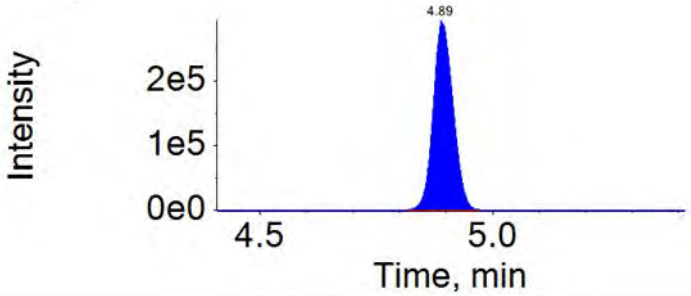

Component: PFHxS
Primary Mass: 399.0 / 80.0



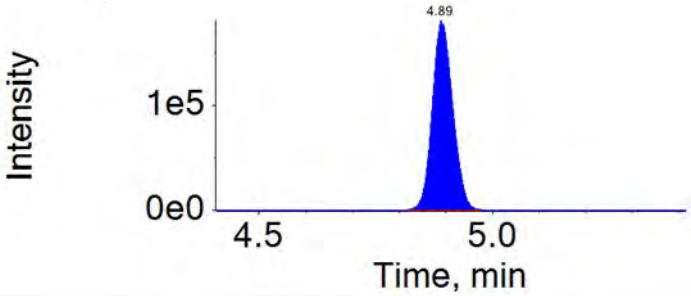

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



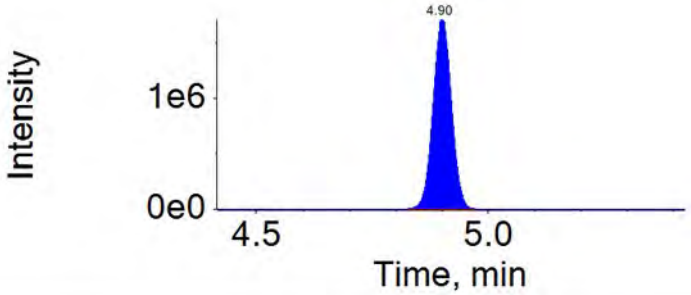

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



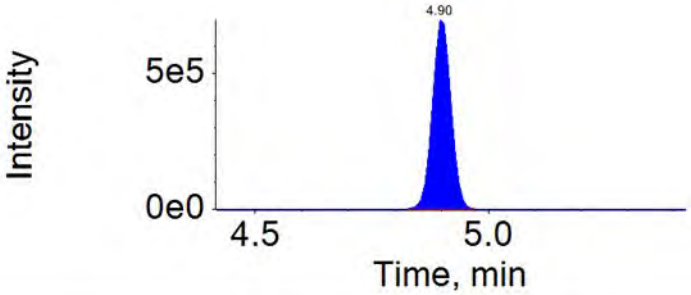

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

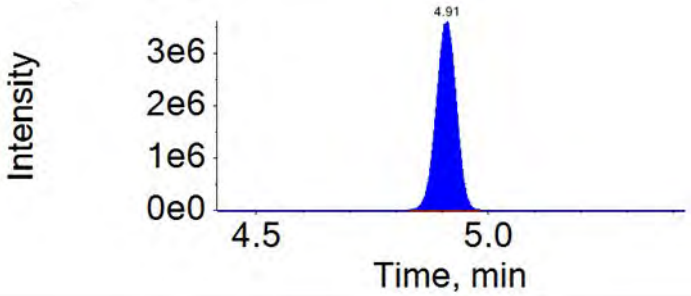



APPROVED
*By MCD at 6:33 pm, 11/12/18*

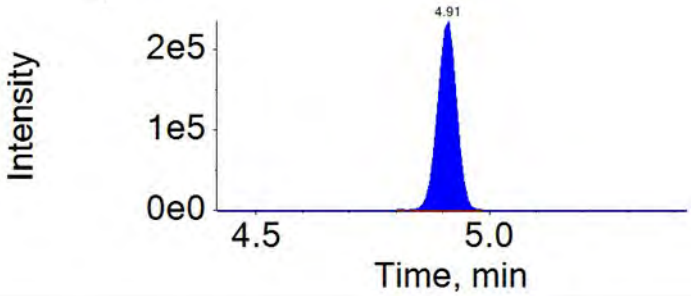


REVIEWED
*By HMK at 10:53 am, 11/13/18*

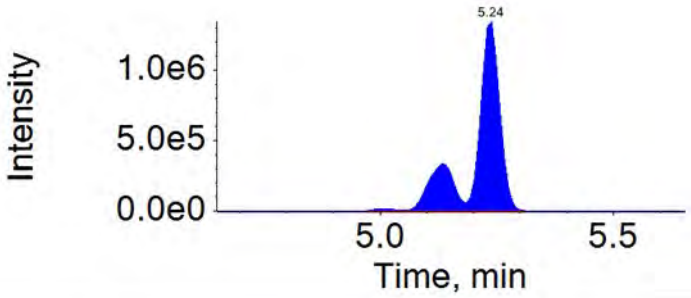
Component: PFOA
Primary Mass: 413.0 / 369.0



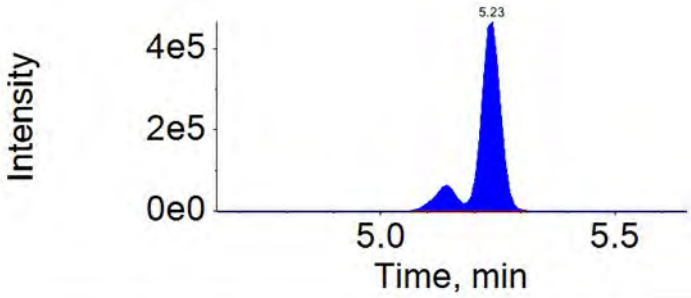

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



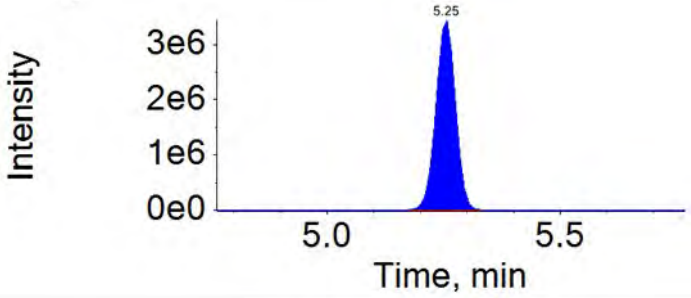

Component: PFOS
Primary Mass: 499.0 / 80.0



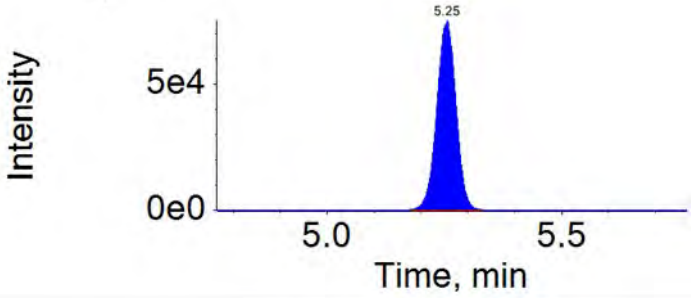

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



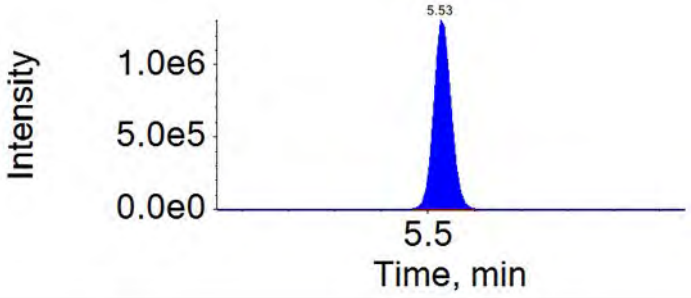

Component: PFNA
Primary Mass: 463.0 / 419.0



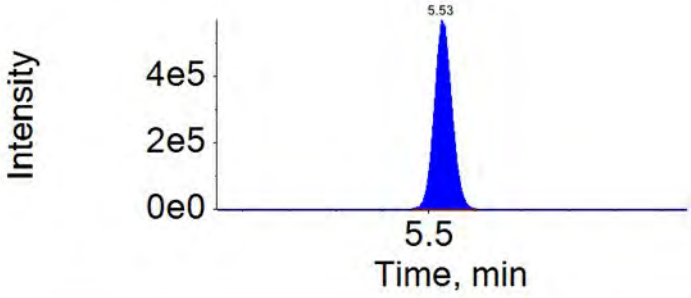

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

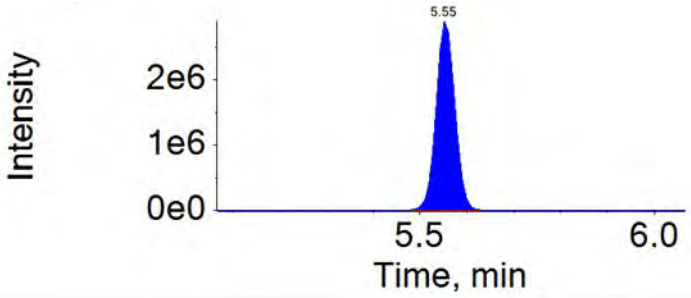



APPROVED
*By MCD at 6:33 pm, 11/12/18*

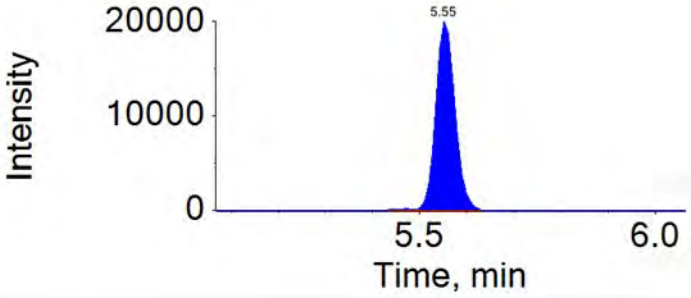


REVIEWED
*By HMK at 10:53 am, 11/13/18*

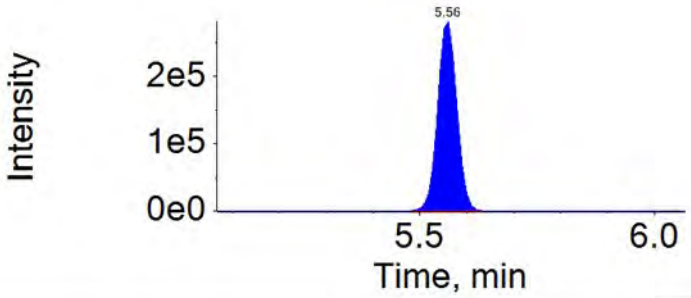
Component: PFDA
Primary Mass: 513.0 / 469.0



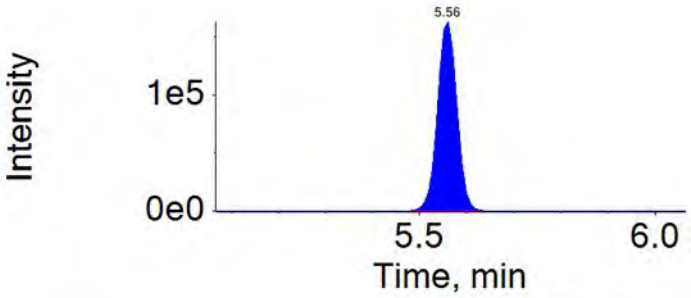

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



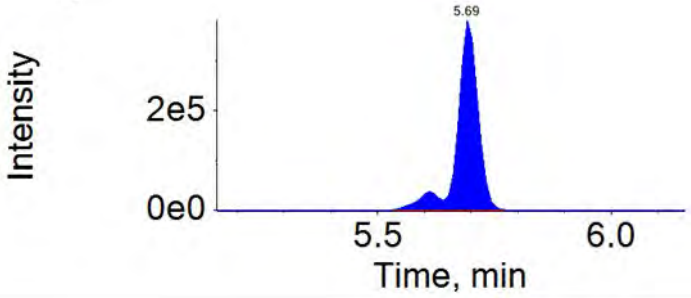

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



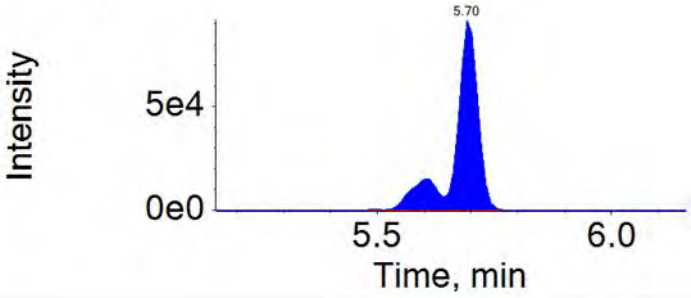

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



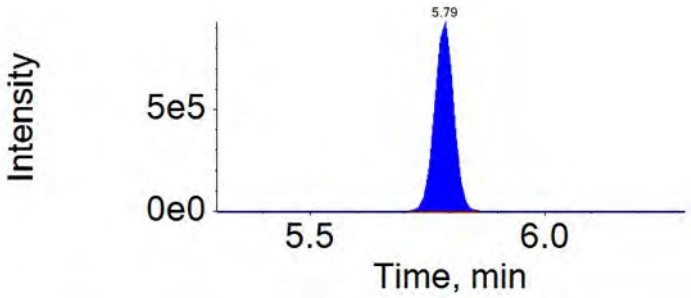

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



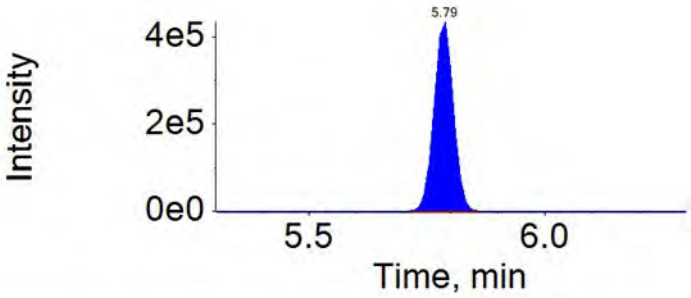

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

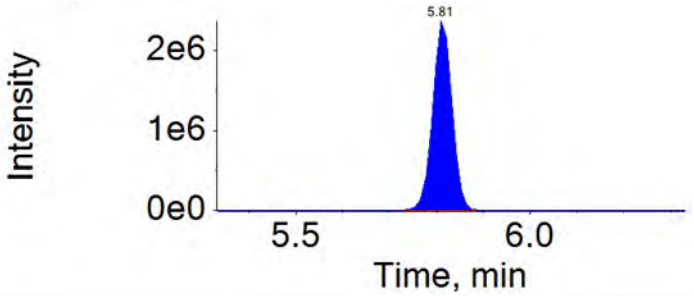



APPROVED
*By MCD at 6:33 pm, 11/12/18*

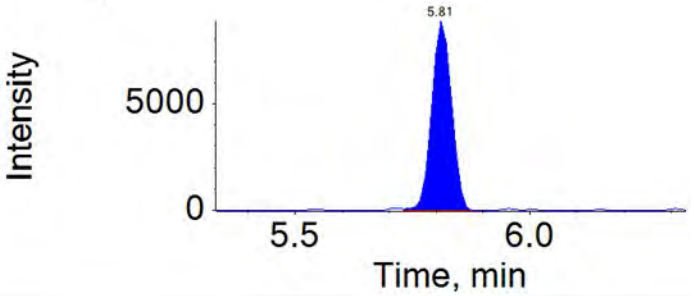


REVIEWED
*By HMK at 10:53 am, 11/13/18*

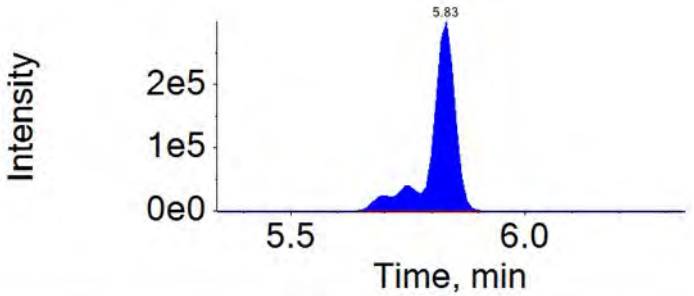
Component: PFUnDA
Primary Mass: 563.0 / 519.0



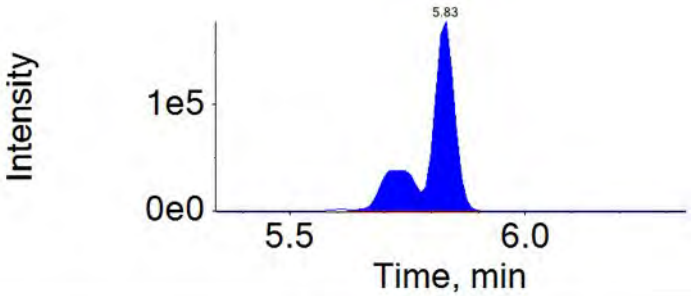

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



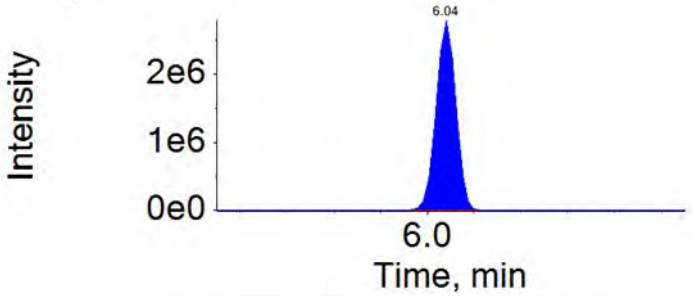

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



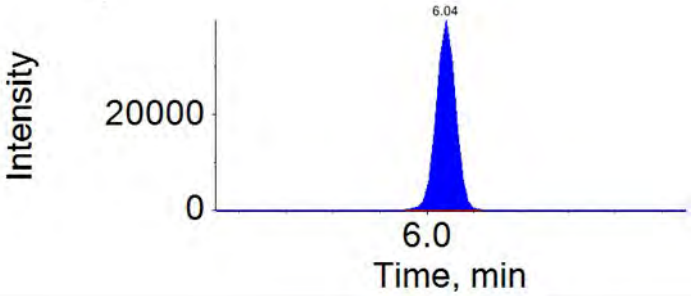

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



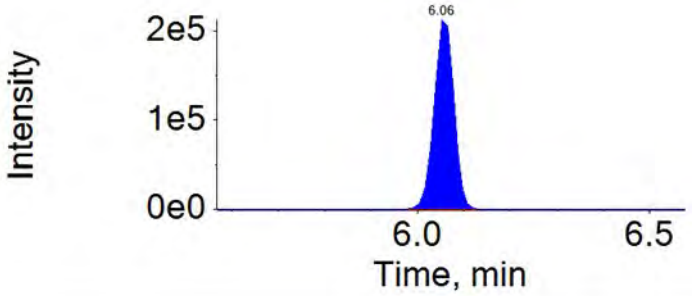

Component: PFDoDA
Primary Mass: 613.0 / 569.0



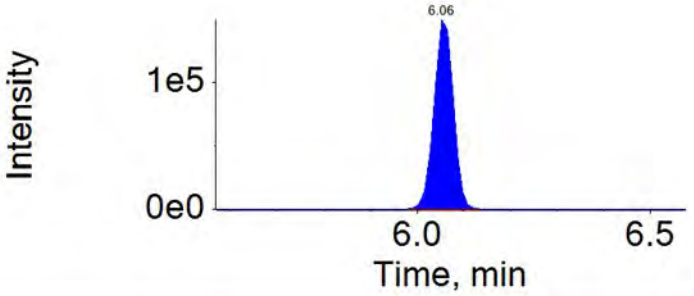

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

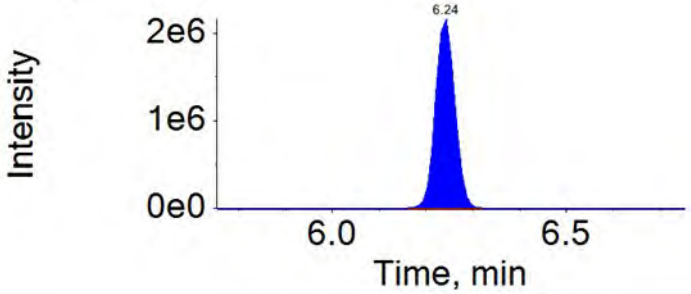



APPROVED
*By MCD at 6:33 pm, 11/12/18*

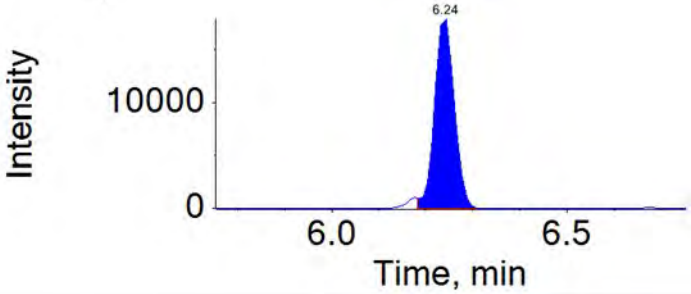


REVIEWED
*By HMK at 10:53 am, 11/13/18*

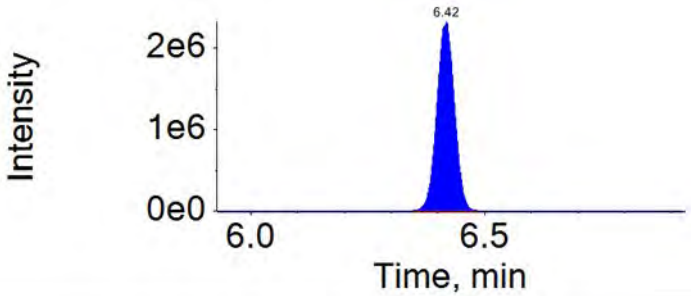
Component: PFTrDA
Primary Mass: 663.0 / 619.0



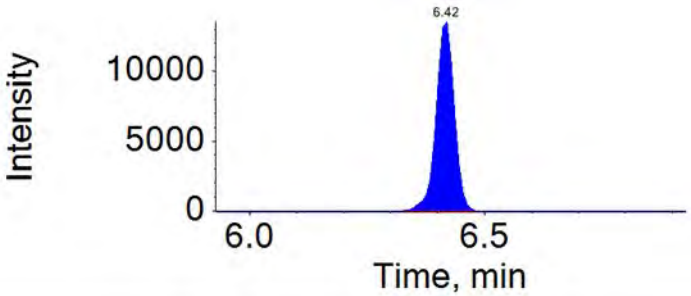

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



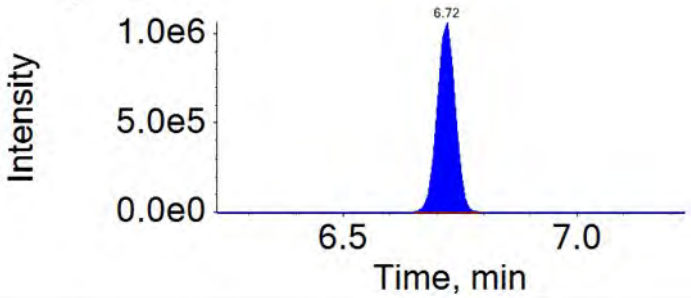

Component: PFTeDA
Primary Mass: 713.0 / 669.0



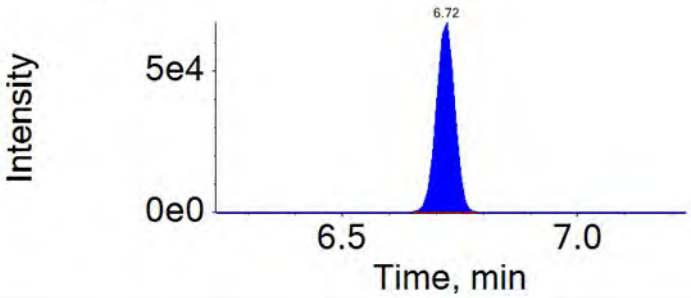

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



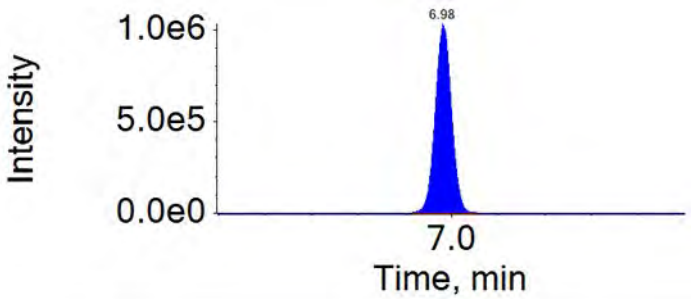

Component: PFHxDA
Primary Mass: 813.0 / 769.0



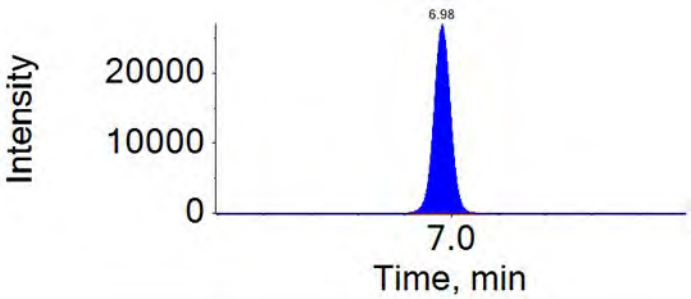

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:33 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | MDL | | | **Data File:** | | 18NOV12DCAL-41.wiff |
| **Sample ID:** | MDLMODX1833F | | | **Acquis Date:** | | 2018-11-12T14:56:51 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 2 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 633265.0 | 659926.2 | -4 | 50 | |
| 13C2-PFOA | 5.0 | 422926.0 | 450219.7 | -6 | 50 | |
| 13C4-PFOS | 4.8 | 238608.2 | 249205.8 | -4 | 50 | |
| 13C2-PFDA | 5.0 | 268362.6 | 278743.9 | -4 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 710466.9 | 13C3-PFBA | 633265.0 | 1.122 | 5.000 | 5.030 | 101 | 70-130 | |
| E13C5-PFPeA | 681259.0 | 13C3-PFBA | 633265.0 | 1.076 | 5.000 | 4.825 | 97 | 70-130 | |
| E13C3-PFBS | 393264.2 | 13C3-PFBA | 633265.0 | 0.621 | 4.650 | 4.384 | 94 | 70-130 | |
| E13C2-4:2-FTS | 44526.6 | 13C2-PFOA | 422926.0 | 0.105 | 4.670 | 4.689 | 100 | 70-130 | |
| E13C5-PFHxA | 637812.0 | 13C2-PFOA | 422926.0 | 1.508 | 5.000 | 5.448 | 109 | 70-130 | |
| E13C3-PFHxS | 301527.6 | 13C2-PFOA | 422926.0 | 0.713 | 4.730 | 4.892 | 103 | 70-130 | |
| E13C4-PFHpA | 476944.8 | 13C2-PFOA | 422926.0 | 1.128 | 5.000 | 5.081 | 102 | 70-130 | |
| E13C2-6:2-FTS | 30514.4 | 13C2-PFOA | 422926.0 | 0.072 | 4.750 | 4.827 | 102 | 70-130 | |
| E13C8-PFOA | 779343.3 | 13C2-PFOA | 422926.0 | 1.843 | 5.000 | 5.077 | 102 | 70-130 | |
| E13C8-PFOS | 248479.3 | 13C4-PFOS | 238608.2 | 1.041 | 4.780 | 4.614 | 97 | 70-130 | |
| E13C9-PFNA | 435787.7 | 13C4-PFOS | 238608.2 | 1.826 | 5.000 | 5.092 | 102 | 70-130 | |
| E13C6-PFDA | 583105.1 | 13C2-PFDA | 268362.6 | 2.173 | 5.000 | 5.070 | 101 | 70-130 | |
| E13C2-8:2-FTS | 24193.5 | 13C2-PFDA | 268362.6 | 0.090 | 4.790 | 4.496 | 94 | 70-130 | |
| E13C8-PFOSA | 559143.9 | 13C2-PFDA | 268362.6 | 2.084 | 5.000 | 4.619 | 92 | 70-130 | |
| Ed3-NMeFOSAA | 63421.6 | 13C2-PFDA | 268362.6 | 0.236 | 5.000 | 4.266 | 85 | 70-130 | |
| E13C7-PFUnDA | 227858.5 | 13C2-PFDA | 268362.6 | 0.849 | 5.000 | 4.930 | 99 | 70-130 | |
| Ed5-NEtFOSAA | 57840.8 | 13C2-PFDA | 268362.6 | 0.216 | 5.000 | 4.560 | 91 | 70-130 | |
| E13C2-PFDoDA | 487146.2 | 13C2-PFDA | 268362.6 | 1.815 | 5.000 | 4.713 | 94 | 70-130 | |
| Ed7-NMePFOSAE | 286690.6 | 13C2-PFDA | 268362.6 | 1.068 | 5.000 | 4.623 | 92 | 70-130 | |
| Ed3-NMePFOSA | 71517.2 | 13C2-PFDA | 268362.6 | 0.266 | 5.000 | 4.842 | 97 | 70-130 | |
| Ed9-NEtPFOSAE | 252037.2 | 13C2-PFDA | 268362.6 | 0.939 | 5.000 | 4.885 | 98 | 70-130 | |
| Ed5-NEtPFOSA | 54637.9 | 13C2-PFDA | 268362.6 | 0.204 | 5.000 | 4.776 | 96 | 70-130 | |
| E13C2-PFTeDA | 362820.8 | 13C2-PFDA | 268362.6 | 1.352 | 5.000 | 4.746 | 95 | 70-130 | |

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:54 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

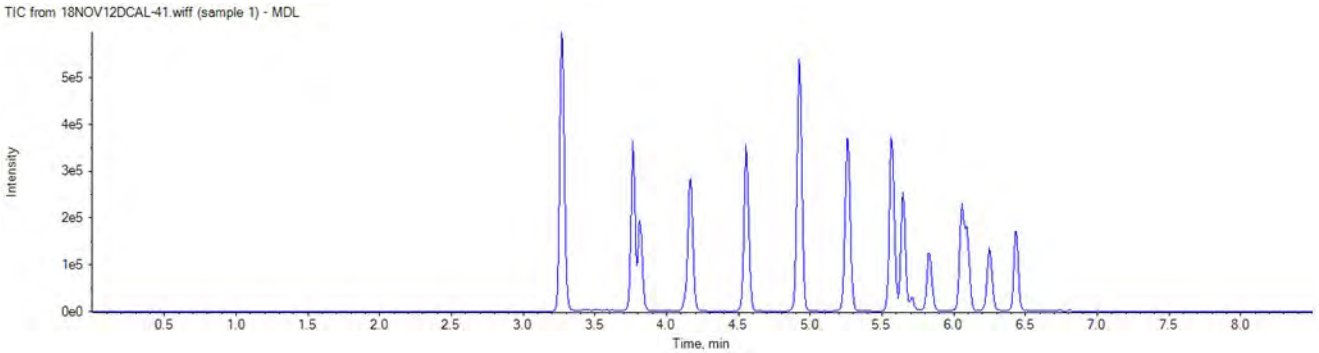
## Analyte Quantitation Peak Table

**Sample Name:** MDL **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-41.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 | 22532.9 | | A | 13C4-PFBA | 3.27 | 710466.9 | 0.032 | 0.176 |
| PFPeA | 3.77 | 1.000 | 20193.5 | | M | 13C5-PFPeA | 3.77 | 681259.0 | 0.030 | 0.172 |
| PFBS | 3.81 | 1.000 | 9248.3 | | A | 13C3-PFBS | 3.81 | 393264.2 | 0.024 | 0.112 |
| 4:2-FTS | 4.13 | 1.000 | 1329.9 | | A | 13C2-4:2-FTS | 4.13 | 44526.6 | 0.030 | 0.081 |
| PFHxA | 4.17 | 1.000 | 21601.6 | | A | 13C5-PFHxA | 4.17 | 637812.0 | 0.034 | 0.141 |
| PFPeS | 4.19 | 1.100 | 4484.8 | | A | 13C3-PFBS | 3.81 | 393264.2 | 0.011 | 0.111 |
| PFHpA | 4.56 | 1.000 | 22043.5 | | A | 13C4-PFHpA | 4.55 | 476944.8 | 0.046 | 0.153 |
| PFHxS | 4.56 | 1.000 | 8143.5 | | M | 13C3-PFHxS | 4.56 | 301527.6 | 0.027 | 0.131 |
| 6:2-FTS | 4.91 | 1.000 | 1176.2 | | M | 13C2-6:2-FTS | 4.91 | 30514.4 | 0.039 | 0.093 |
| PFHpS | 4.92 | 1.080 | 7117.5 | | A | 13C3-PFHxS | 4.56 | 301527.6 | 0.024 | 0.124 |
| PFOA | 4.93 | 1.000 | 18045.0 | | A | 13C8-PFOA | 4.93 | 779343.3 | 0.023 | 0.124 |
| PFOS | 5.25 | 1.000 | 6416.9 | | A | 13C8-PFOS | 5.25 | 248479.3 | 0.026 | 0.113 |
| PFNA | 5.27 | 1.000 | 18065.1 | | M | 13C9-PFNA | 5.27 | 435787.7 | 0.041 | 0.149 |
| PFNS | 5.54 | 1.060 | 3661.2 | | A | 13C8-PFOS | 5.25 | 248479.3 | 0.015 | 0.103 |
| PFDA | 5.57 | 1.000 | 17350.5 | | A | 13C6-PFDA | 5.57 | 583105.1 | 0.030 | 0.158 |
| 8:2-FTS | 5.57 | 1.000 | 1475.2 | | A | 13C2-8:2-FTS | 5.57 | 24193.5 | 0.061 | 0.142 |
| PFOSA | 5.64 | 1.000 | 10288.3 | | A | 13C8-PFOSA | 5.65 | 559143.9 | 0.018 | 0.090 |
| NMeFOSAA | 5.72 | 1.000 | 1372.4 | | A | d3-NMeFOSAA | 5.71 | 63421.6 | 0.022 | 0.122 |
| PFDS | 5.80 | 1.100 | 2648.8 | | A | 13C8-PFOS | 5.25 | 248479.3 | 0.011 | 0.097 |
| PFUnDA | 5.83 | 1.000 | 12215.3 | | M | 13C7-PFUnDA | 5.83 | 227858.5 | 0.054 | 0.140 |
| NEtFOSAA | 5.84 | 1.000 | 1937.8 | | A | d5-NEtFOSAA | 5.84 | 57840.8 | 0.034 | 0.176 |
| PFDoDA | 6.06 | 1.000 | 14033.1 | | A | 13C2-PFDoDA | 6.06 | 487146.2 | 0.029 | 0.147 |
| 10:2-FTS | 6.06 | 1.090 | 352.6 | | M | 13C2-8:2-FTS | 5.57 | 24193.5 | 0.015 | 0.049 |
| NMePFOSAE | 6.10 | 1.000 | 9218.1 | | A | d7-NMePFOSAE | 6.09 | 286690.6 | 0.032 | 0.134 |
| NMePFOSA | 6.11 | 1.000 | 1339.8 | | A | d3-NMePFOSA | 6.11 | 71517.2 | 0.019 | 0.092 |
| PFDoS | 6.22 | 1.180 | 1425.7 | | A | 13C8-PFOS | 5.25 | 248479.3 | 0.006 | 0.100 |
| NEtPFOSAE | 6.26 | 1.000 | 10510.3 | | A | d9-NEtPFOSAE | 6.25 | 252037.2 | 0.042 | 0.134 |
| NEtPFOSA | 6.28 | 1.000 | 1191.3 | | M | d5-NEtPFOSA | 6.27 | 54637.9 | 0.022 | 0.100 |
| PFTrDA | 6.26 | 1.030 | 7825.5 | | M | 13C2-PFDoDA | 6.06 | 487146.2 | 0.016 | 0.101 |
| PFTeDA | 6.43 | 1.000 | 8938.5 | | A | 13C2-PFTeDA | 6.43 | 362820.8 | 0.025 | 0.138 |
| PFHxDA | 6.74 | 1.050 | 3934.2 | | A | 13C2-PFTeDA | 6.43 | 362820.8 | 0.011 | 0.129 |
| PFODA | 7.00 | 1.090 | 2726.4 | | A | 13C2-PFTeDA | 6.43 | 362820.8 | 0.008 | 0.105 |

## Total Ion Chromatogram



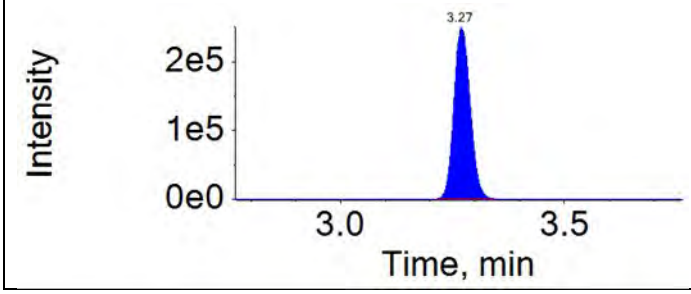

APPROVED
*By MCD at 6:34 pm, 11/12/18*



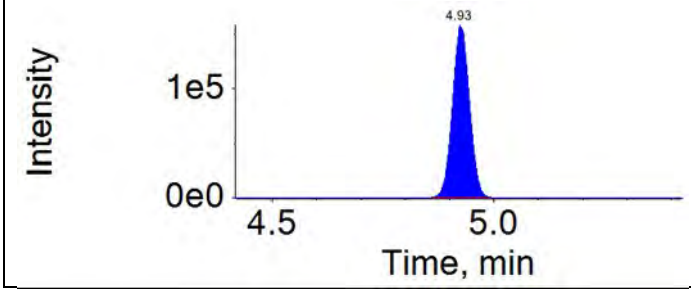
REVIEWED
*By HMK at 10:54 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

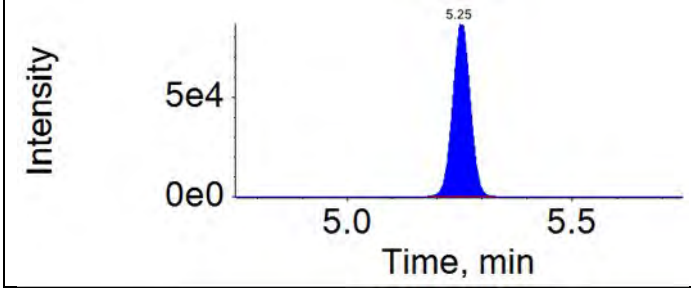
Injection Standard: 13C3-PFBA
216.0 / 172.0



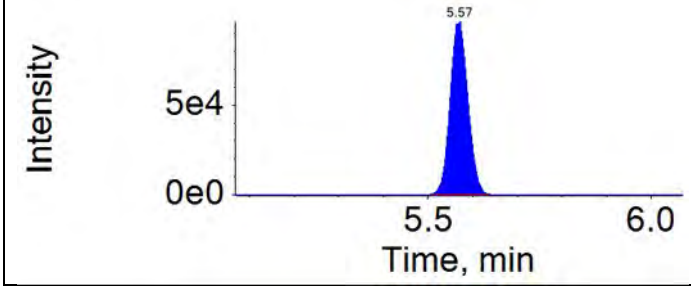

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0

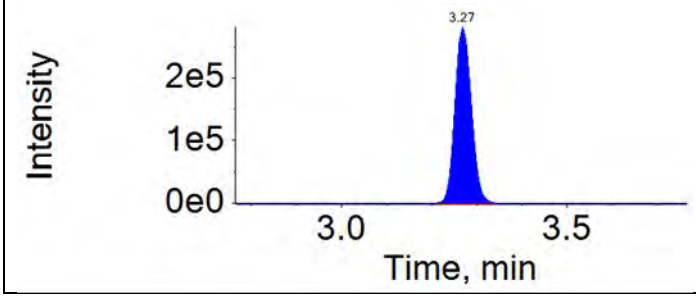


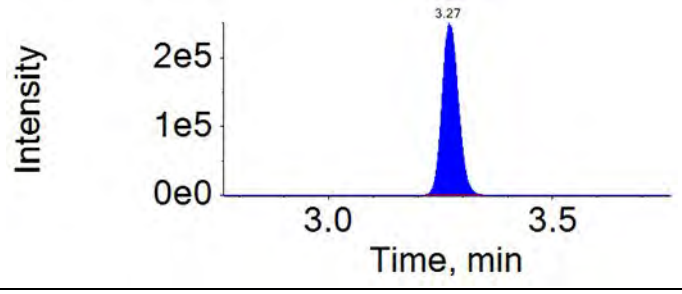

Injection Standard: 13C2-PFDA
515.0 / 470.0



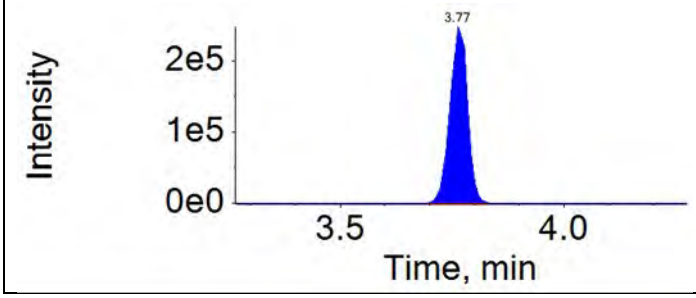
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

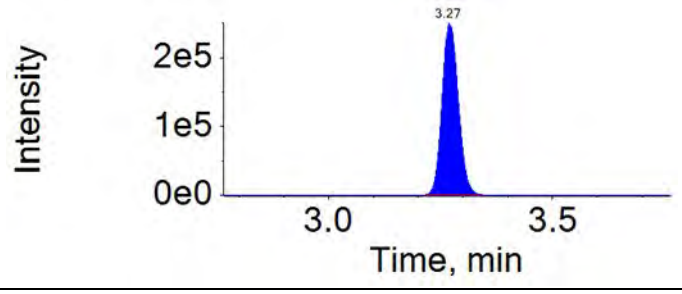
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



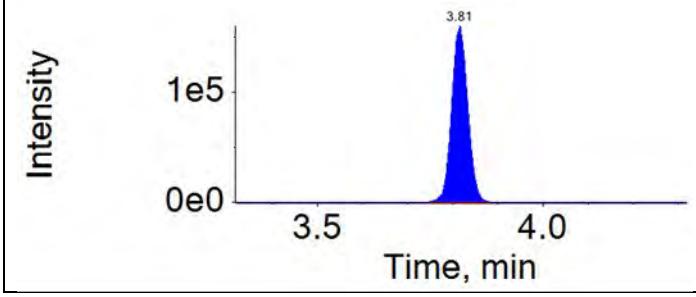



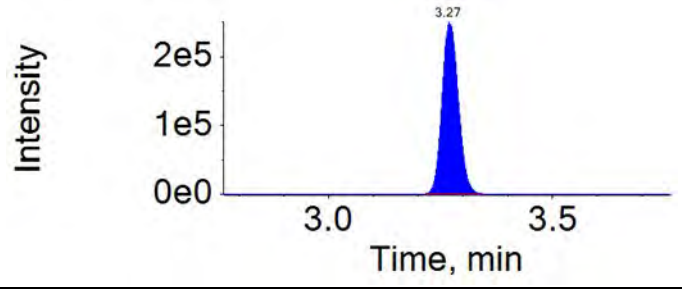

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



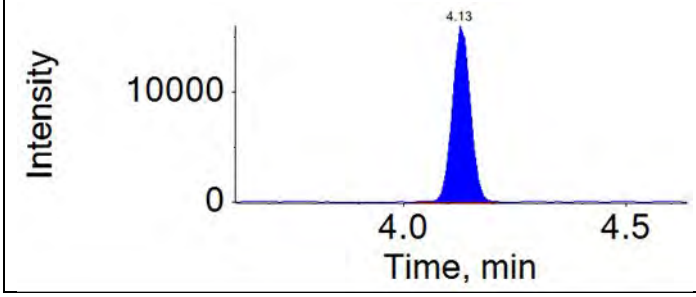



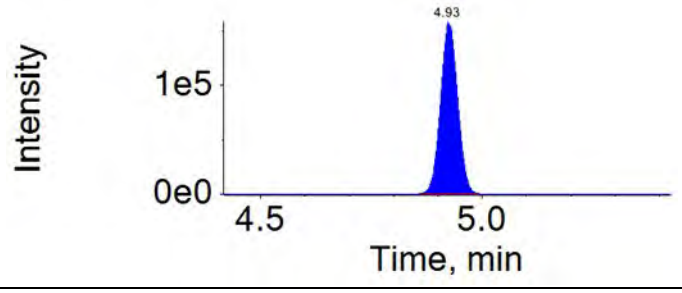

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



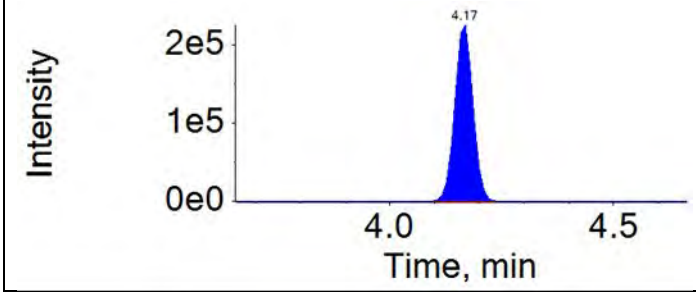

APPROVED
*By MCD at 6:34 pm, 11/12/18*

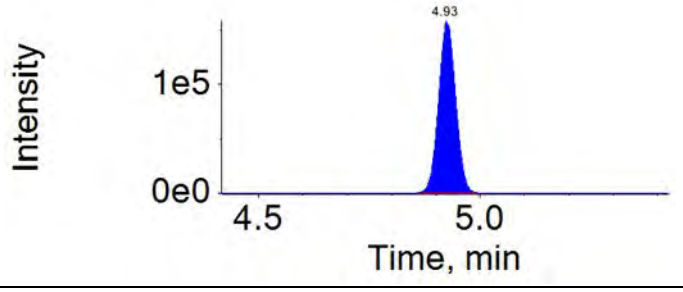


REVIEWED
*By HMK at 10:54 am, 11/13/18*

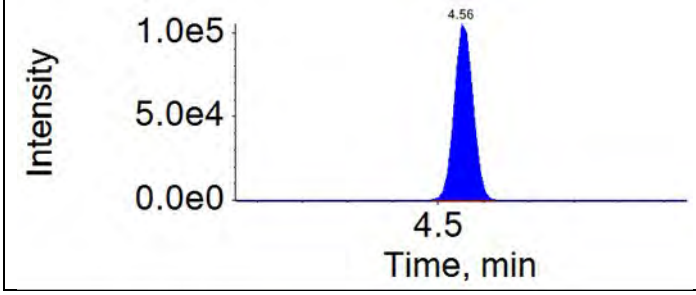
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

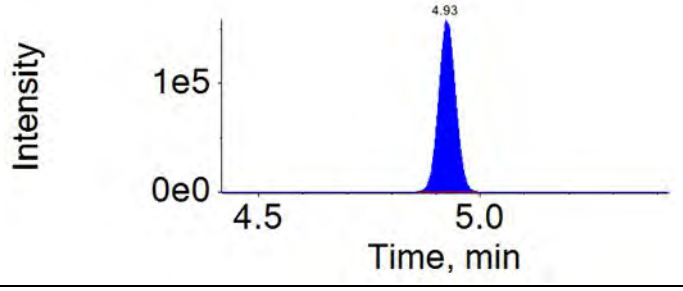
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



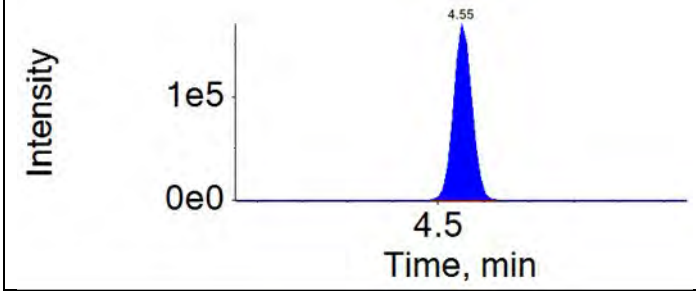



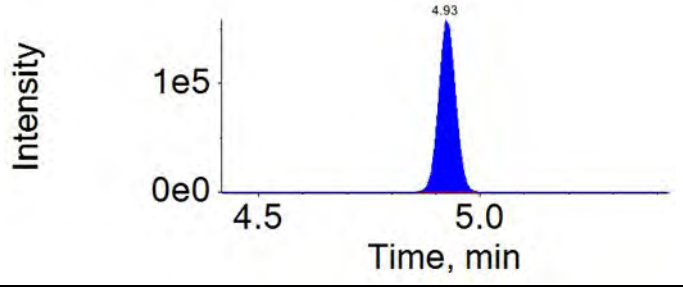

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



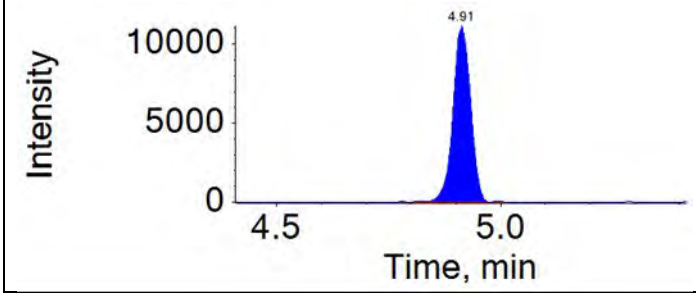



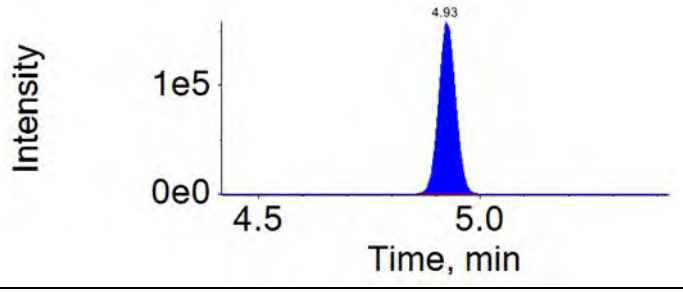

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



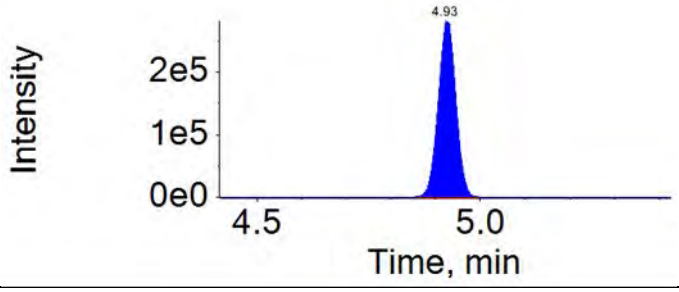
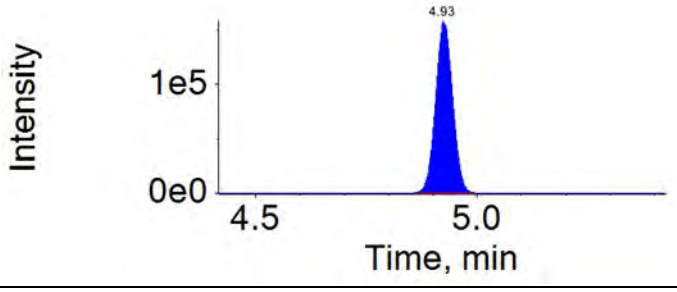




APPROVED
*By MCD at 6:34 pm, 11/12/18*



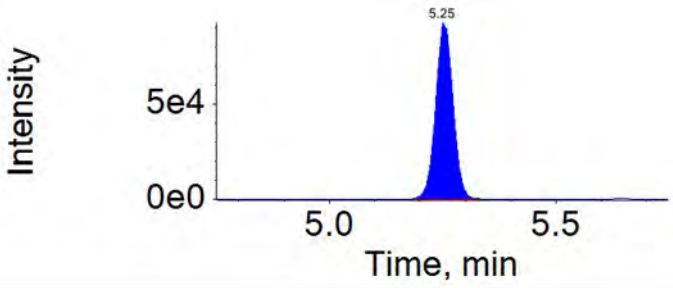
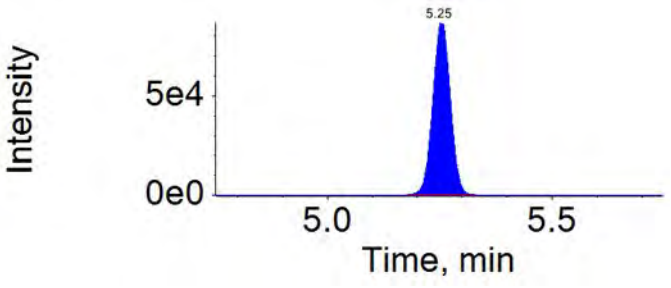
REVIEWED
*By HMK at 10:54 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

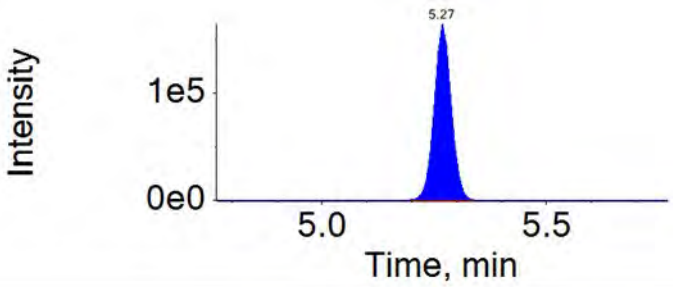
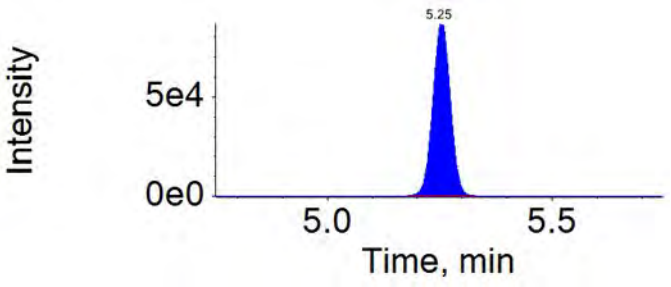




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

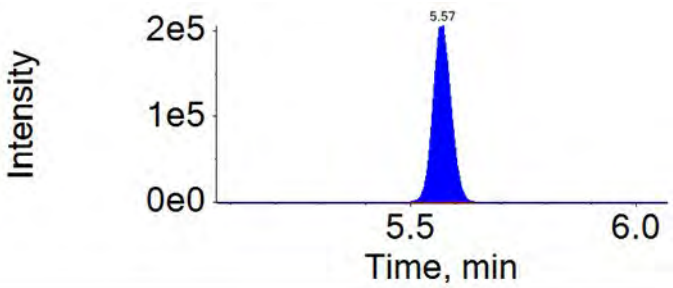
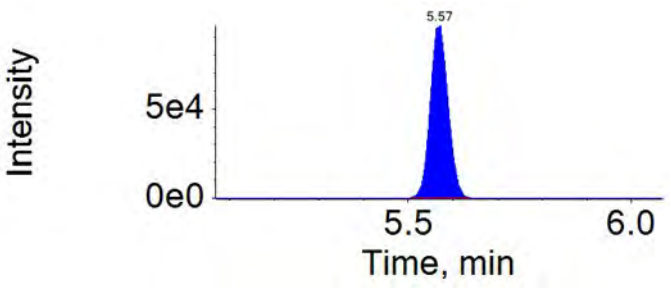




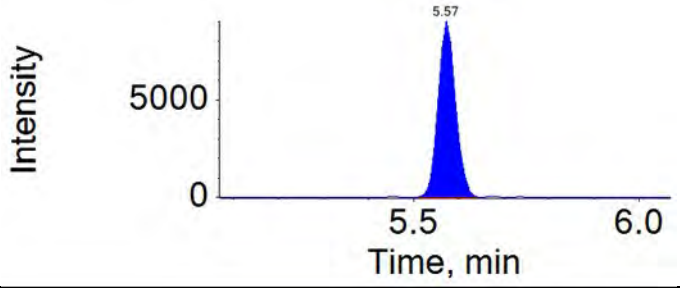
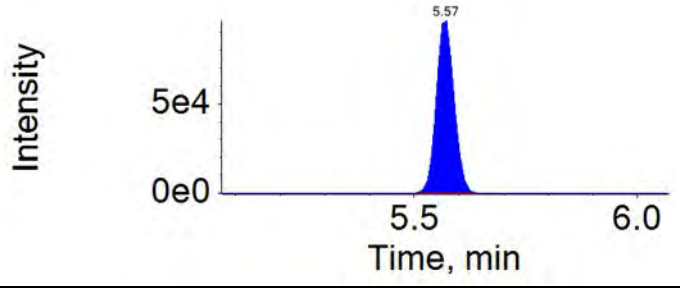
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|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





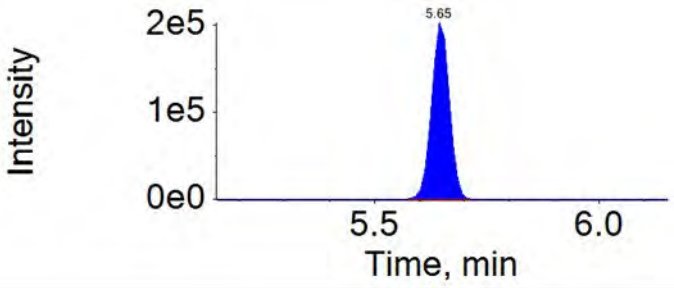
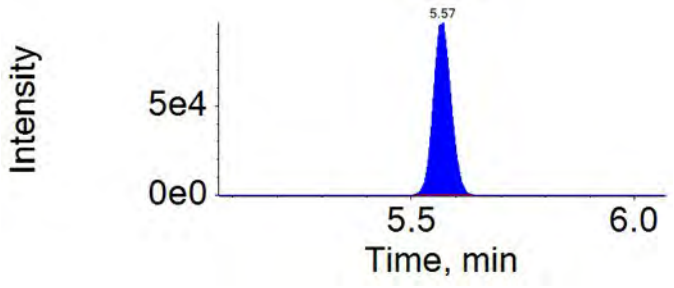
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|---|---|
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|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
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|  |  |

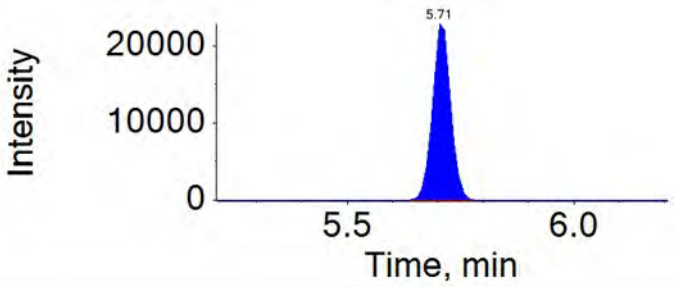
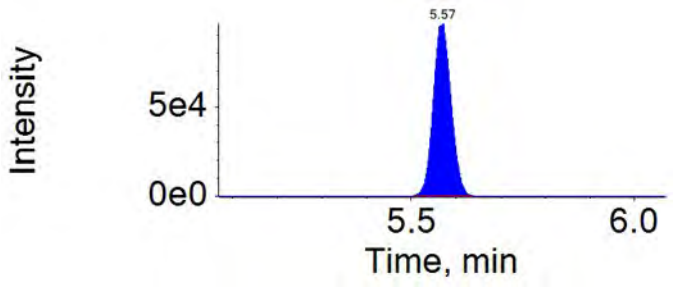




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

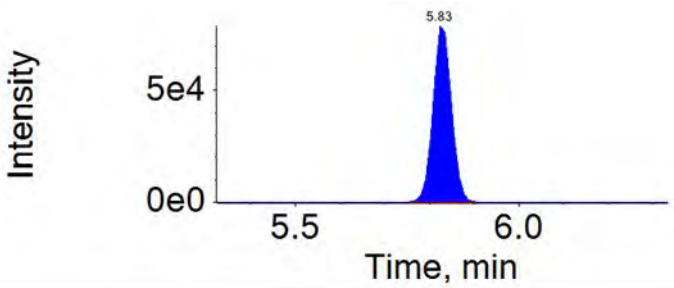
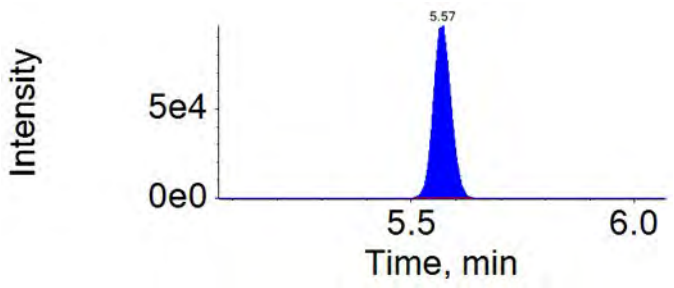




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





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





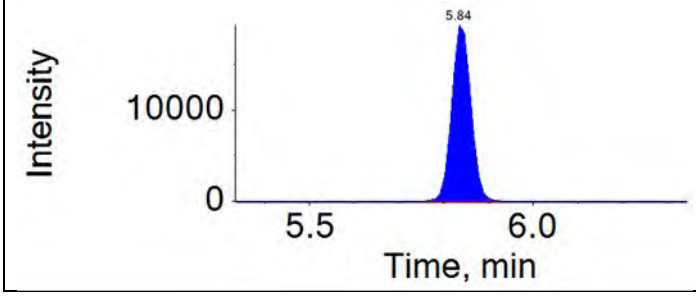
APPROVED
By MCD at 6:34 pm, 11/12/18

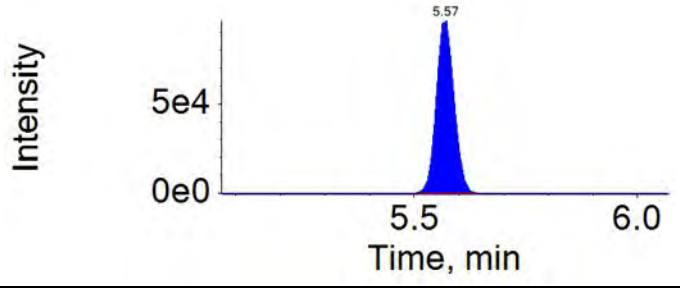


REVIEWED
By HMK at 10:54 am, 11/13/18

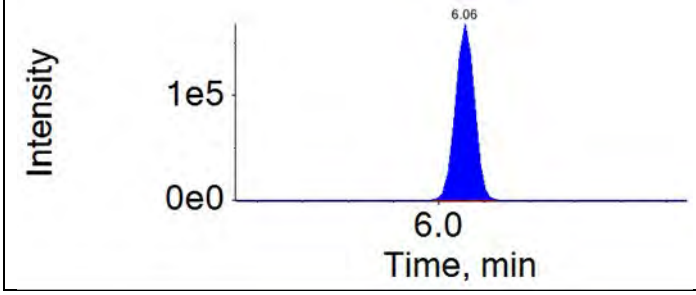
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

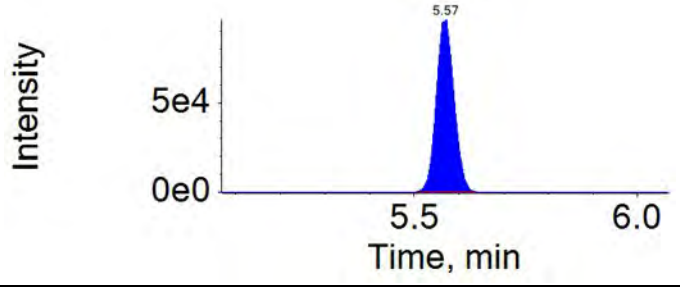
| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |



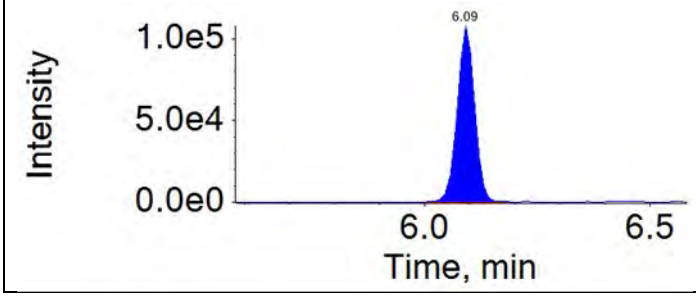



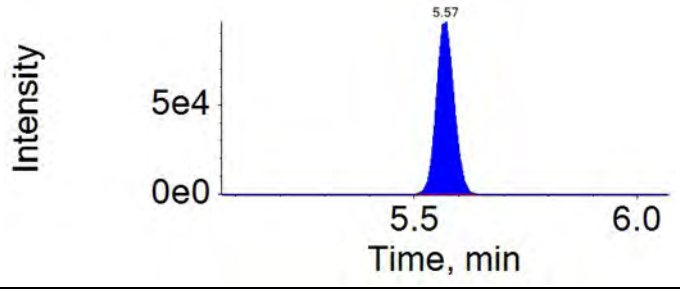

| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |



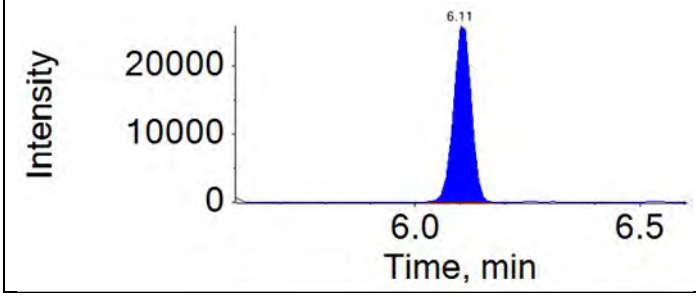



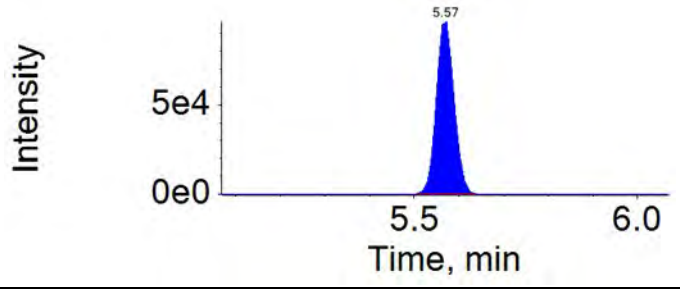

| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |




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



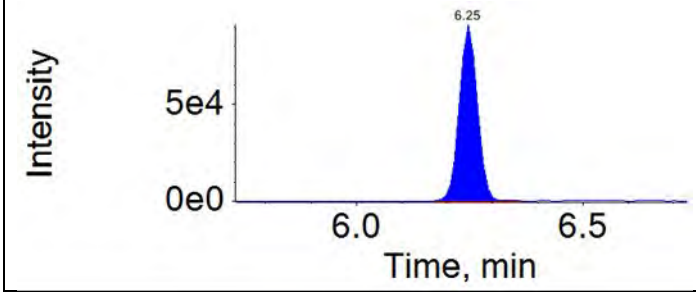

APPROVED
*By MCD at 6:34 pm, 11/12/18*

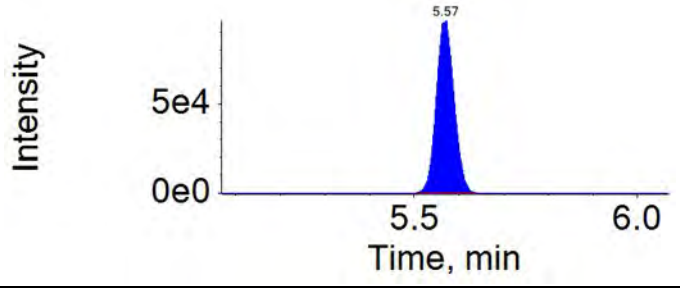


REVIEWED
*By HMK at 10:54 am, 11/13/18*

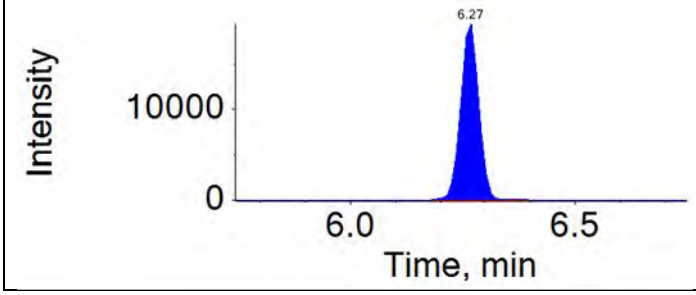
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

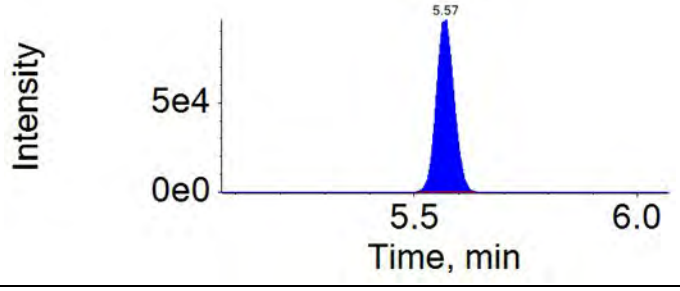
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



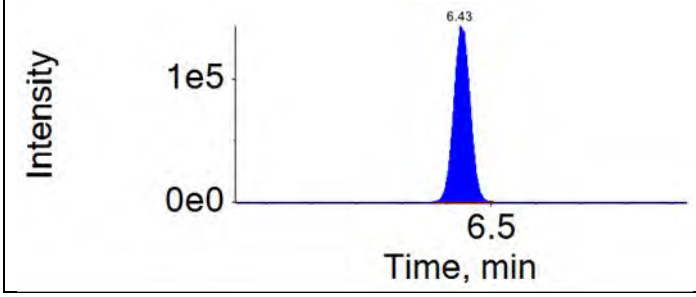



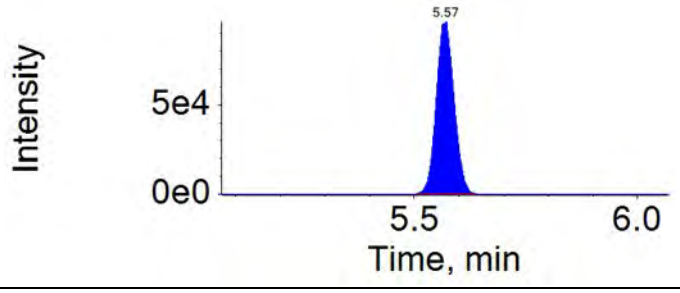

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



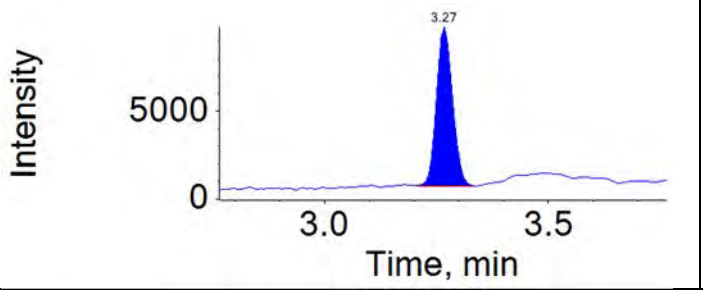

APPROVED
*By MCD at 6:34 pm, 11/12/18*

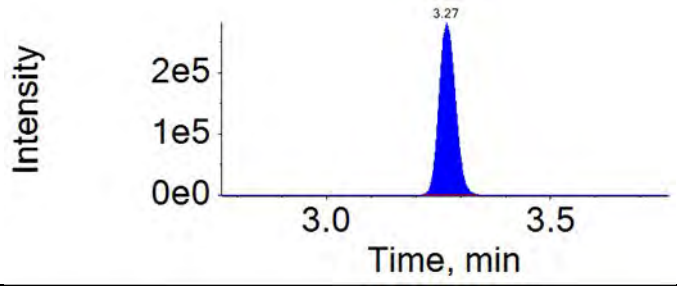


REVIEWED
*By HMK at 10:54 am, 11/13/18*

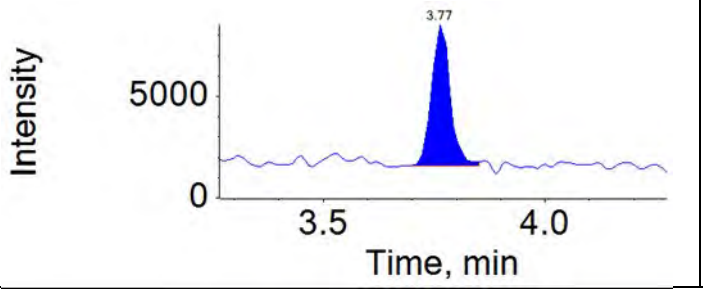
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

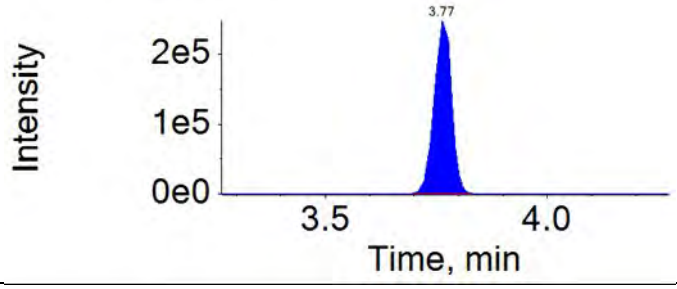
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



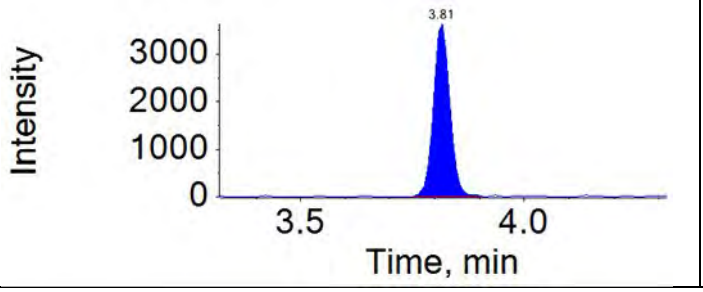



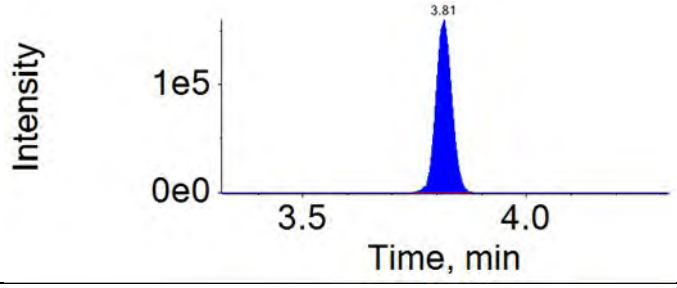

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



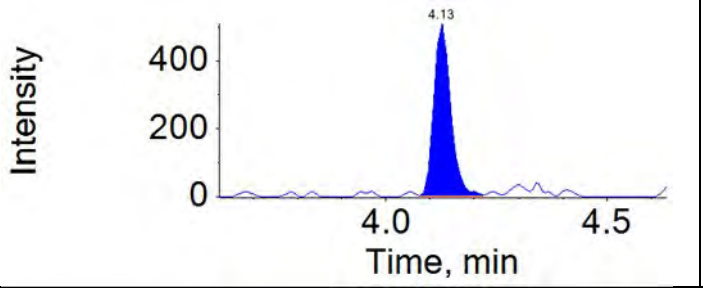



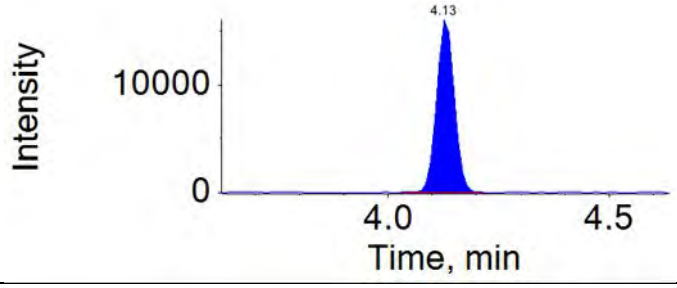

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



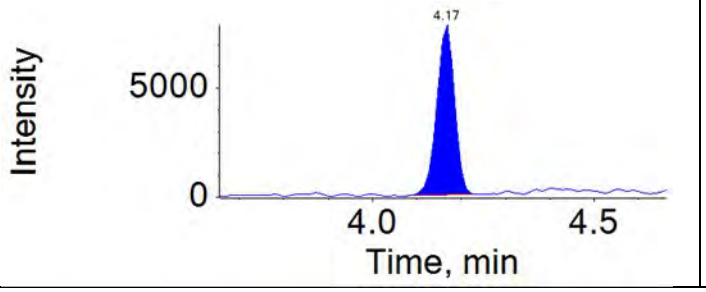

APPROVED
By MCD at 6:34 pm, 11/12/18

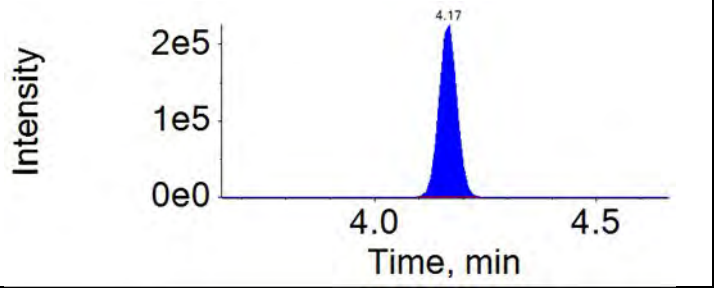


REVIEWED
By HMK at 10:54 am, 11/13/18

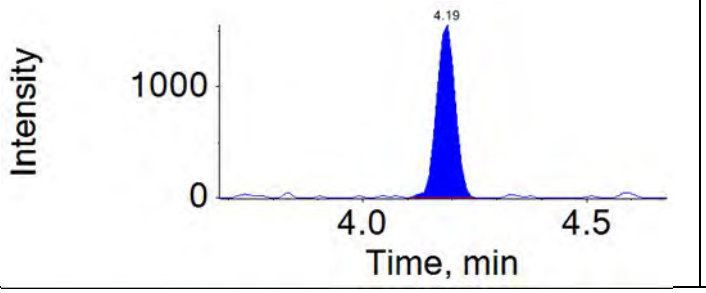
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

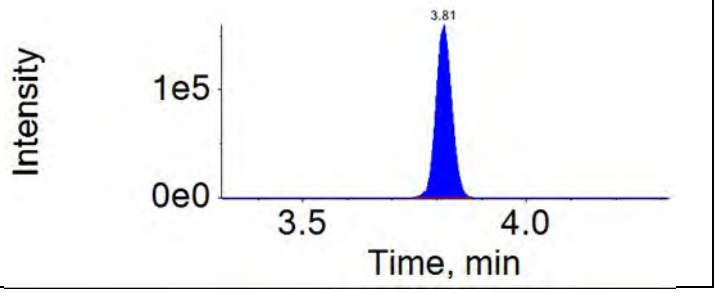
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



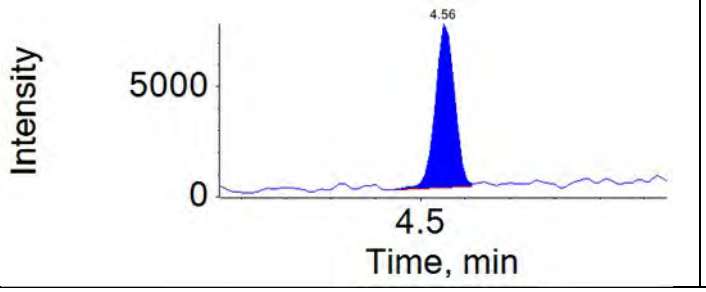



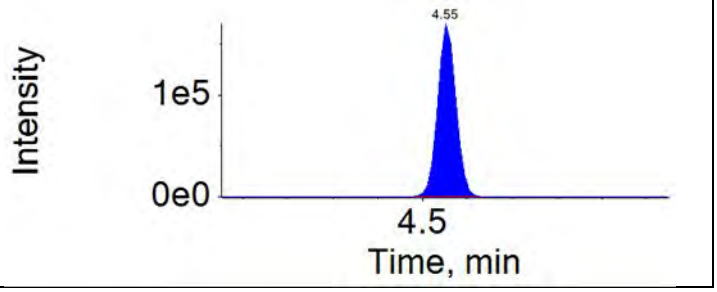

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



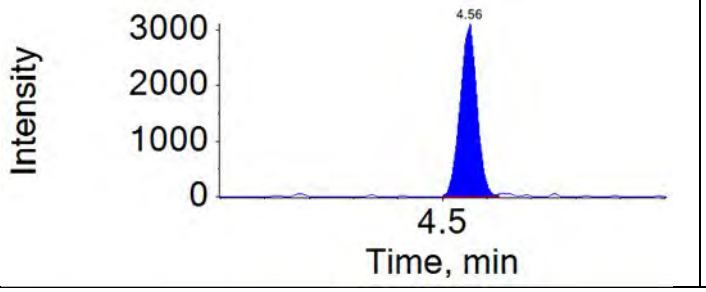



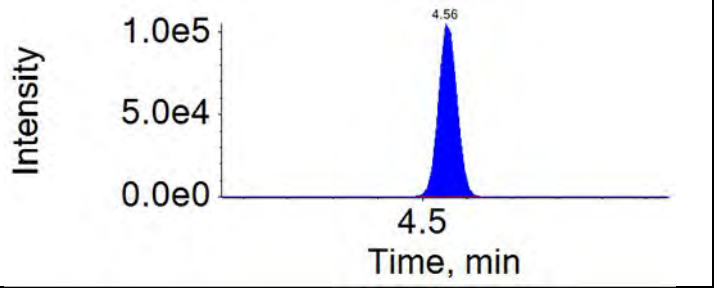

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



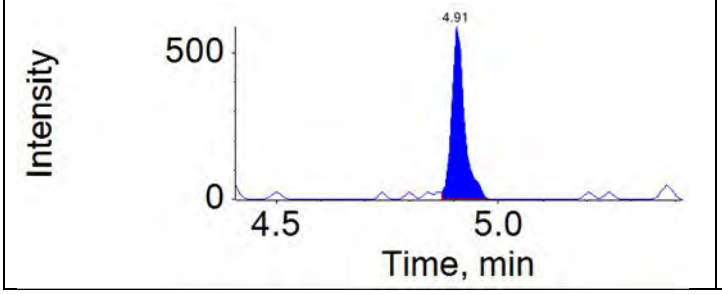

APPROVED
*By MCD at 6:34 pm, 11/12/18*

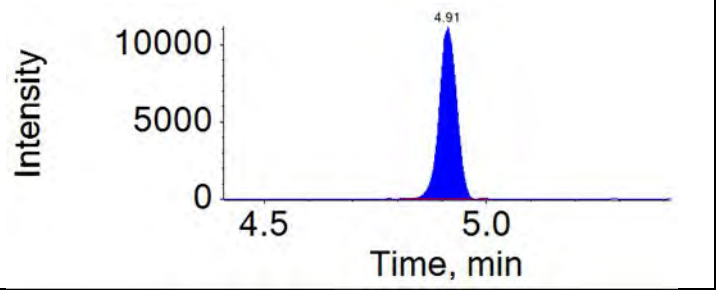


REVIEWED
*By HMK at 10:54 am, 11/13/18*

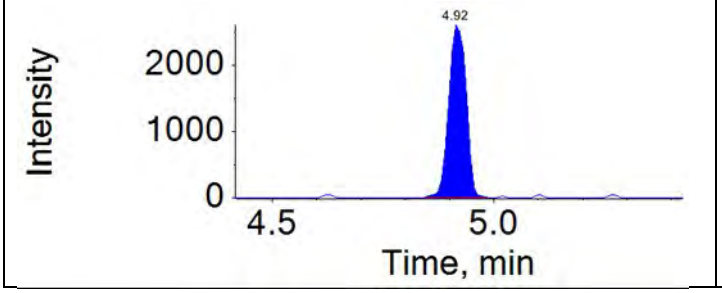
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

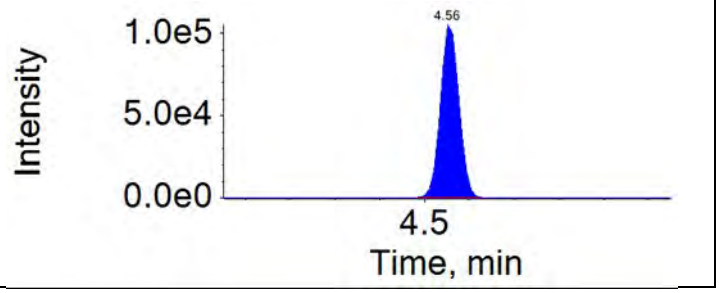
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



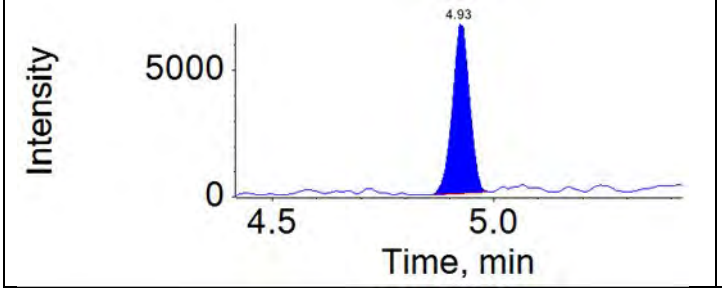



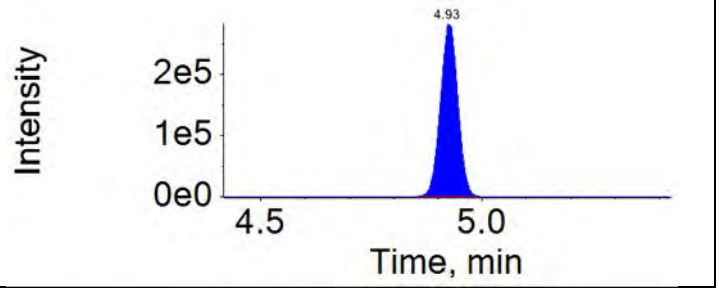

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



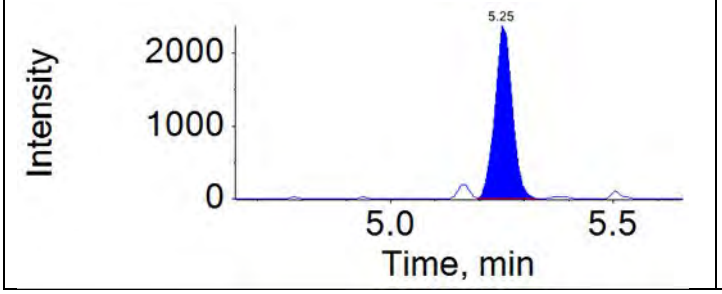



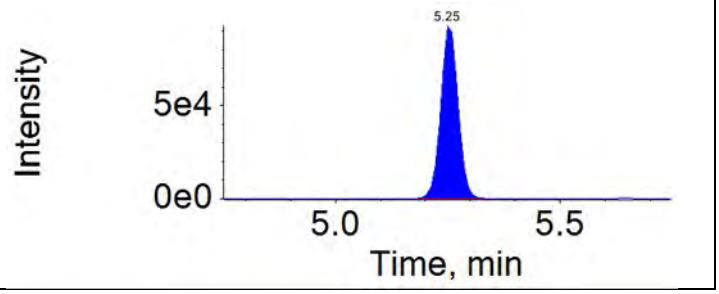

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



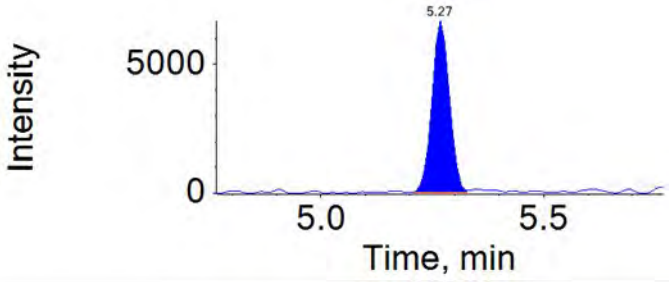
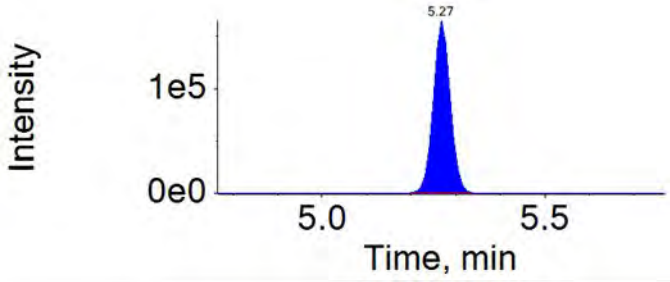




APPROVED
*By MCD at 6:34 pm, 11/12/18*



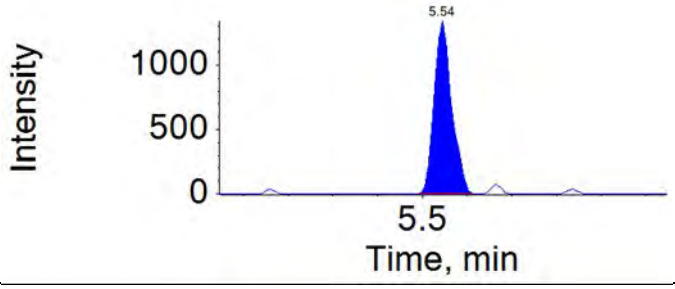
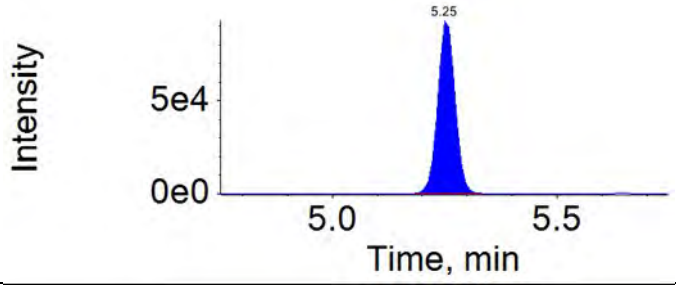
REVIEWED
*By HMK at 10:54 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

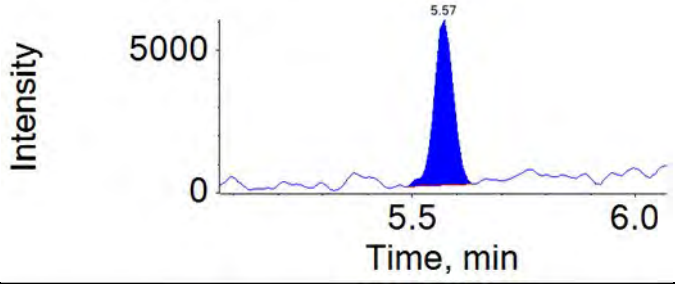
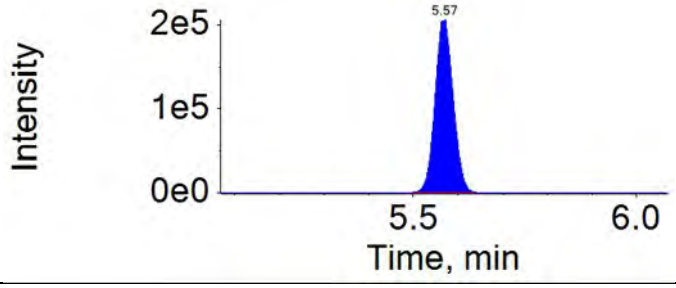




| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |
|  |  |

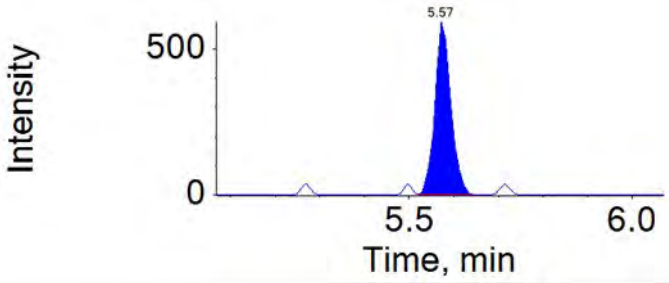
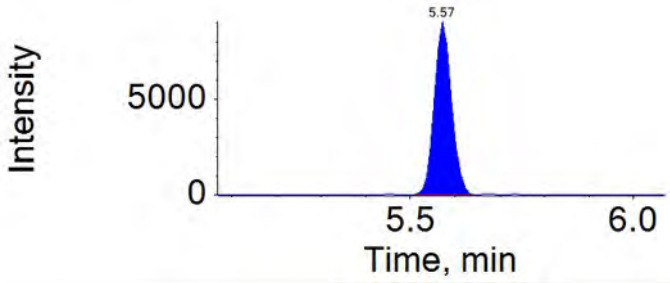




| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |
|  |  |





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





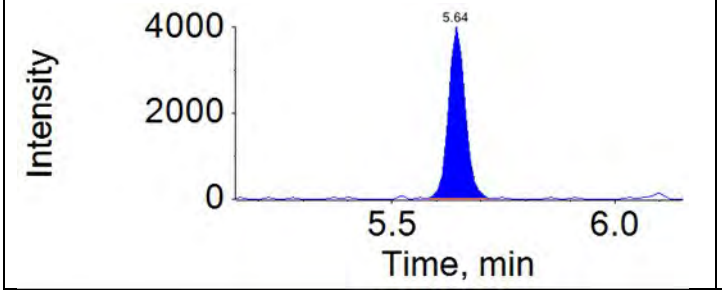
APPROVED
*By MCD at 6:34 pm, 11/12/18*

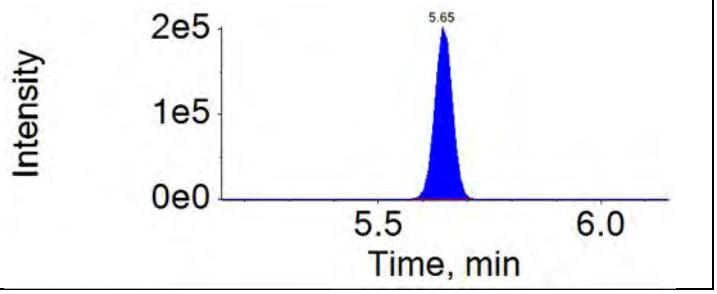


REVIEWED
*By HMK at 10:54 am, 11/13/18*

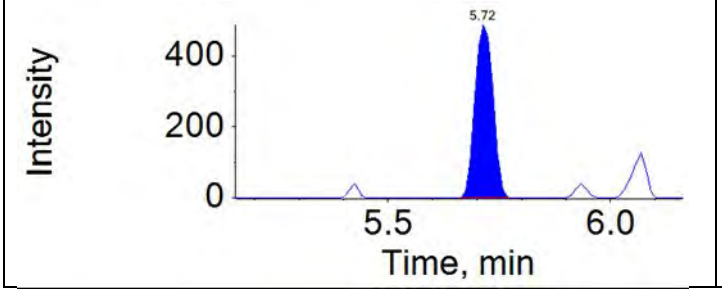
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

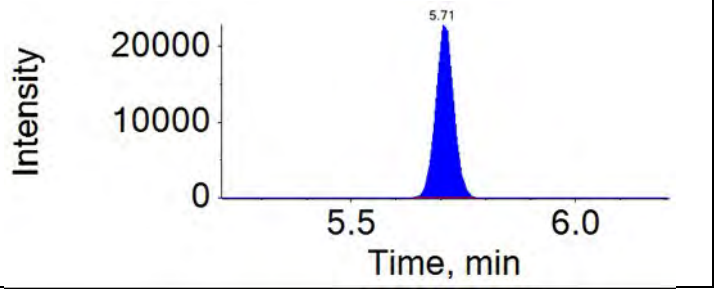
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



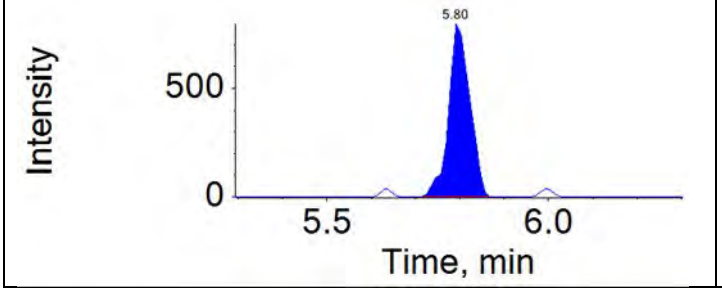



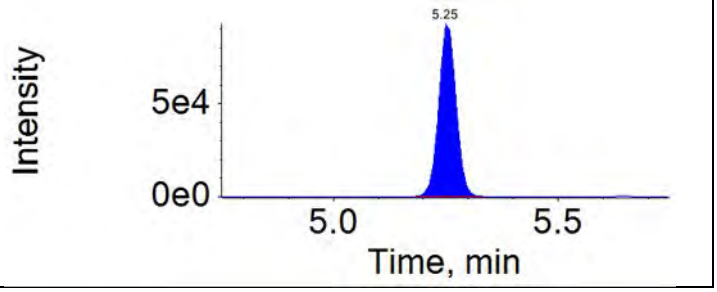

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



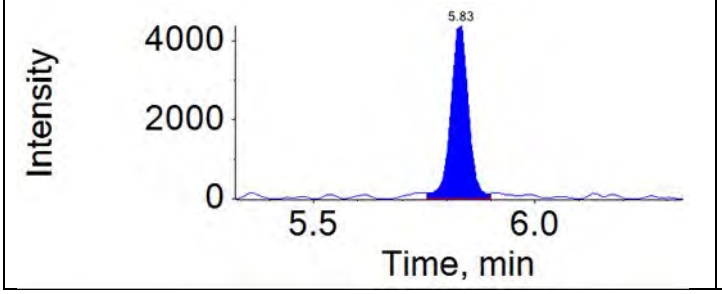



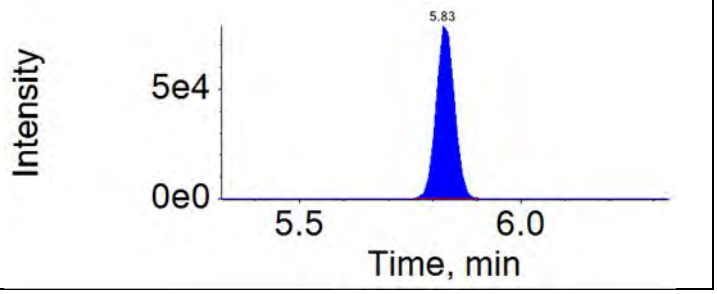

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



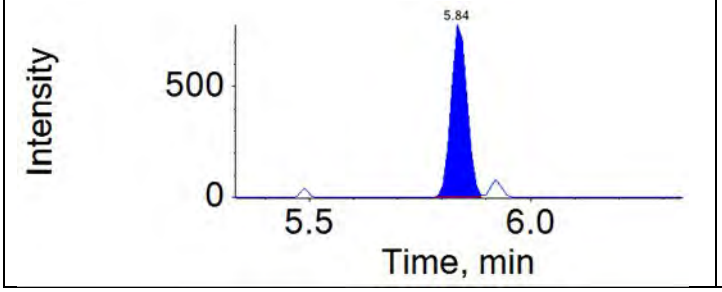

APPROVED
*By MCD at 6:34 pm, 11/12/18*

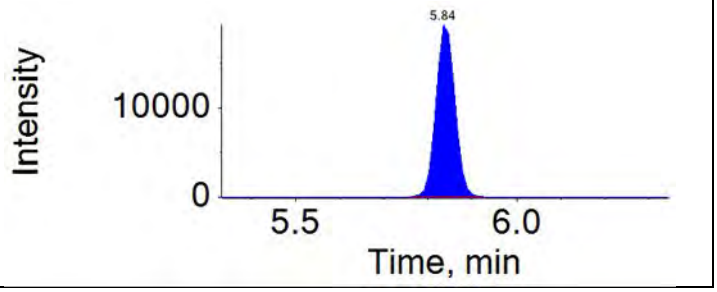


REVIEWED
*By HMK at 10:54 am, 11/13/18*

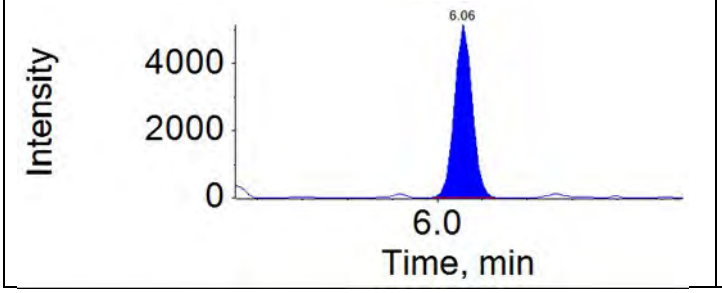
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

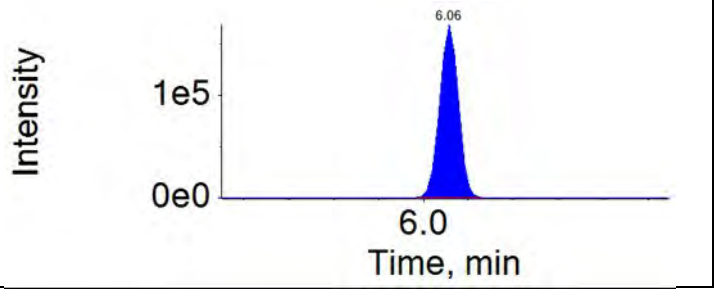
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



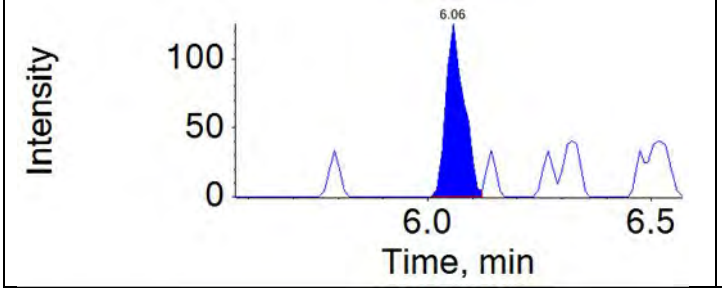



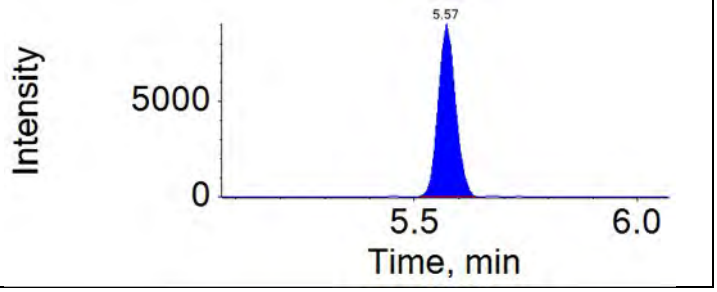

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



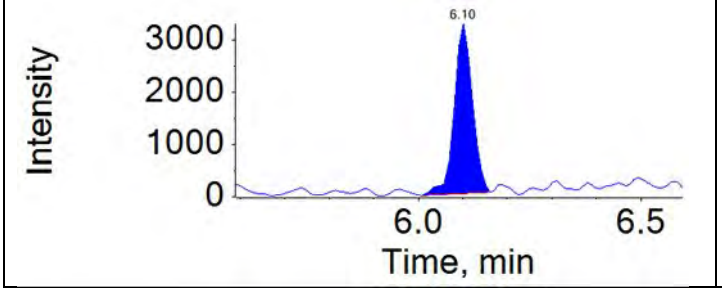



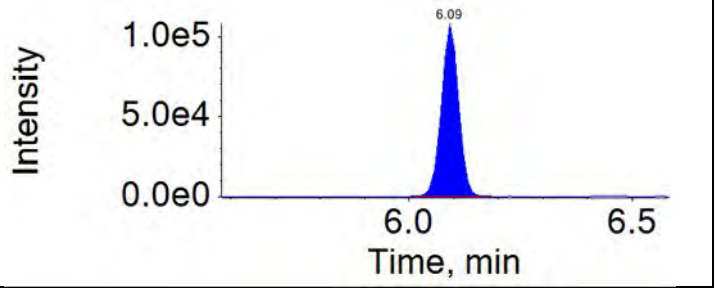

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



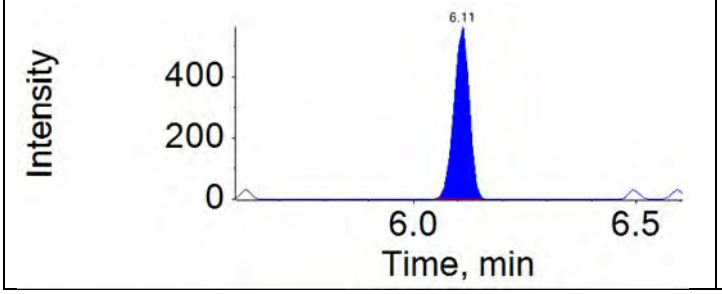

APPROVED
*By MCD at 6:34 pm, 11/12/18*

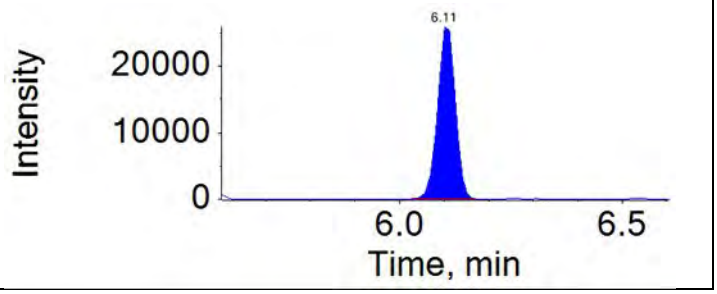


REVIEWED
*By HMK at 10:54 am, 11/13/18*

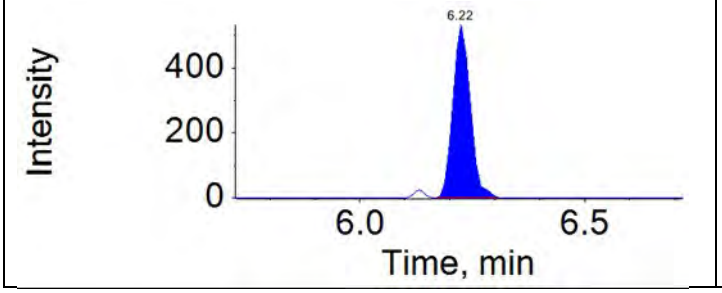
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

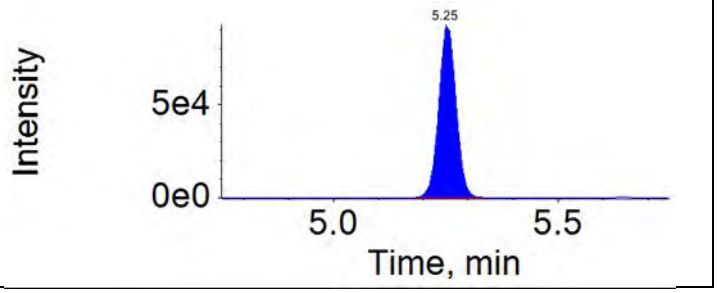
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



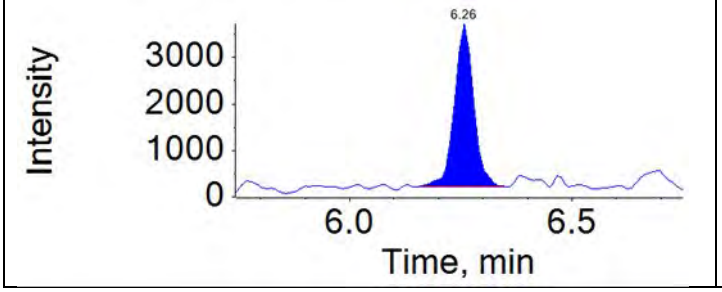



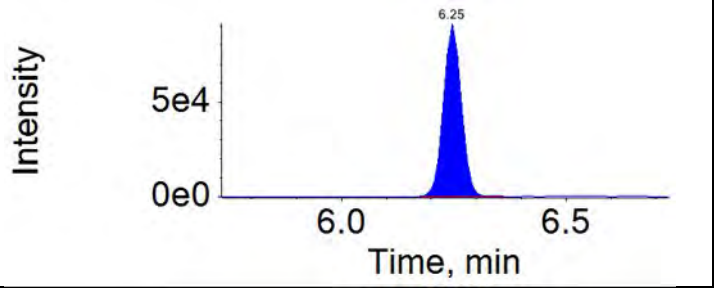

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



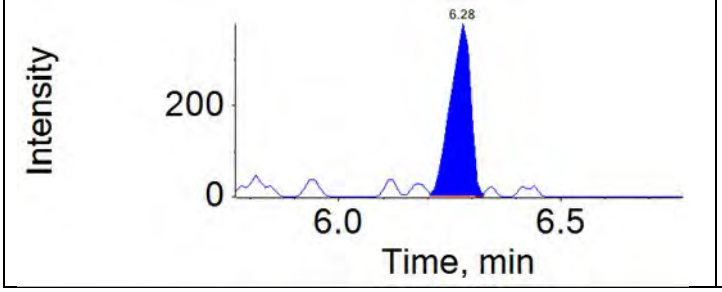



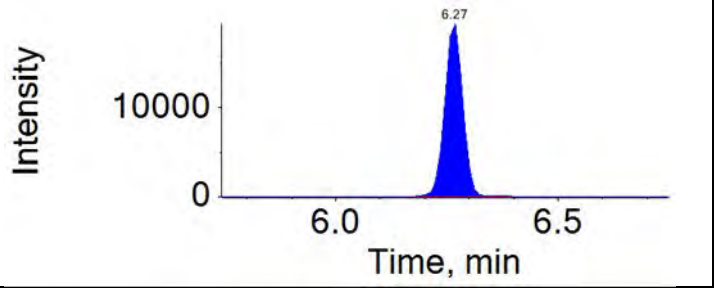

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



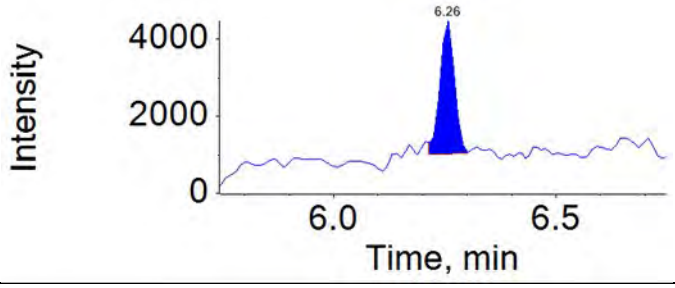
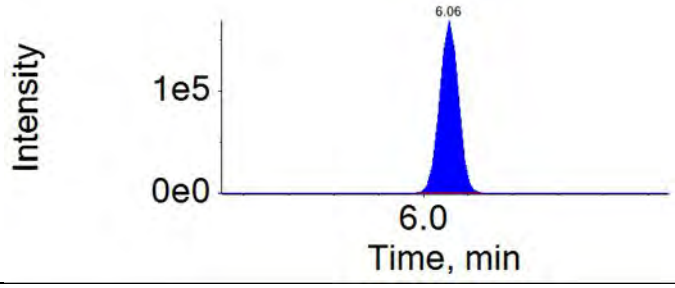




APPROVED
*By MCD at 6:34 pm, 11/12/18*



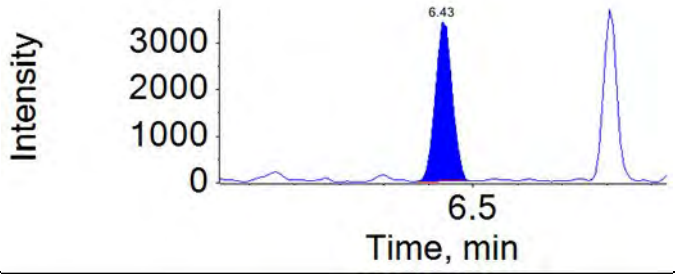
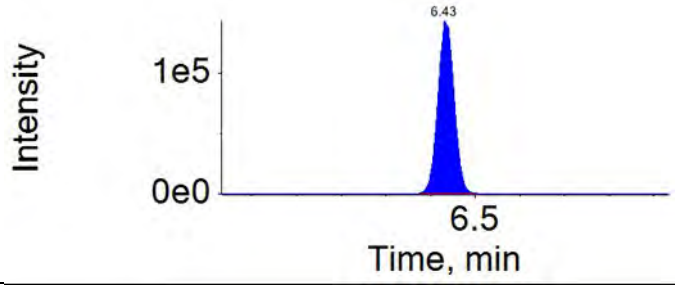
REVIEWED
*By HMK at 10:54 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

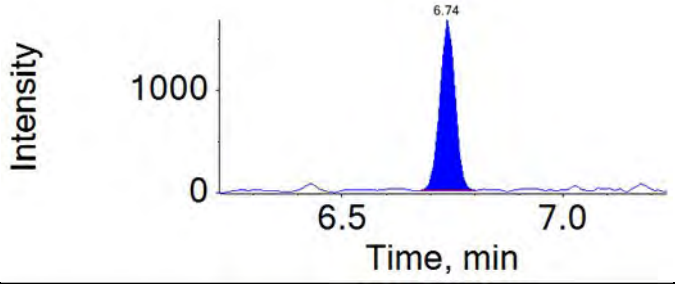
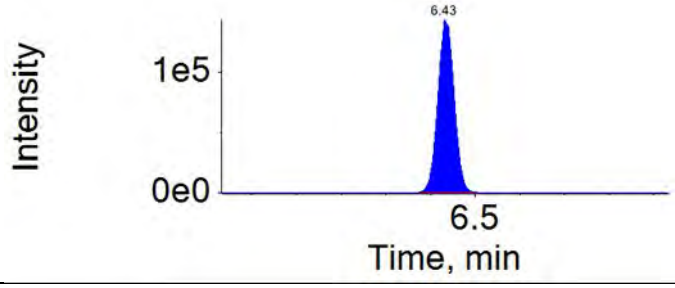




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

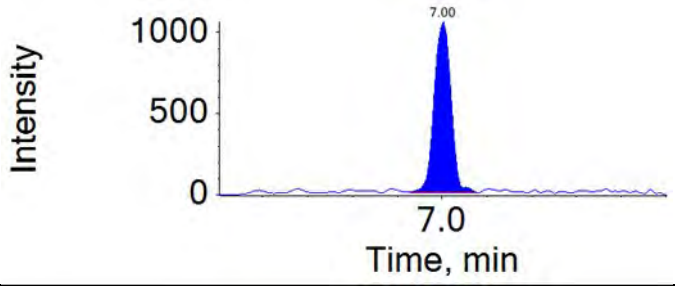
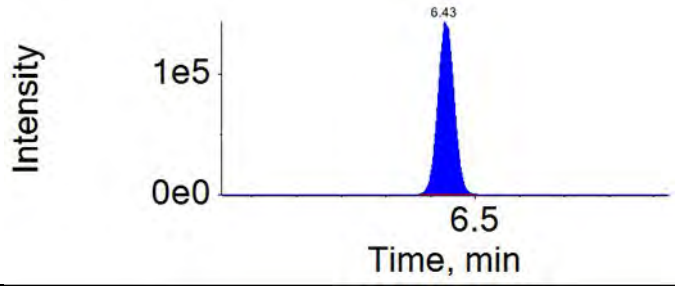




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





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





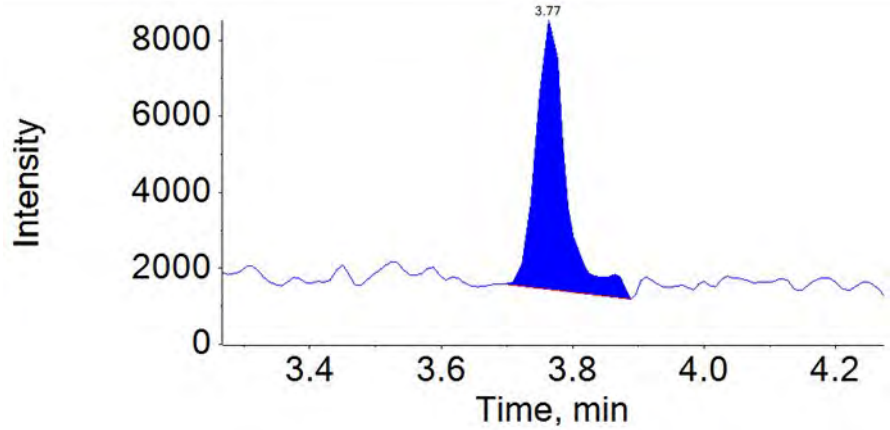
APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:54 am, 11/13/18*

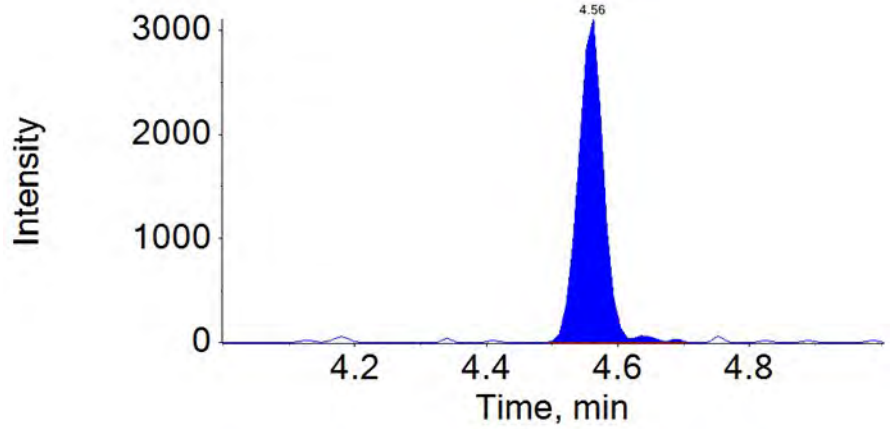
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFPeA
**RT (min.):**
3.77
**Peak Area:**
22570.74
**Mass Range:**
263.0 / 219.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL



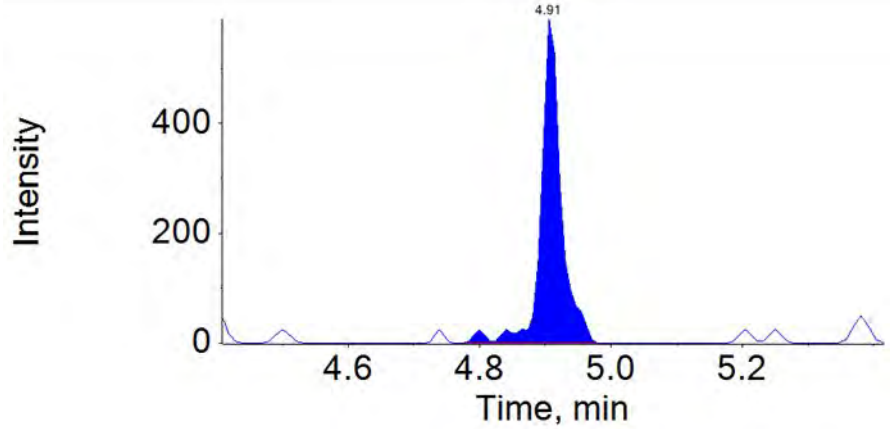

**Integration Comment:** incorrect integration

**Component Name:**
PFHxS
**RT (min.):**
4.56
**Peak Area:**
8305.21
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL




**Integration Comment:** incorrect integration

**Component Name:**
6:2-FTS
**RT (min.):**
4.91
**Peak Area:**
1264.35
**Mass Range:**
427.0 / 407.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL



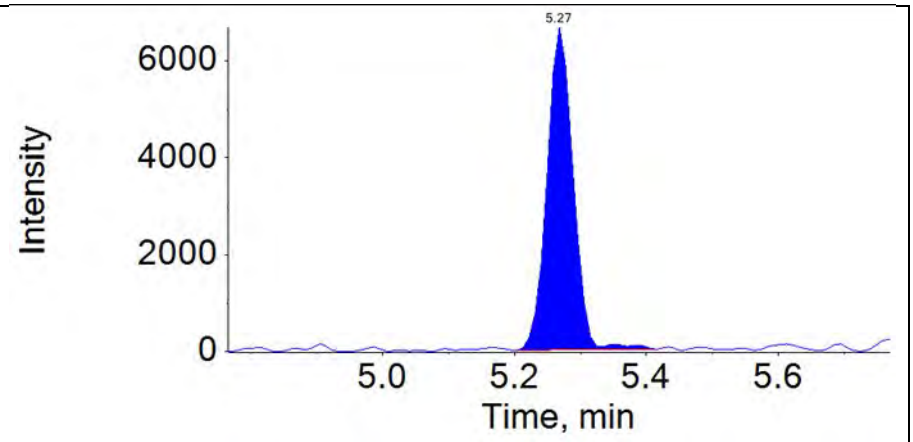

**Integration Comment:** incorrect integration

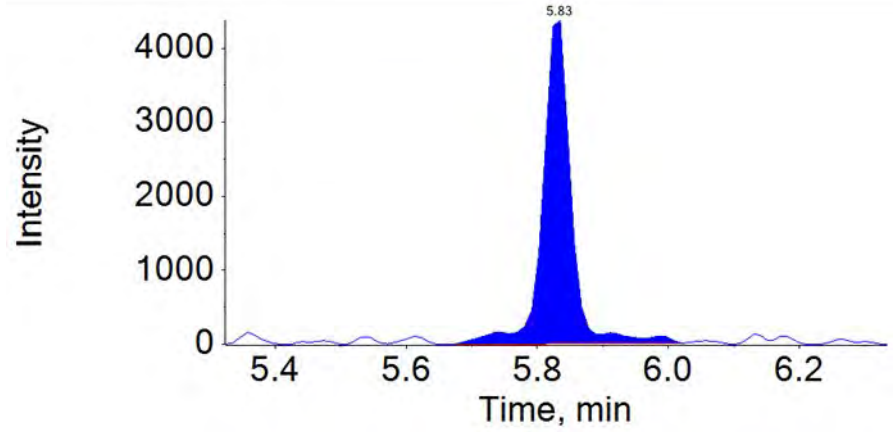
APPROVED
*By MCD at 6:34 pm, 11/12/18*

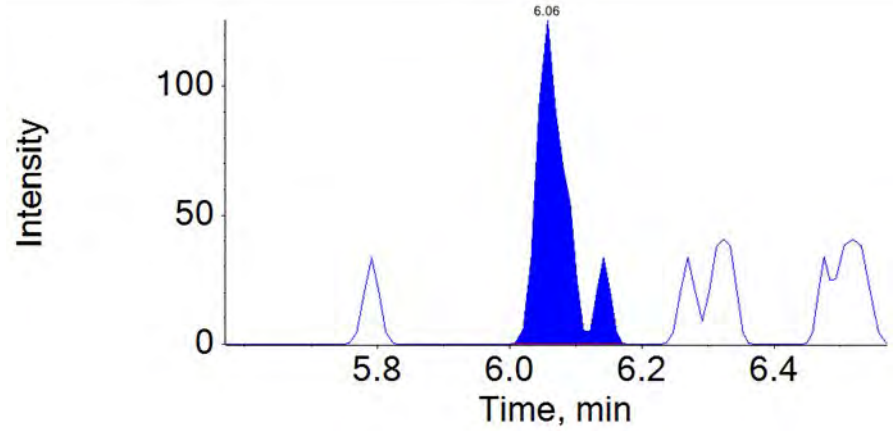


REVIEWED
*By HMK at 10:54 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFNA<br>**RT (min.):** 5.27<br>**Peak Area:** 18397.36<br>**Mass Range:** 463.0 / 419.0<br>**File Name:** 18NOV12DCAL-41.wiff<br>**Sample Name:** MDL | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFUnDA<br>**RT (min.):** 5.83<br>**Peak Area:** 13277.76<br>**Mass Range:** 563.0 / 519.0<br>**File Name:** 18NOV12DCAL-41.wiff<br>**Sample Name:** MDL | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** 10:2-FTS<br>**RT (min.):** 6.06<br>**Peak Area:** 401.71<br>**Mass Range:** 627.0 / 607.0<br>**File Name:** 18NOV12DCAL-41.wiff<br>**Sample Name:** MDL | <br>**Integration Comment:** incorrect integration |

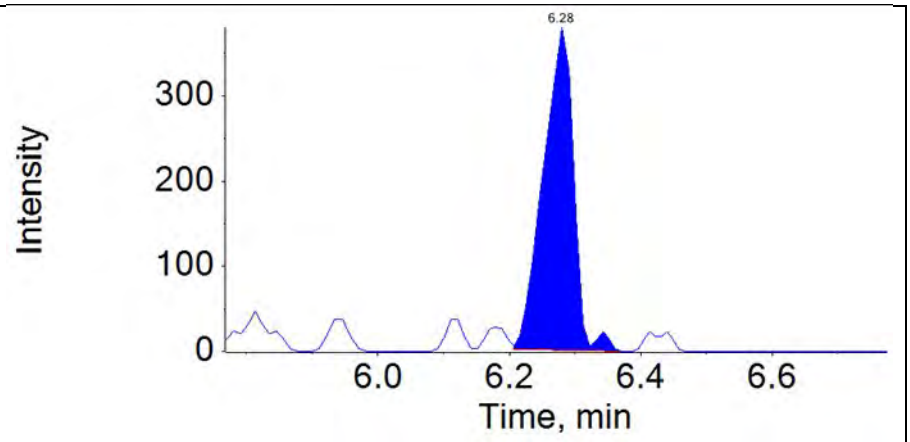
APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:54 am, 11/13/18*

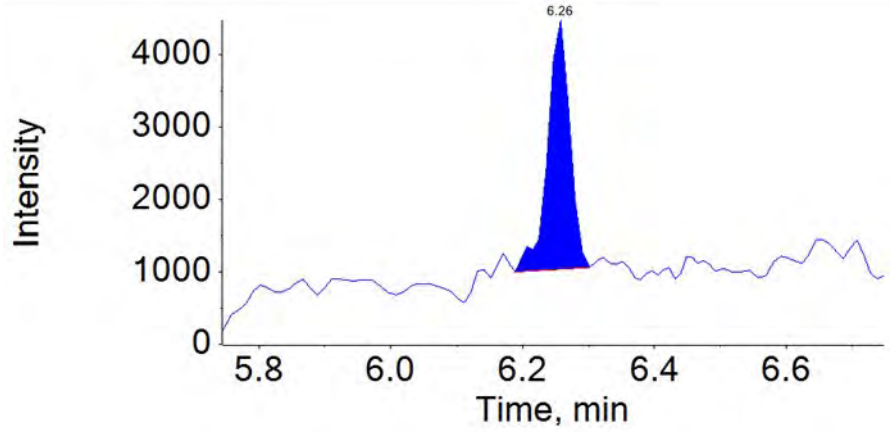
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NEtPFOSA
**RT (min.):**
6.28
**Peak Area:**
1221.08
**Mass Range:**
526.0 / 169.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL



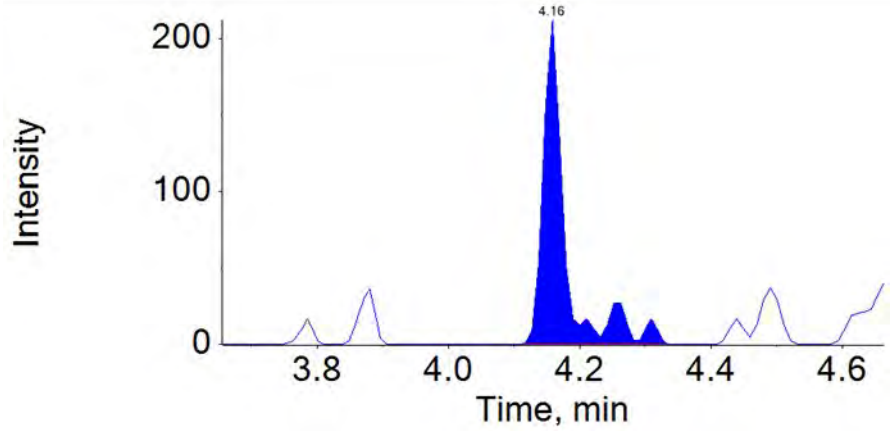

**Integration Comment:** incorrect integration

**Component Name:**
PFTrDA
**RT (min.):**
6.26
**Peak Area:**
8070.84
**Mass Range:**
663.0 / 619.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL




**Integration Comment:** incorrect integration

**Component Name:**
PFHxA_2
**RT (min.):**
4.16
**Peak Area:**
496.72
**Mass Range:**
313.0 / 119.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL




**Integration Comment:** incorrect integration

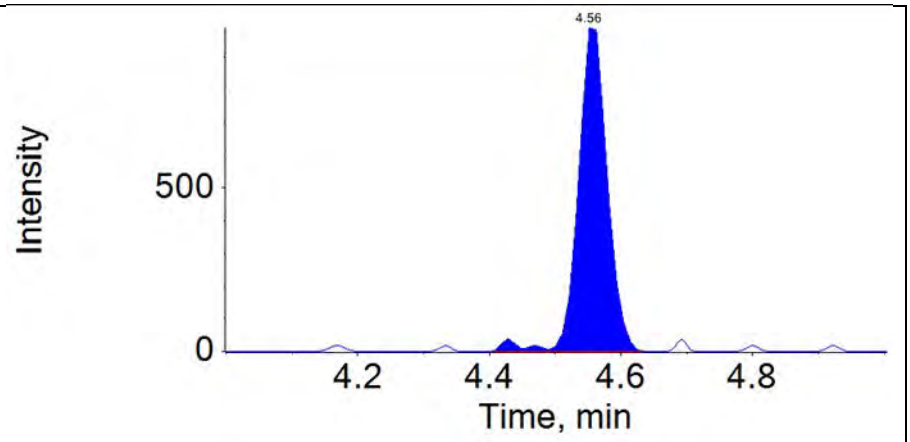
APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:54 am, 11/13/18*

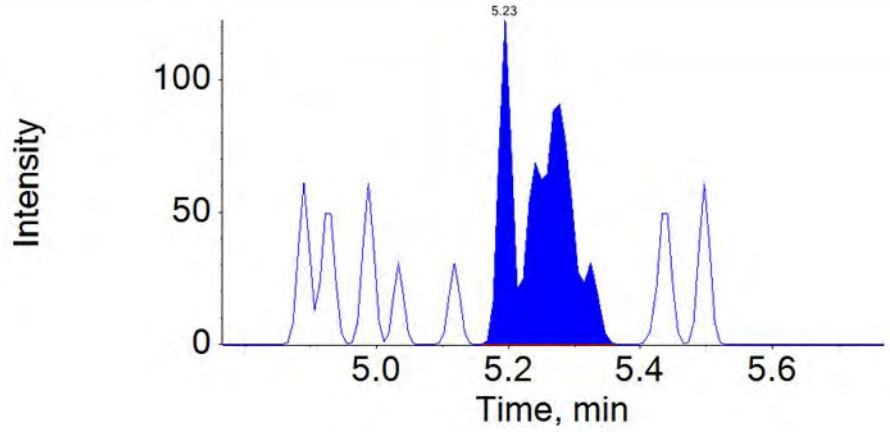
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS_2
**RT (min.):**
4.56
**Peak Area:**
3074.31
**Mass Range:**
399.0 / 99.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL



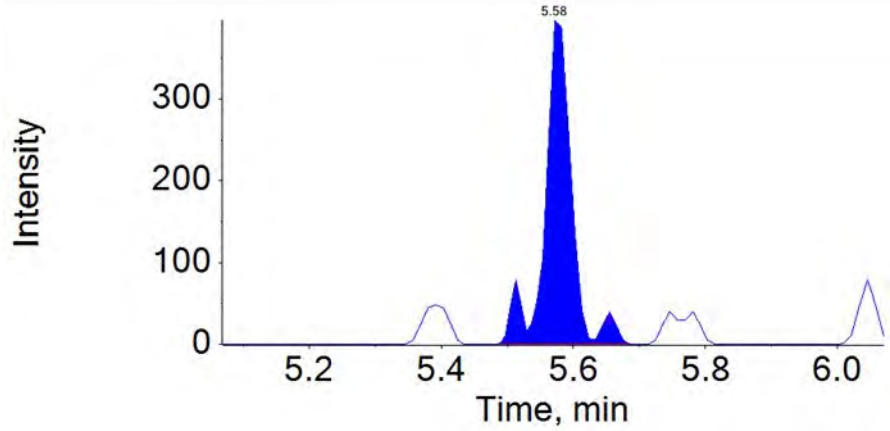

**Integration Comment:** incorrect integration

**Component Name:**
PFNA_2
**RT (min.):**
5.23
**Peak Area:**
553.54
**Mass Range:**
463.0 / 169.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL




**Integration Comment:** incorrect integration

**Component Name:**
8:2 FTS_2
**RT (min.):**
5.58
**Peak Area:**
1126.66
**Mass Range:**
527.0 / 81.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL




**Integration Comment:** incorrect integration

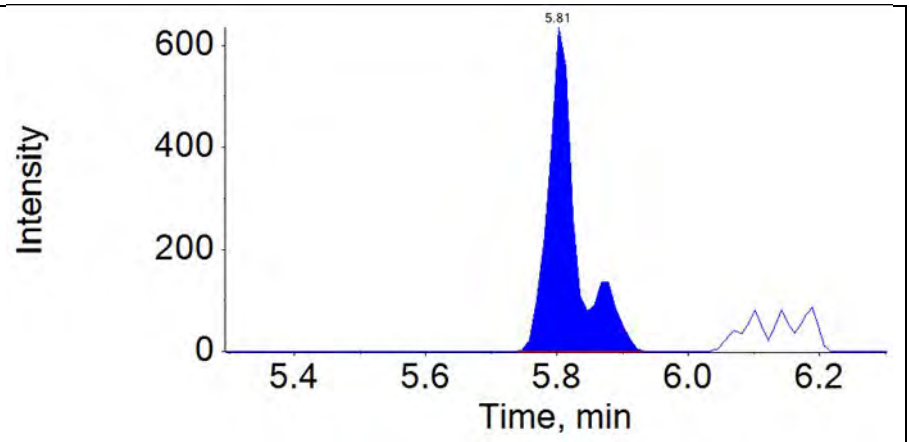
APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:54 am, 11/13/18*

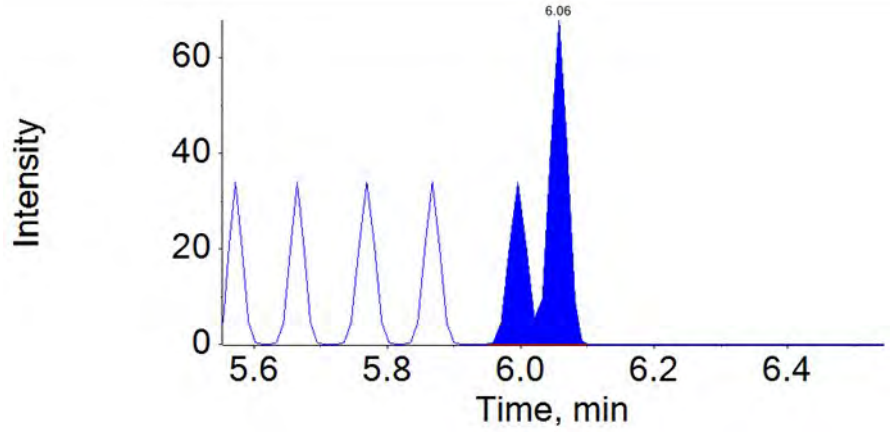
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFDS_2
**RT (min.):**
5.81
**Peak Area:**
1909.26
**Mass Range:**
599.0 / 99.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL




**Integration Comment:** incorrect integration

**Component Name:**
PFDoDA_2
**RT (min.):**
6.06
**Peak Area:**
186.10
**Mass Range:**
613.0 / 169.0
**File Name:**
18NOV12DCAL-41.wiff
**Sample Name:**
MDL




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:54 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

## Ion Ratio Report

**Sample Name:** MDL **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-41.wiff

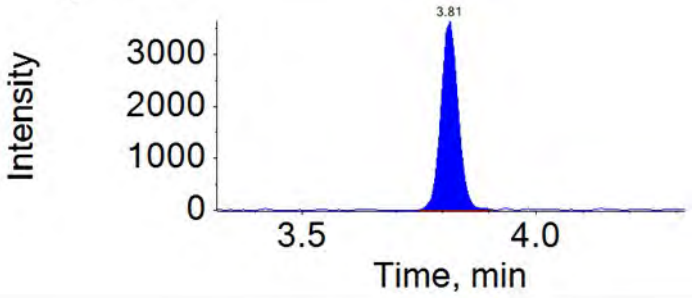
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 9248.27 | A | 0.3619 | 0.4009 | | | |
| PFBS_2 | 3.81 | 1.00 | 3707.95 | A | 0.3619 | 0.4009 | 11 | 50 | |
| 4:2-FTS | 4.13 | 1.00 | 1329.90 | A | 0.6730 | 1.1531 | | | |
| 4:2 FTS_2 | 4.14 | 1.00 | 1533.53 | A | 0.6730 | 1.1531 | | #NA! | |
| PFHxA | 4.17 | 1.00 | 21601.58 | A | 0.0117 | 0.0185 | | | |
| PFHxA_2 | 4.16 | 1.00 | 400.56 | M | 0.0117 | 0.0185 | 59 | 50 | OOS |
| PFPeS | 4.19 | 1.10 | 4484.75 | A | 0.5191 | 0.5939 | | | |
| PFPeS_2 | 4.18 | 1.10 | 2663.62 | A | 0.5191 | 0.5939 | 14 | 50 | |
| PFHpA | 4.56 | 1.00 | 22043.51 | A | 0.0563 | 0.0598 | | | |
| PFHpA_2 | 4.54 | 1.00 | 1317.81 | A | 0.0563 | 0.0598 | 6 | 50 | |
| PFHxS | 4.56 | 1.00 | 8143.51 | M | 0.3428 | 0.3665 | | | |
| PFHxS_2 | 4.56 | 1.00 | 2984.60 | M | 0.3428 | 0.3665 | 7 | 50 | |
| 6:2-FTS | 4.91 | 1.00 | 1176.17 | M | 0.6604 | 0.6555 | | | |
| 6:2 FTS_2 | 4.91 | 1.00 | 771.04 | A | 0.6604 | 0.6555 | | #NA! | |
| PFHpS | 4.92 | 1.08 | 7117.47 | A | 0.4066 | 0.3729 | | | |
| PFHpS_2 | 4.92 | 1.08 | 2653.97 | A | 0.4066 | 0.3729 | -8 | 50 | |
| PFOA | 4.93 | 1.00 | 18045.03 | A | 0.0562 | 0.0847 | | | |
| PFOA_2 | 4.92 | 1.00 | 1528.65 | A | 0.0562 | 0.0847 | 51 | 50 | OOS |
| PFOS | 5.25 | 1.00 | 6416.89 | A | 0.2968 | 0.3439 | | | |
| PFOS_2 | 5.25 | 1.00 | 2206.80 | A | 0.2968 | 0.3439 | 16 | 50 | |
| PFNA | 5.27 | 1.00 | 18065.11 | M | 0.0229 | 0.0217 | | | |
| PFNA_2 | 5.27 | 1.00 | 391.14 | M | 0.0229 | 0.0217 | -5 | 50 | |
| PFNS | 5.54 | 1.06 | 3661.22 | A | 0.4828 | 0.5154 | | | |
| PFNS_2 | 5.55 | 1.06 | 1886.87 | A | 0.4828 | 0.5154 | 7 | 50 | |
| PFDA | 5.57 | 1.00 | 17350.54 | A | 0.0081 | 0.0034 | | | |
| PFDA_2 | 5.58 | 1.00 | 58.57 | A | 0.0081 | 0.0034 | -58 | 50 | OOS |
| 8:2-FTS | 5.57 | 1.00 | 1475.16 | A | 0.6814 | 0.6626 | | | |
| 8:2 FTS_2 | 5.58 | 1.00 | 977.44 | M | 0.6814 | 0.6626 | | #NA! | |
| NMeFOSAA | 5.72 | 1.00 | 1372.38 | A | 0.2569 | 0.3580 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 491.32 | A | 0.2569 | 0.3580 | 39 | 50 | |
| PFDS | 5.80 | 1.10 | 2648.79 | A | 0.5144 | 0.5845 | | | |
| PFDS_2 | 5.81 | 1.10 | 1548.24 | M | 0.5144 | 0.5845 | 14 | 50 | |
| PFUnDA | 5.83 | 1.00 | 12215.29 | M | 0.0058 | 0.0269 | | | |
| PFUnDA_2 | 5.82 | 1.00 | 328.37 | A | 0.0058 | 0.0269 | 362 | 50 | OOS |
| NEtFOSAA | 5.84 | 1.00 | 1937.77 | A | 0.7253 | 0.5676 | | | |
| NEtFOSAA_2 | 5.85 | 1.00 | 1099.93 | A | 0.7253 | 0.5676 | -22 | 50 | |
| PFDoDA | 6.06 | 1.00 | 14033.14 | A | 0.0157 | 0.0089 | | | |
| PFDoDA_2 | 6.06 | 1.00 | 124.75 | M | 0.0157 | 0.0089 | -43 | 50 | |
| 10:2-FTS | 6.06 | 1.09 | 352.60 | M | 0.6356 | 0.9381 | | | |
| 10:2 FTS_2 | 6.08 | 1.09 | 330.78 | A | 0.6356 | 0.9381 | | #NA! | |
| PFTrDA | 6.26 | 1.03 | 7825.51 | M | 0.0086 | 0.0105 | | | |
| PFTrDA_2 | 6.26 | 1.03 | 82.38 | A | 0.0086 | 0.0105 | 23 | 50 | |
| PFTeDA | 6.43 | 1.00 | 8938.53 | A | 0.0062 | 0.0089 | | | |
| PFTeDA_2 | 6.43 | 1.00 | 79.25 | A | 0.0062 | 0.0089 | 42 | 50 | |
| PFHxDA | 6.74 | 1.05 | 3934.22 | A | 0.0683 | 0.0745 | | | |
| PFHxDA_2 | 6.74 | 1.05 | 292.96 | A | 0.0683 | 0.0745 | 9 | 50 | |
| PFODA | 7.00 | 1.09 | 2726.36 | A | 0.0277 | 0.0224 | | | |
| PFODA_2 | 6.99 | 1.09 | 61.09 | A | 0.0277 | 0.0224 | -19 | 50 | |

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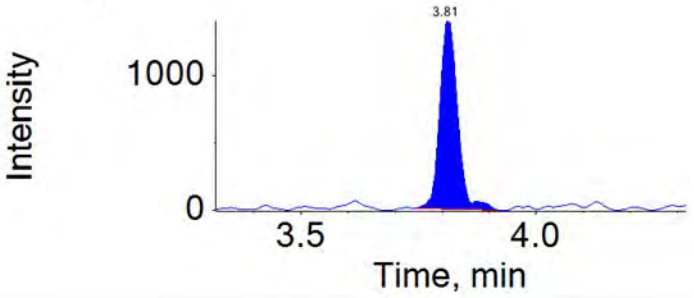


REVIEWED
*By HMK at 10:54 am, 11/13/18*

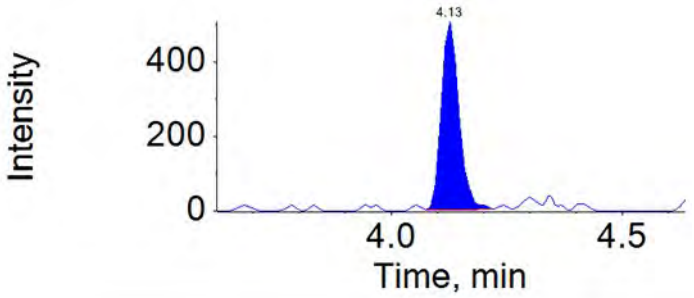
Component: PFBS
Primary Mass: 299.0 / 80.0



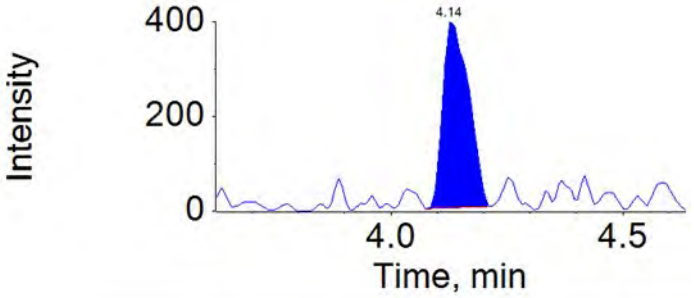

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



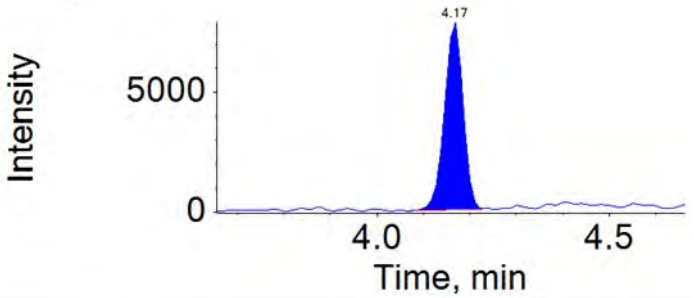

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



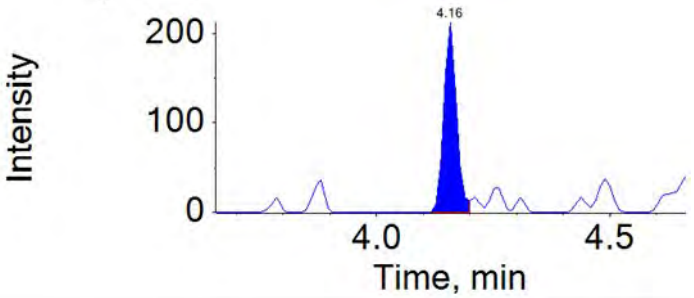

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



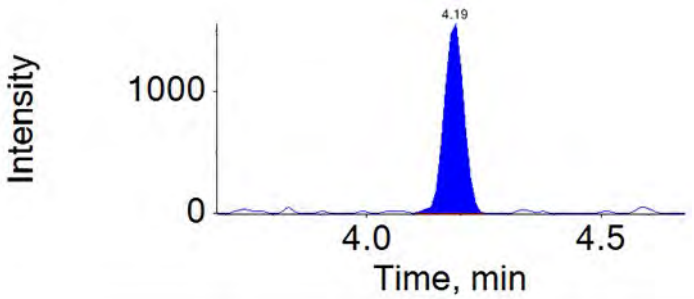

Component: PFHxA
Primary Mass: 313.0 / 269.0



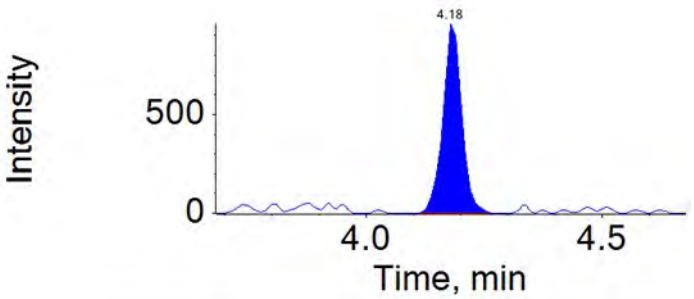

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

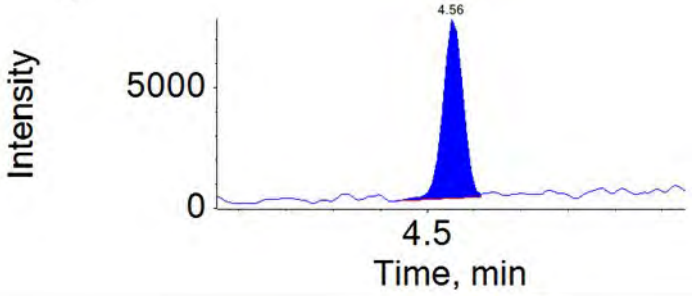



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*By MCD at 6:34 pm, 11/12/18*

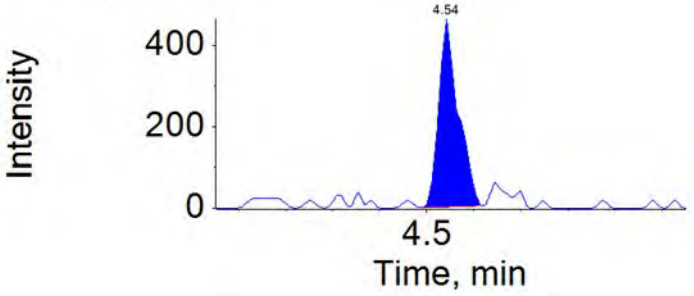


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*By HMK at 10:54 am, 11/13/18*

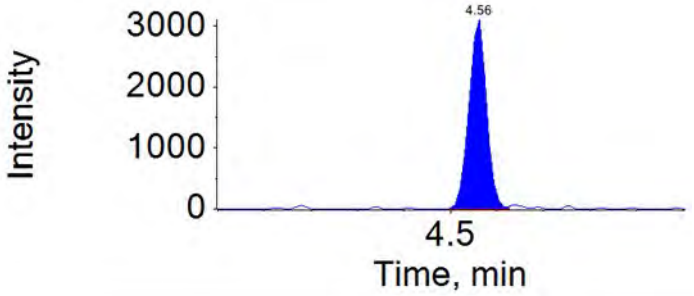
Component: PFHpA
Primary Mass: 363.0 / 319.0



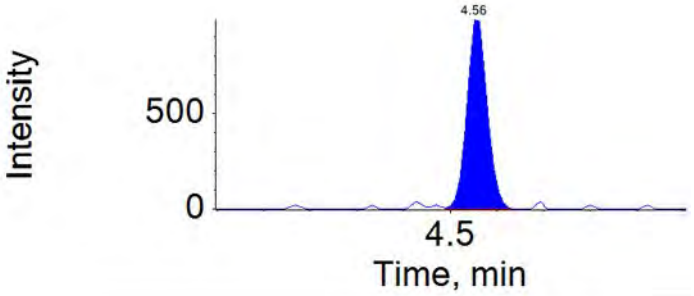

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



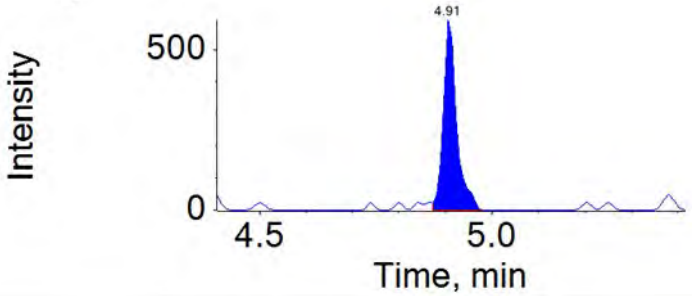

Component: PFHxS
Primary Mass: 399.0 / 80.0



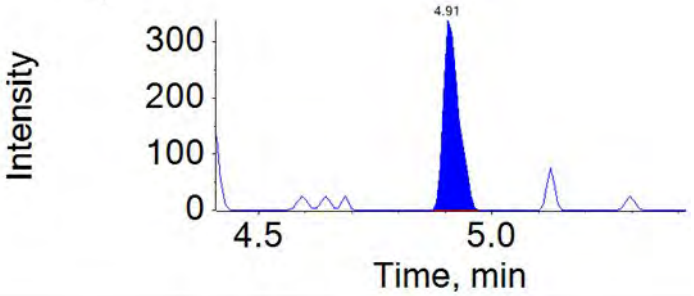

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



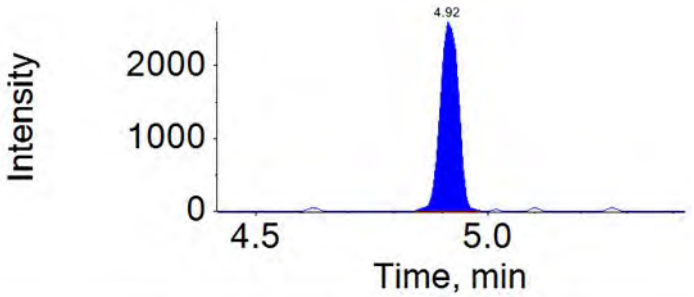

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



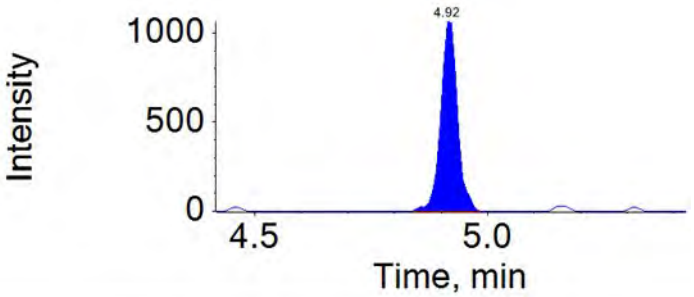

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

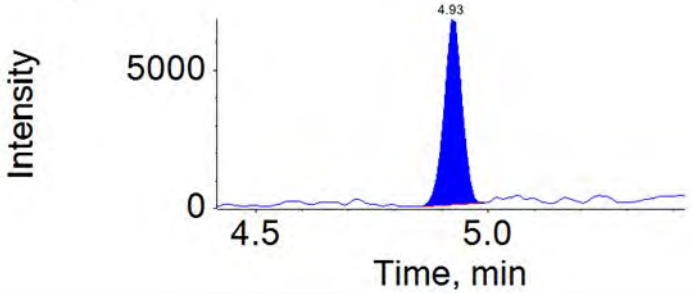



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*By MCD at 6:34 pm, 11/12/18*

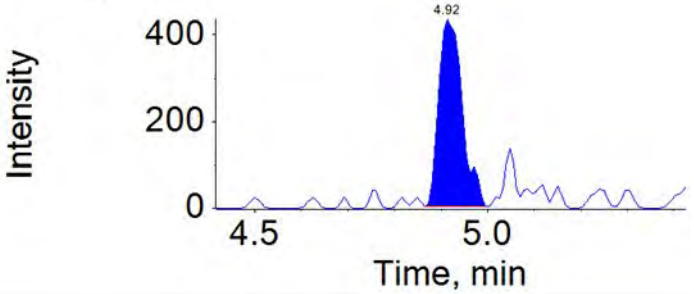


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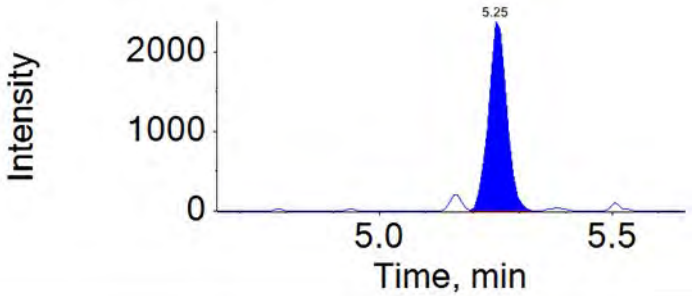
Component: PFOA
Primary Mass: 413.0 / 369.0



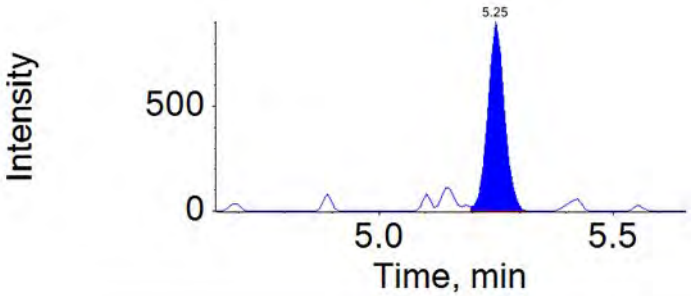

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



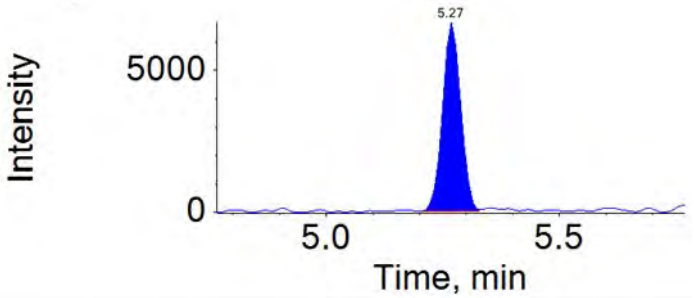

Component: PFOS
Primary Mass: 499.0 / 80.0



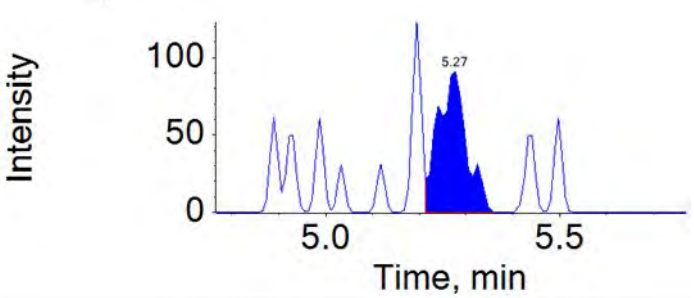

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



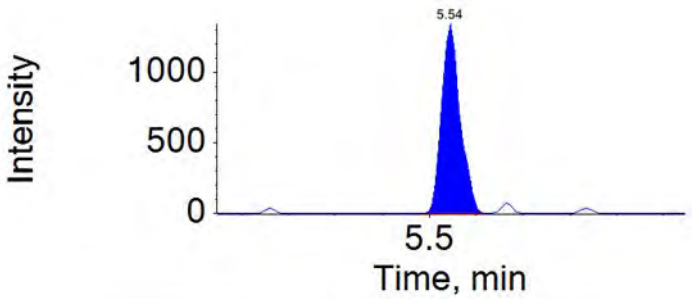

Component: PFNA
Primary Mass: 463.0 / 419.0



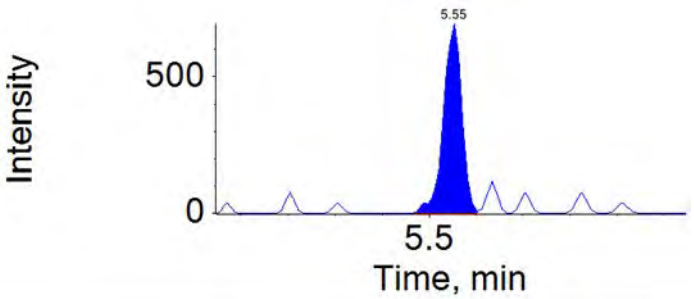

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

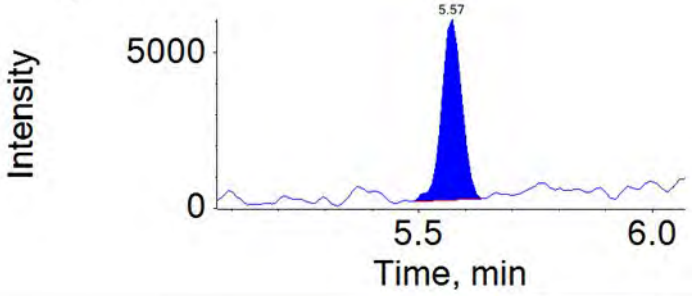



APPROVED
*By MCD at 6:34 pm, 11/12/18*

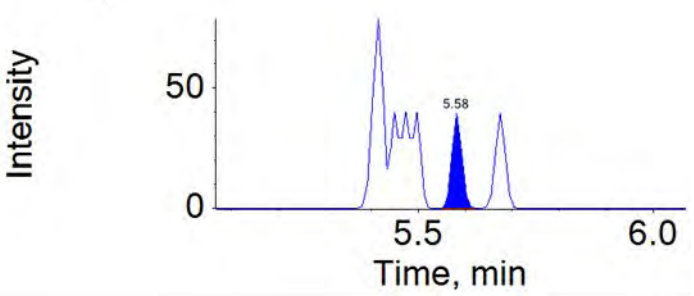


REVIEWED
*By HMK at 10:54 am, 11/13/18*

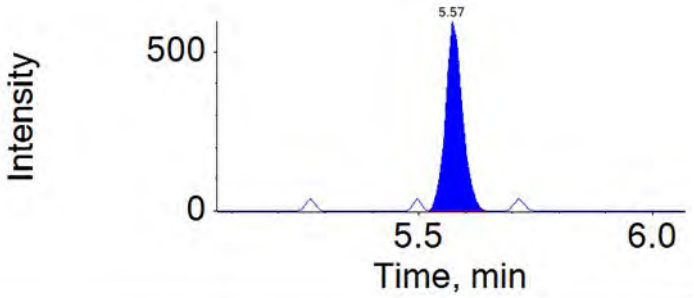
Component: PFDA
Primary Mass: 513.0 / 469.0



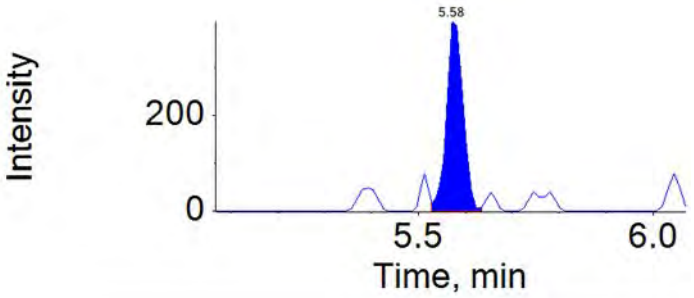

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



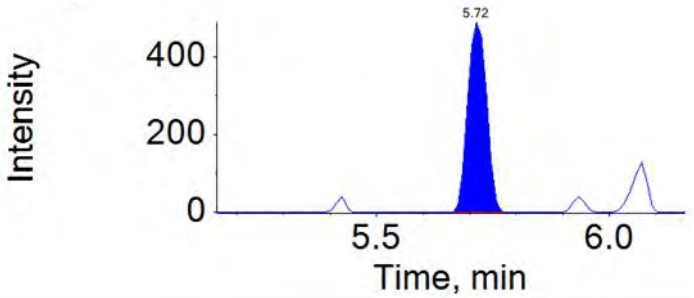

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



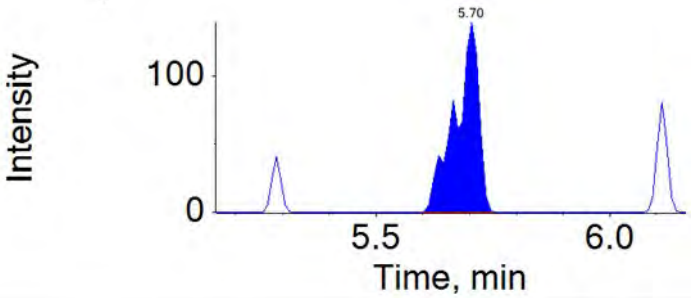

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



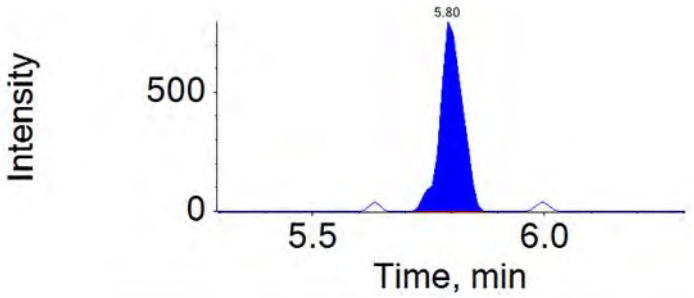

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



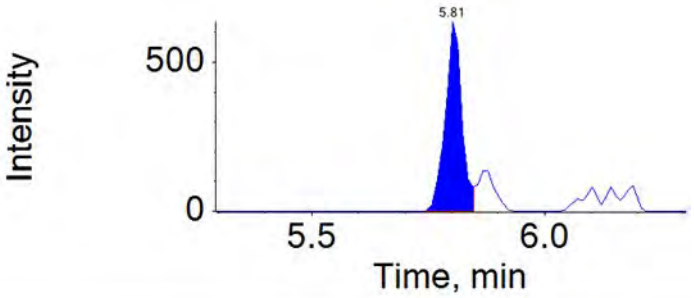

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

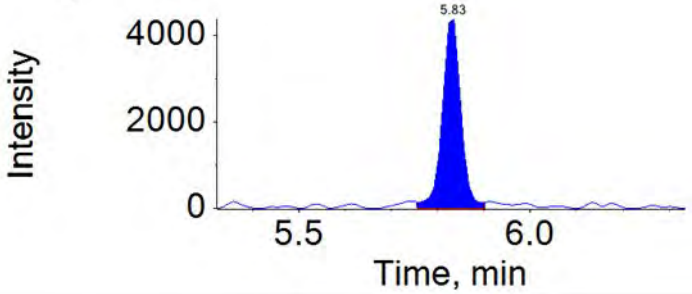



APPROVED
*By MCD at 6:34 pm, 11/12/18*

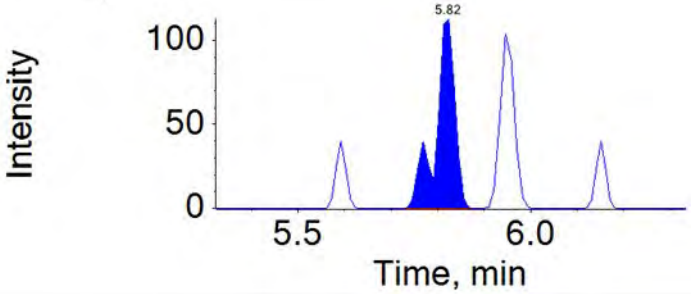


REVIEWED
*By HMK at 10:54 am, 11/13/18*

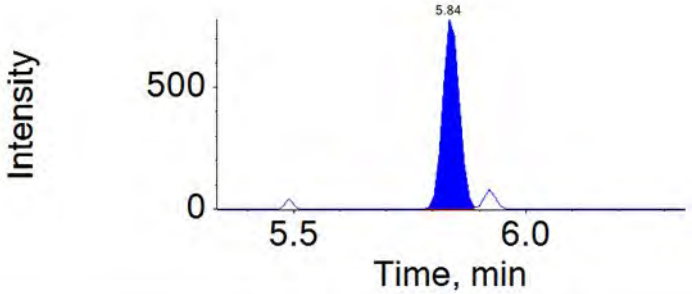
Component: PFUnDA
Primary Mass: 563.0 / 519.0



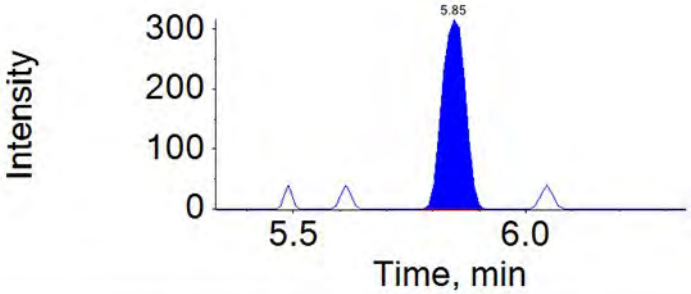

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



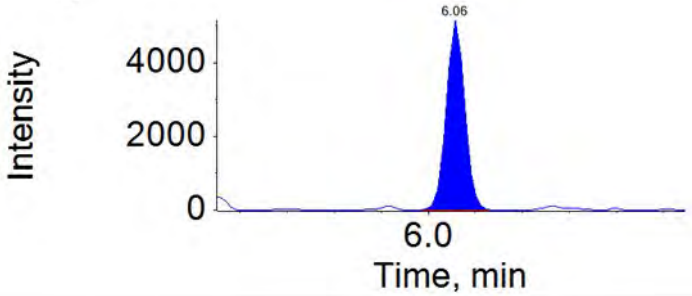

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



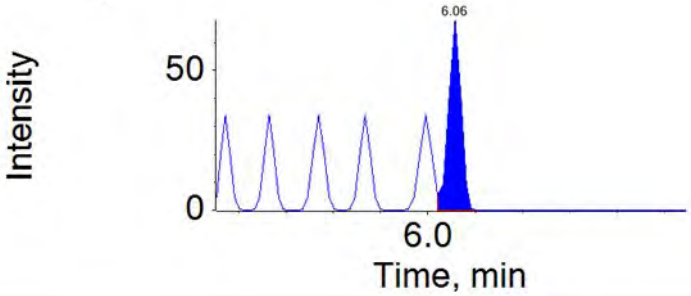

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



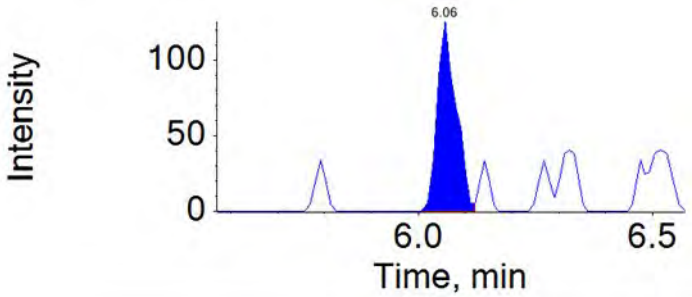

Component: PFDoDA
Primary Mass: 613.0 / 569.0



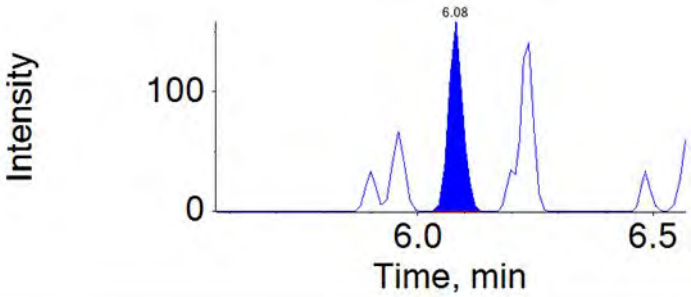

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

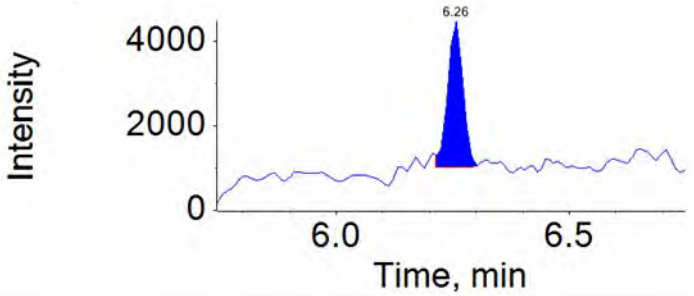



APPROVED
*By MCD at 6:34 pm, 11/12/18*

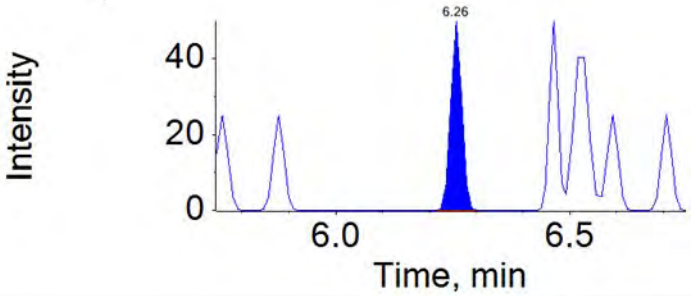


REVIEWED
*By HMK at 10:54 am, 11/13/18*

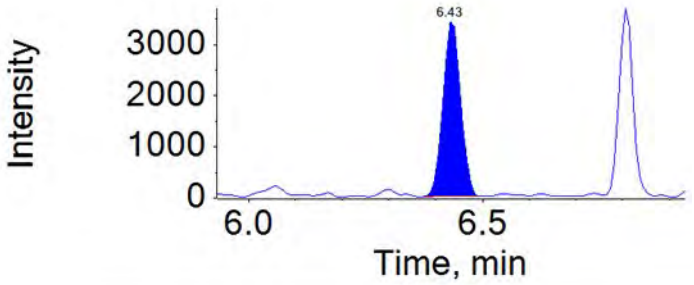
Component: PFTrDA
Primary Mass: 663.0 / 619.0



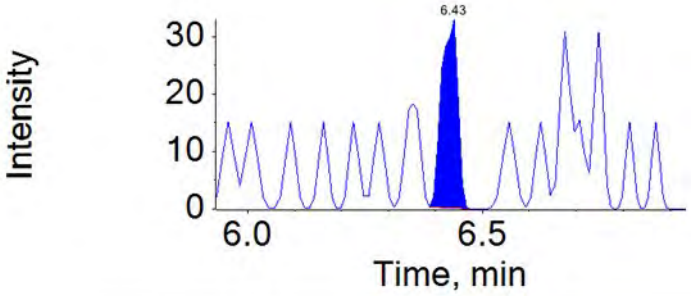

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



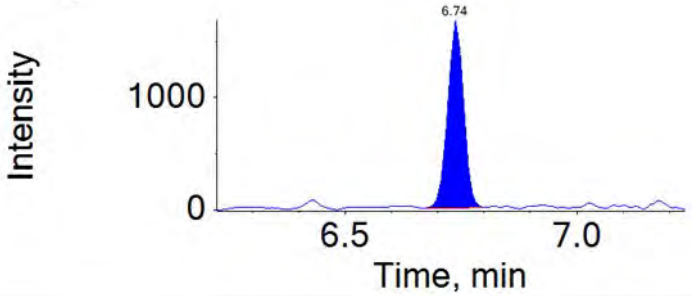

Component: PFTeDA
Primary Mass: 713.0 / 669.0



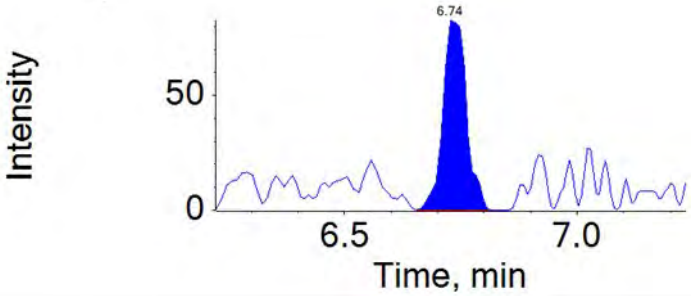

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



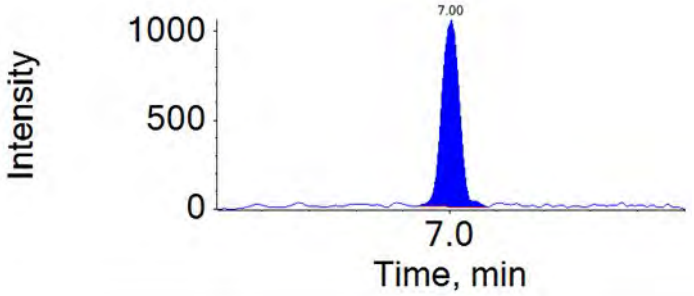

Component: PFHxDA
Primary Mass: 813.0 / 769.0



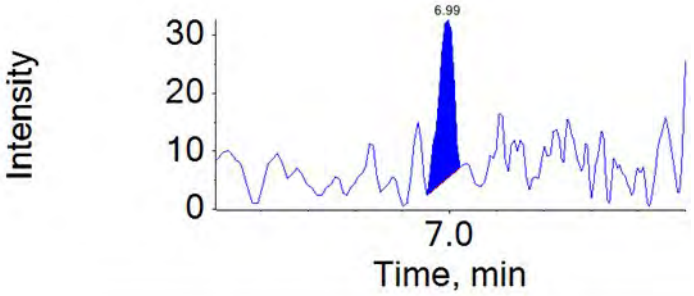

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:54 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | INBLK | | | **Data File:** | | 18NOV12DCAL-49.wiff |
| **Sample ID:** | methanol | | | **Acquis Date:** | | 11/12/2018 4:09:09 PM |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 1 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 705408.6 | 659926.2 | 7 | 50 | |
| 13C2-PFOA | 5.0 | 484266.1 | 450219.7 | 8 | 50 | |
| 13C4-PFOS | 4.8 | 261290.0 | 249205.8 | 5 | 50 | |
| 13C2-PFDA | 5.0 | 303665.7 | 278743.9 | 9 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 778730.1 | 13C3-PFBA | 705408.6 | 1.104 | 5.000 | 4.949 | 99 | 70-130 | |
| E13C5-PFPeA | 758823.9 | 13C3-PFBA | 705408.6 | 1.076 | 5.000 | 4.825 | 96 | 70-130 | |
| E13C3-PFBS | 456635.4 | 13C3-PFBA | 705408.6 | 0.647 | 4.650 | 4.570 | 98 | 70-130 | |
| E13C2-4:2-FTS | 57620.0 | 13C2-PFOA | 484266.1 | 0.119 | 4.670 | 5.299 | 113 | 70-130 | |
| E13C5-PFHxA | 665797.6 | 13C2-PFOA | 484266.1 | 1.375 | 5.000 | 4.966 | 99 | 70-130 | |
| E13C3-PFHxS | 372925.2 | 13C2-PFOA | 484266.1 | 0.770 | 4.730 | 5.284 | 112 | 70-130 | |
| E13C4-PFHpA | 547261.8 | 13C2-PFOA | 484266.1 | 1.130 | 5.000 | 5.091 | 102 | 70-130 | |
| E13C2-6:2-FTS | 39087.0 | 13C2-PFOA | 484266.1 | 0.081 | 4.750 | 5.400 | 114 | 70-130 | |
| E13C8-PFOA | 901909.5 | 13C2-PFOA | 484266.1 | 1.862 | 5.000 | 5.131 | 103 | 70-130 | |
| E13C8-PFOS | 289703.0 | 13C4-PFOS | 261290.0 | 1.109 | 4.780 | 4.913 | 103 | 70-130 | |
| E13C9-PFNA | 509013.2 | 13C4-PFOS | 261290.0 | 1.948 | 5.000 | 5.432 | 109 | 70-130 | |
| E13C6-PFDA | 643925.8 | 13C2-PFDA | 303665.7 | 2.121 | 5.000 | 4.948 | 99 | 70-130 | |
| E13C2-8:2-FTS | 27339.0 | 13C2-PFDA | 303665.7 | 0.090 | 4.790 | 4.490 | 94 | 70-130 | |
| E13C8-PFOSA | 681332.9 | 13C2-PFDA | 303665.7 | 2.244 | 5.000 | 4.974 | 99 | 70-130 | |
| Ed3-NMeFOSAA | 73694.3 | 13C2-PFDA | 303665.7 | 0.243 | 5.000 | 4.381 | 88 | 70-130 | |
| E13C7-PFUnDA | 265353.1 | 13C2-PFDA | 303665.7 | 0.874 | 5.000 | 5.073 | 101 | 70-130 | |
| Ed5-NEtFOSAA | 59646.1 | 13C2-PFDA | 303665.7 | 0.196 | 5.000 | 4.156 | 83 | 70-130 | |
| E13C2-PFDoDA | 576780.7 | 13C2-PFDA | 303665.7 | 1.899 | 5.000 | 4.932 | 99 | 70-130 | |
| Ed7-NMePFOSAE | 354624.2 | 13C2-PFDA | 303665.7 | 1.168 | 5.000 | 5.054 | 101 | 70-130 | |
| Ed3-NMePFOSA | 79601.3 | 13C2-PFDA | 303665.7 | 0.262 | 5.000 | 4.763 | 95 | 70-130 | |
| Ed9-NEtPFOSAE | 287722.3 | 13C2-PFDA | 303665.7 | 0.947 | 5.000 | 4.928 | 99 | 70-130 | |
| Ed5-NEtPFOSA | 59772.3 | 13C2-PFDA | 303665.7 | 0.197 | 5.000 | 4.617 | 92 | 70-130 | |
| E13C2-PFTeDA | 418729.7 | 13C2-PFDA | 303665.7 | 1.379 | 5.000 | 4.841 | 97 | 70-130 | |

APPROVED
*By JPT at 8:42 am, 11/20/18*



REVIEWED
*By HMK at 8:47 am, 11/20/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

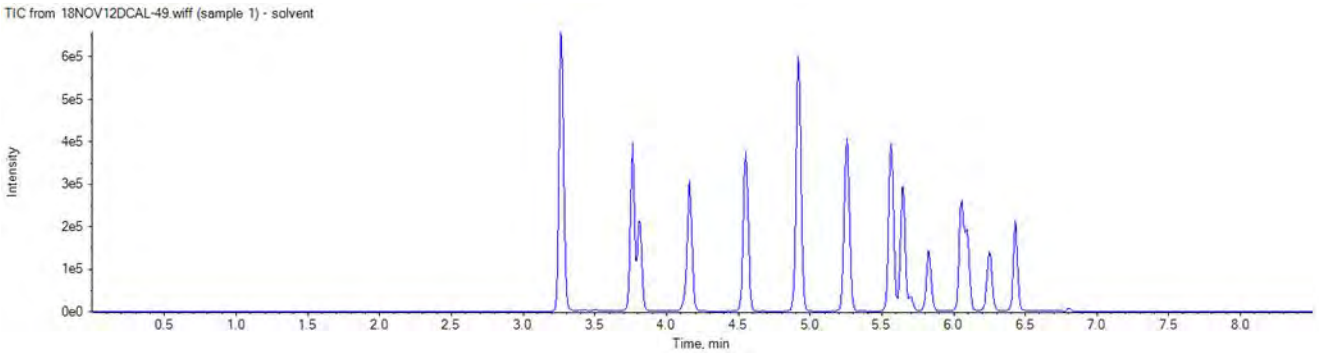
## Analyte Quantitation Peak Table

**Sample Name:** INBLK **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-49.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 | 778730.1 | N/A | |
| PFPeA | N/A | N/A | N/A | | A | 13C5-PFPeA | 3.76 | 758823.9 | N/A | |
| PFBS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.81 | 456635.4 | N/A | |
| 4:2-FTS | N/A | N/A | N/A | | A | 13C2-4:2-FTS | 4.13 | 57620.0 | N/A | |
| PFHxA | N/A | N/A | N/A | | A | 13C5-PFHxA | 4.16 | 665797.6 | N/A | |
| PFPeS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.81 | 456635.4 | N/A | |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.55 | 547261.8 | N/A | |
| PFHxS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 372925.2 | N/A | |
| 6:2-FTS | N/A | N/A | N/A | | A | 13C2-6:2-FTS | 4.91 | 39087.0 | N/A | |
| PFHpS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 372925.2 | N/A | |
| PFOA | N/A | N/A | N/A | | A | 13C8-PFOA | 4.92 | 901909.5 | N/A | |
| PFOS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.25 | 289703.0 | N/A | |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.26 | 509013.2 | N/A | |
| PFNS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.25 | 289703.0 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.56 | 643925.8 | N/A | |
| 8:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.57 | 27339.0 | N/A | |
| PFOSA | N/A | N/A | N/A | | A | 13C8-PFOSA | 5.65 | 681332.9 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.70 | 73694.3 | N/A | |
| PFDS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.25 | 289703.0 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.83 | 265353.1 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.84 | 59646.1 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 576780.7 | N/A | |
| 10:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.57 | 27339.0 | N/A | |
| NMePFOSAE | N/A | N/A | N/A | | A | d7-NMePFOSAE | 6.09 | 354624.2 | N/A | |
| NMePFOSA | N/A | N/A | N/A | | A | d3-NMePFOSA | 6.10 | 79601.3 | N/A | |
| PFDoS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.25 | 289703.0 | N/A | |
| NEtPFOSAE | N/A | N/A | N/A | | A | d9-NEtPFOSAE | 6.25 | 287722.3 | N/A | |
| NEtPFOSA | N/A | N/A | N/A | | A | d5-NEtPFOSA | 6.26 | 59772.3 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 576780.7 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.43 | 418729.7 | N/A | |
| PFHxDA | 6.73 | 1.050 | 2221.7 | | A | 13C2-PFTeDA | 6.43 | 418729.7 | 0.005 | 0.063 |
| PFODA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.43 | 418729.7 | N/A | |

## Total Ion Chromatogram



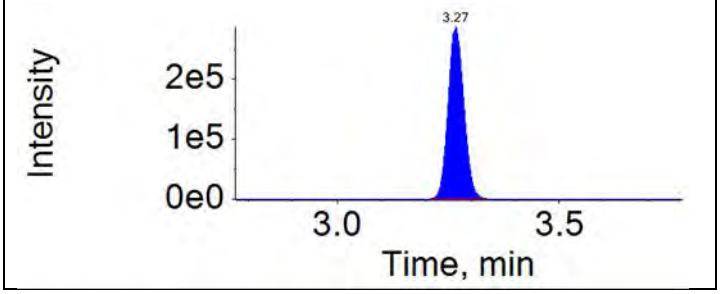

APPROVED
*By JPT at 8:42 am, 11/20/18*



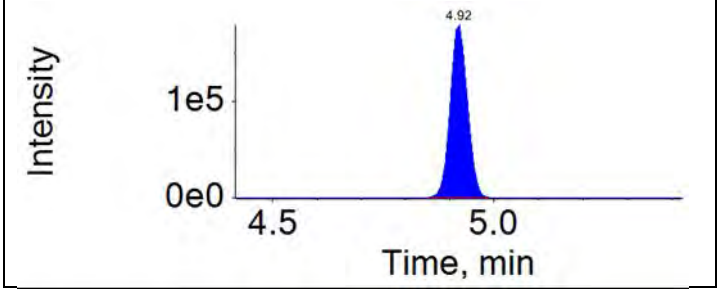
REVIEWED
*By HMK at 8:47 am, 11/20/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

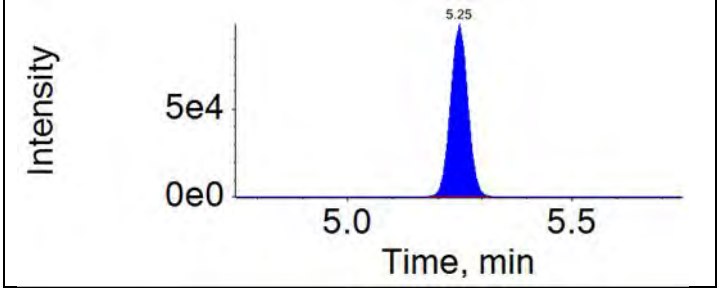
Injection Standard: 13C3-PFBA
216.0 / 172.0



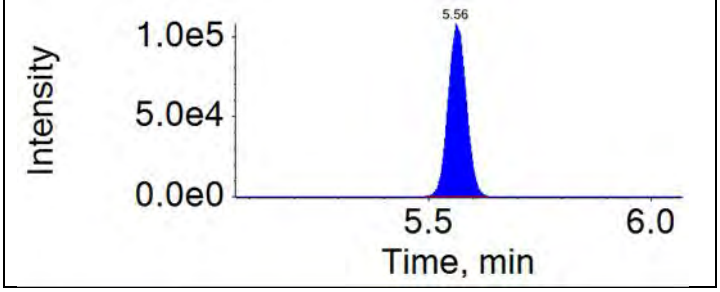

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



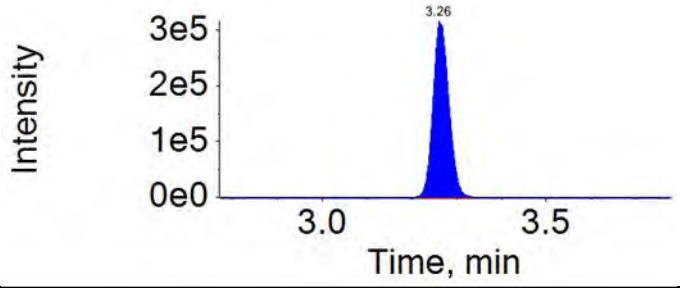

APPROVED
*By JPT at 8:42 am, 11/20/18*

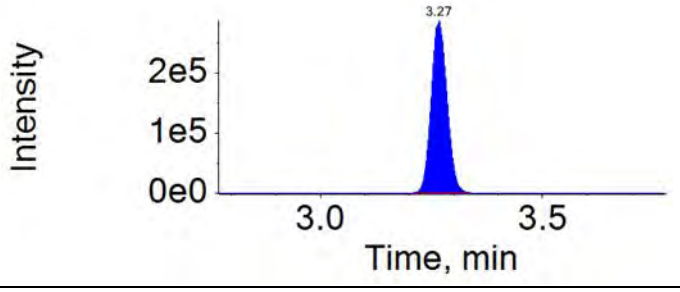


REVIEWED
*By HMK at 8:47 am, 11/20/18*

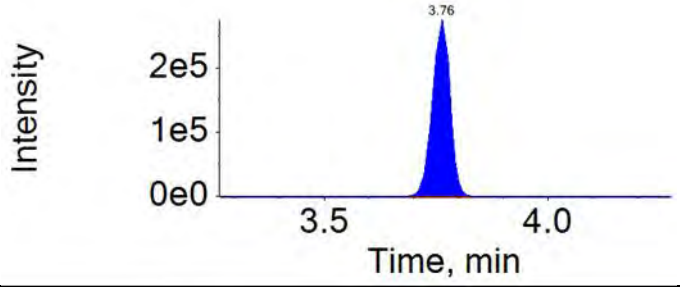
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

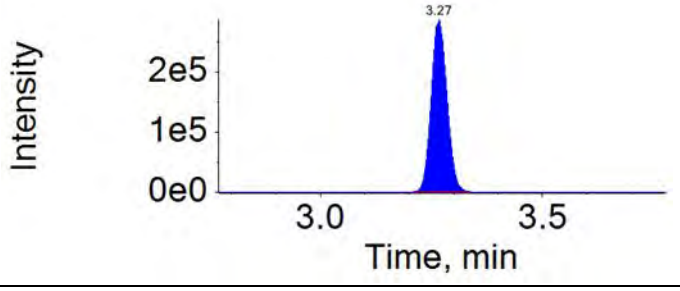
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



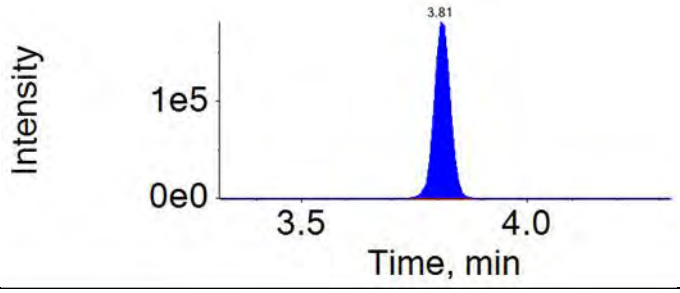



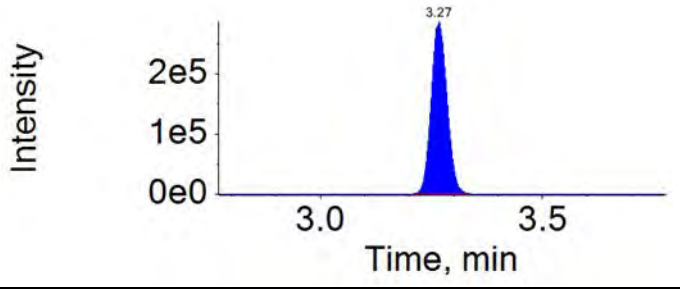

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



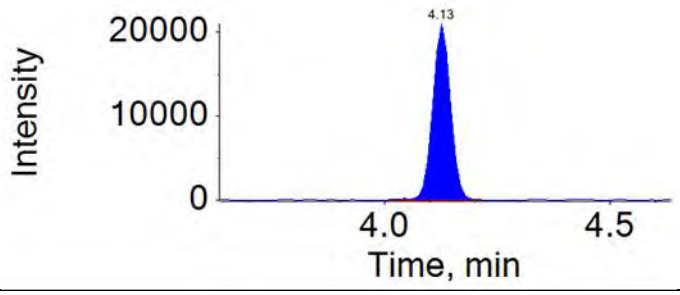



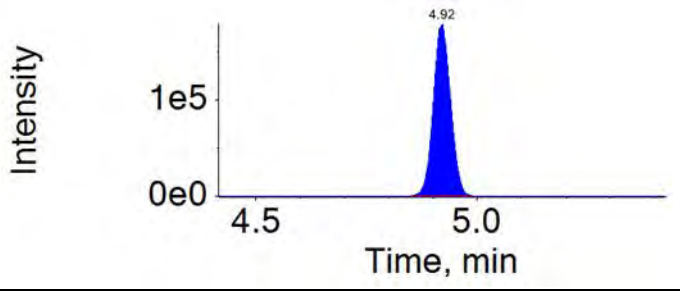

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



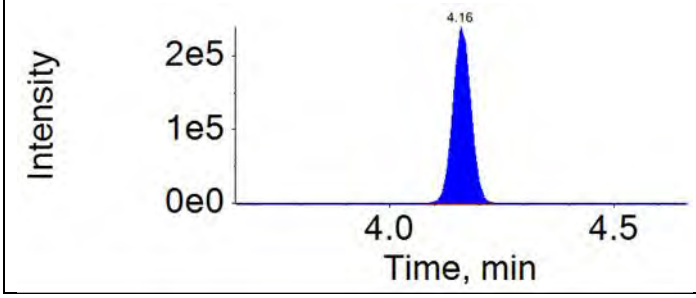

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*By JPT at 8:42 am, 11/20/18*

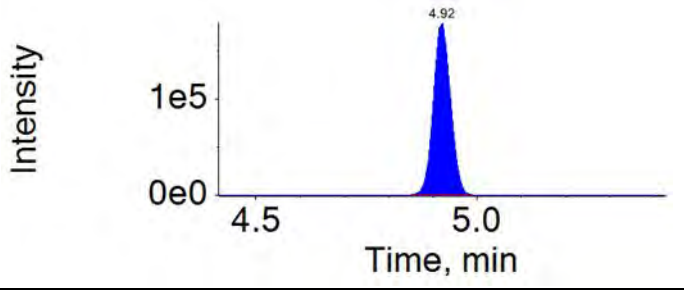


REVIEWED
*By HMK at 8:47 am, 11/20/18*

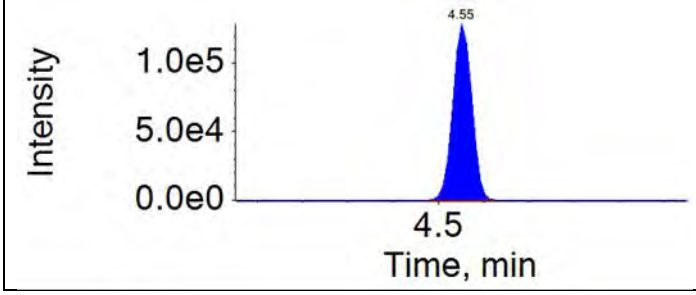
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

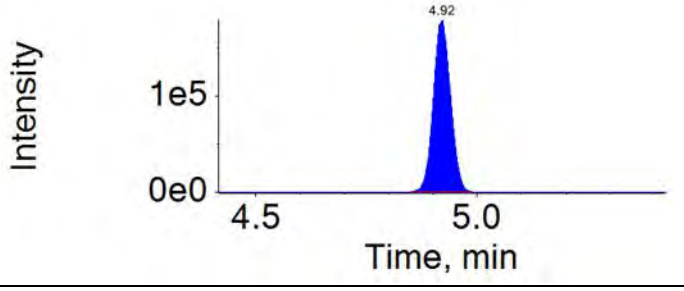
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



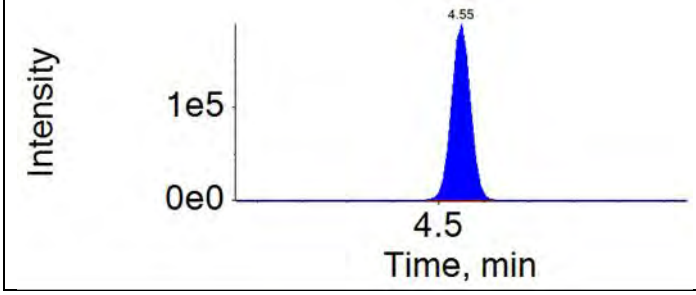



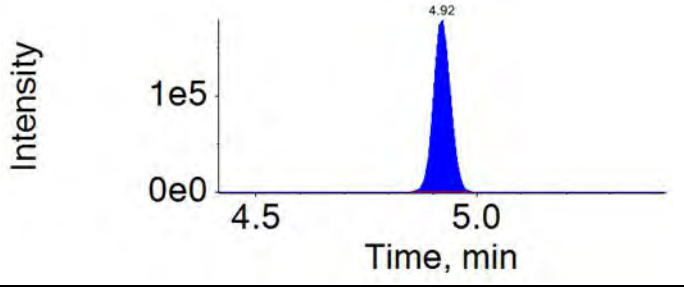

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



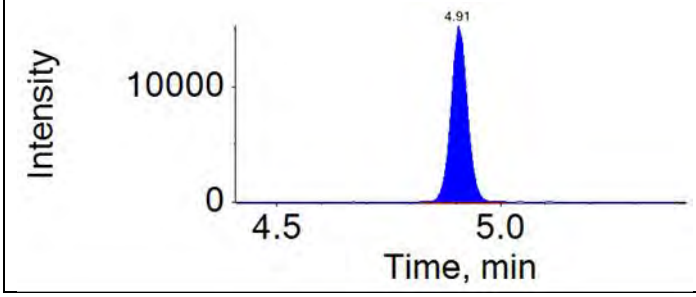



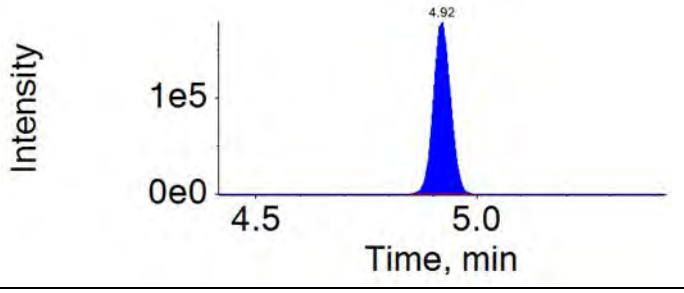

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



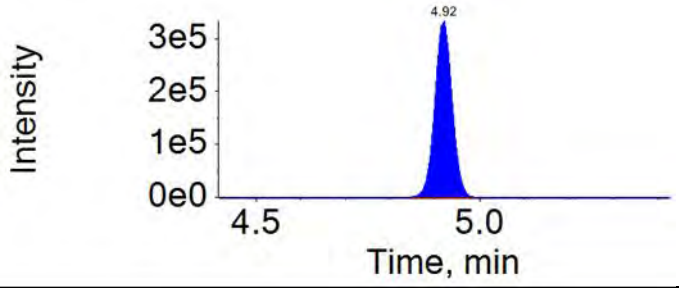
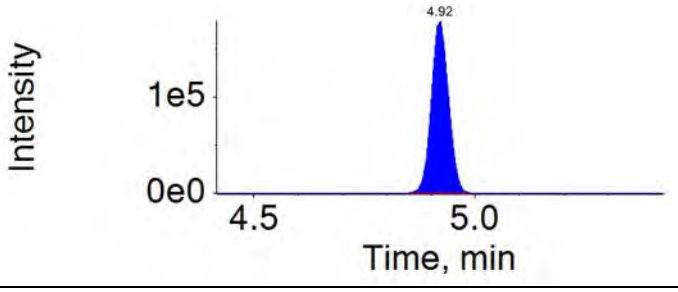




APPROVED
*By JPT at 8:42 am, 11/20/18*



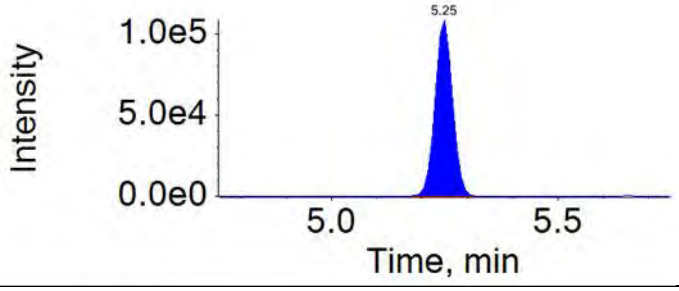
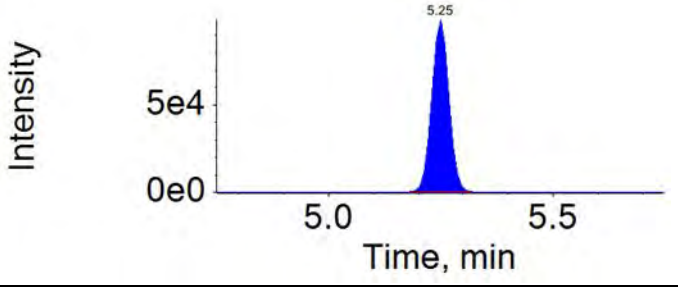
REVIEWED
*By HMK at 8:47 am, 11/20/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

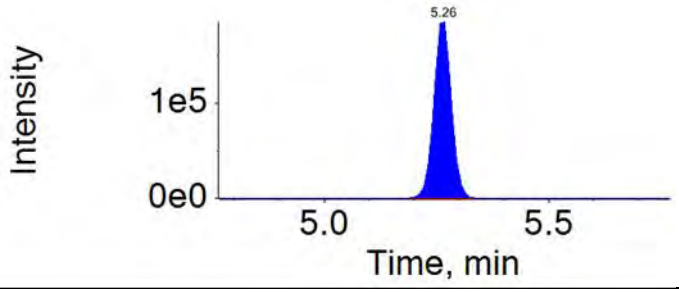
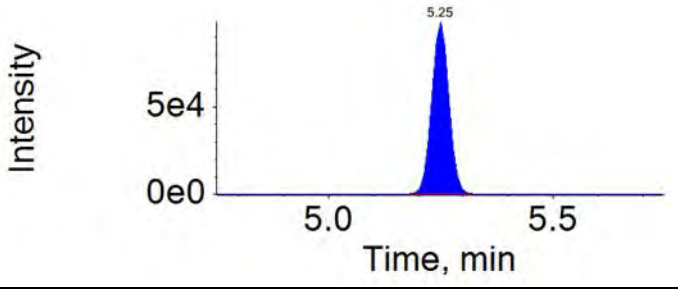




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

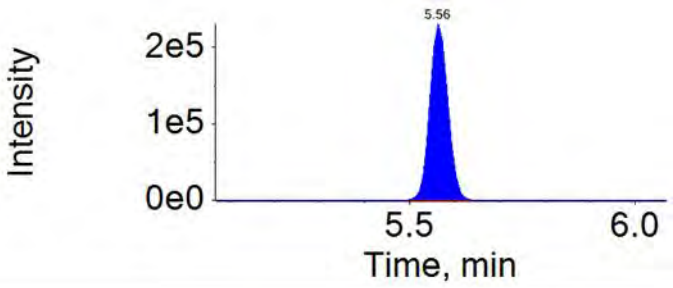
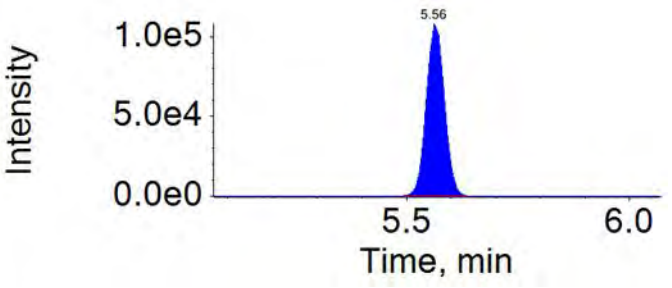




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |

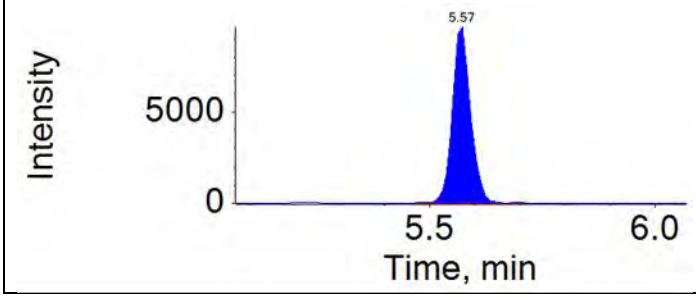


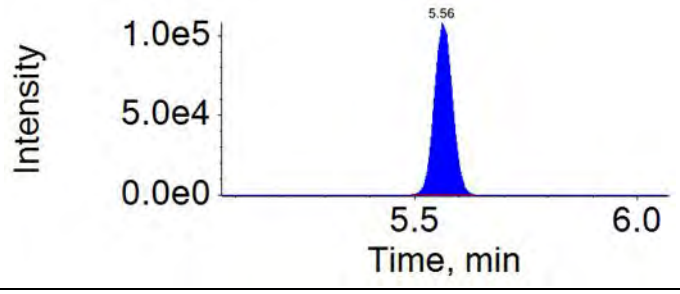


| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

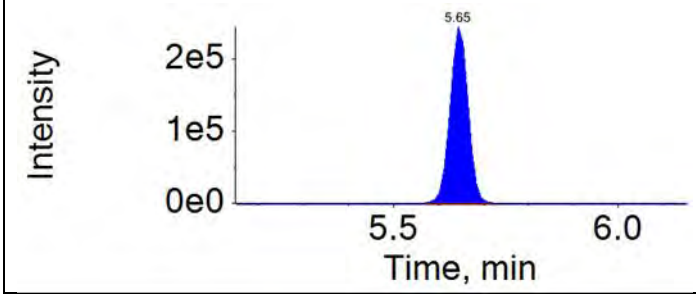
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

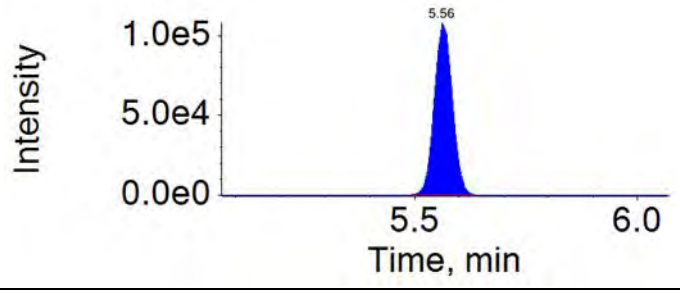
| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |



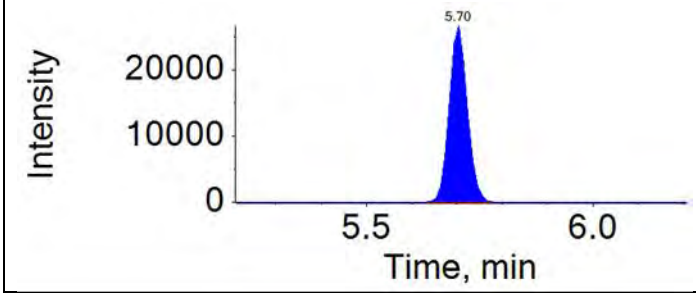



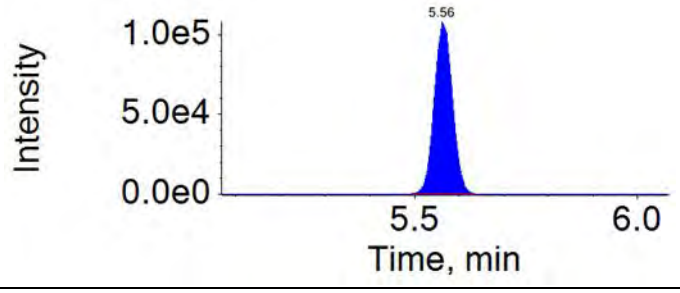

| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |



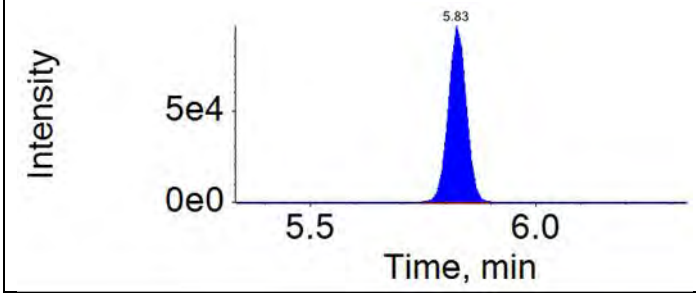



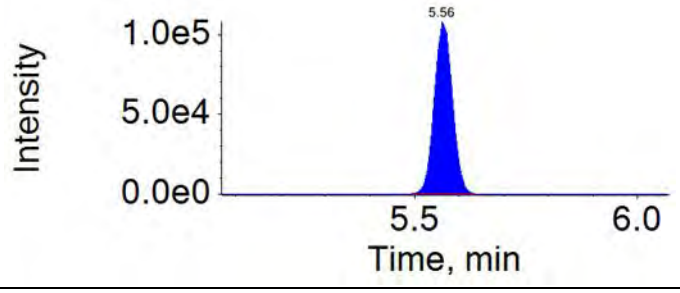

| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |




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



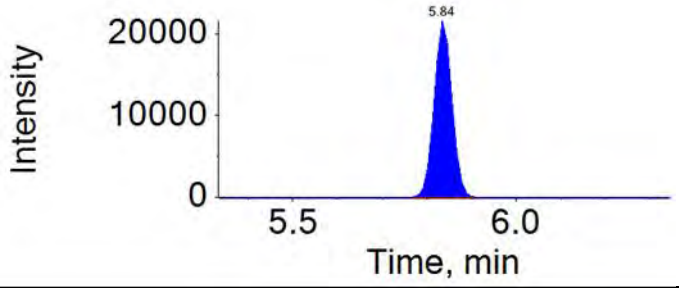
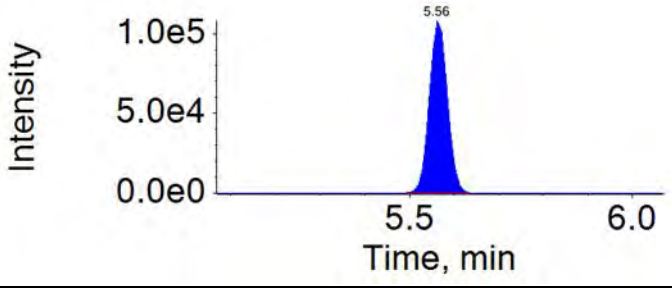




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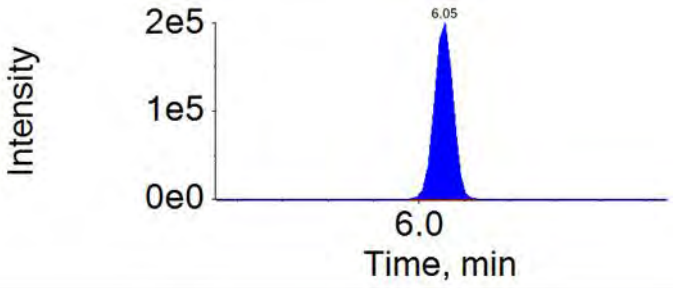
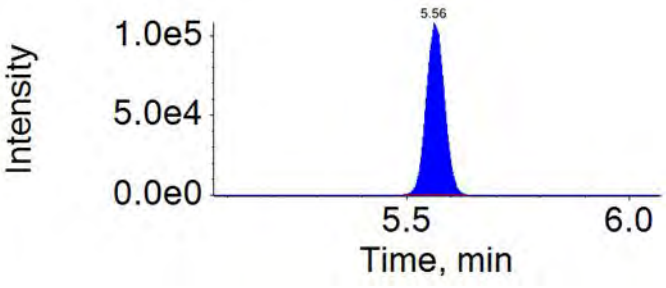
REVIEWED
*By HMK at 8:47 am, 11/20/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

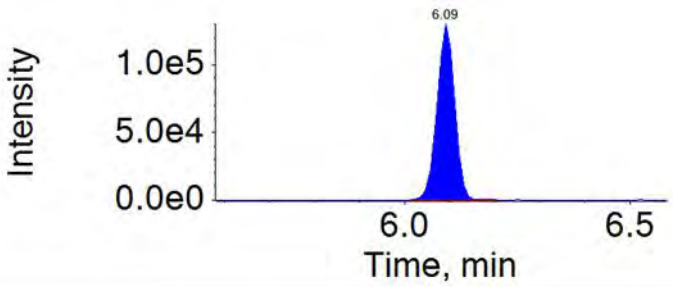
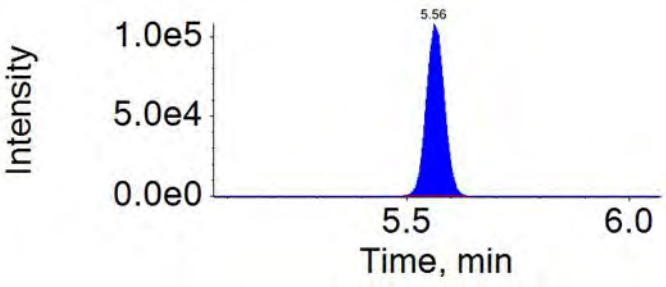




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

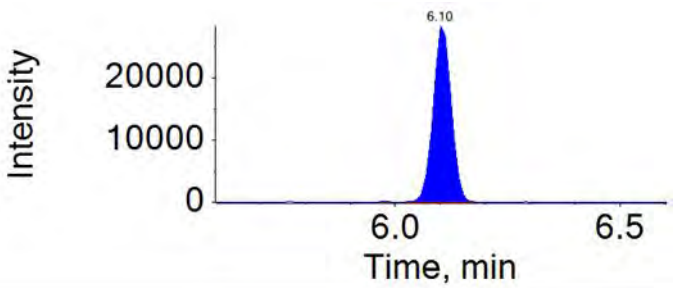
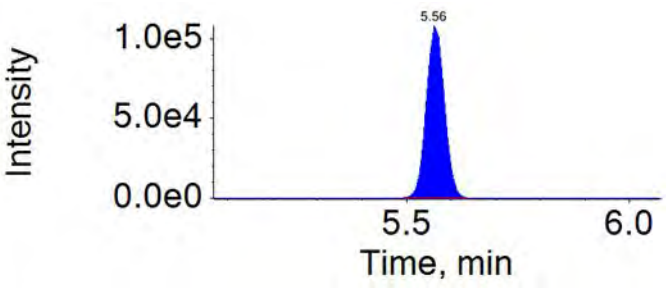




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |

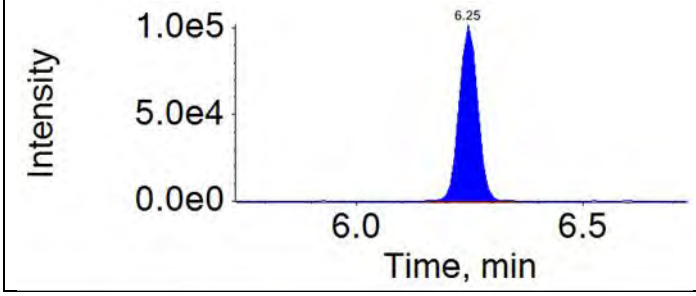


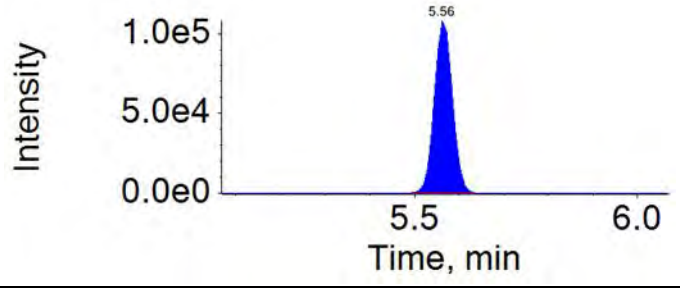


| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |
|  |  |

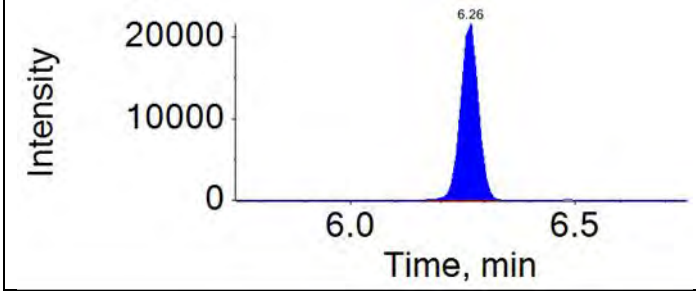
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

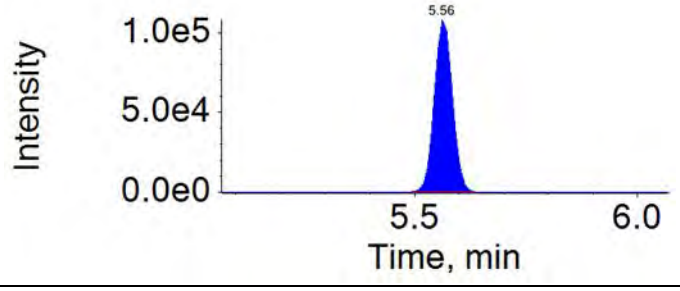
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



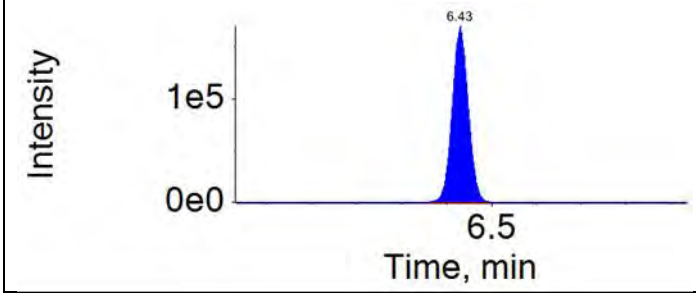



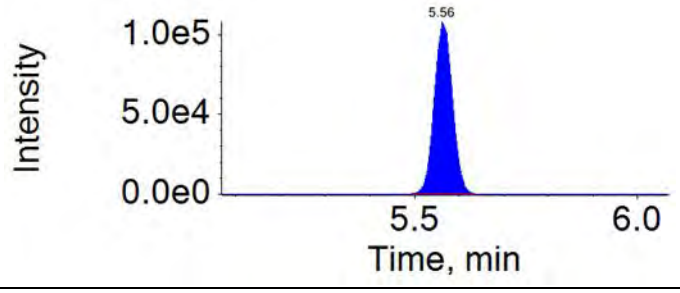

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



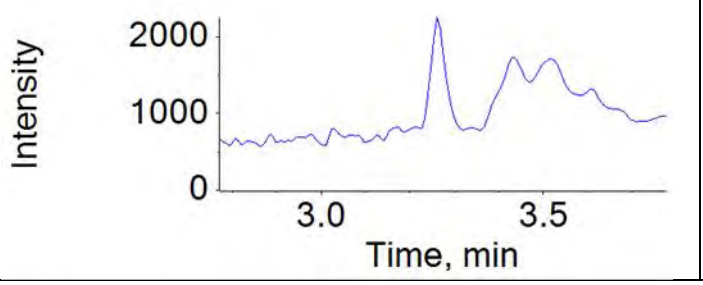

APPROVED
*By JPT at 8:42 am, 11/20/18*

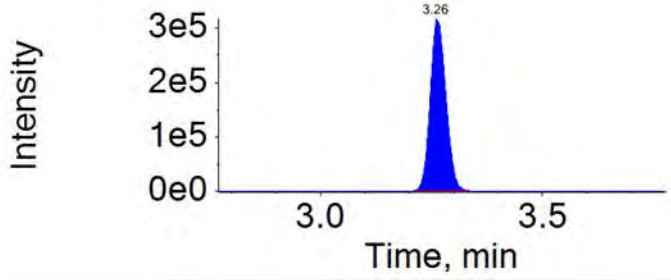


REVIEWED
*By HMK at 8:47 am, 11/20/18*

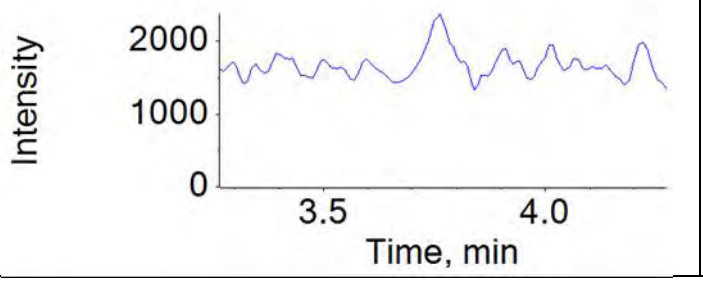
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

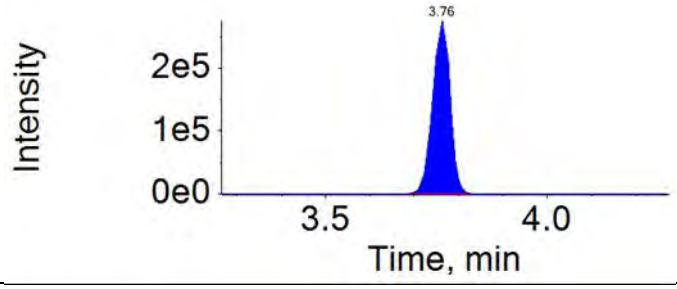
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



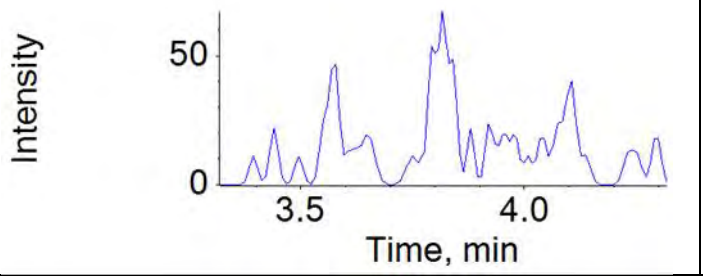



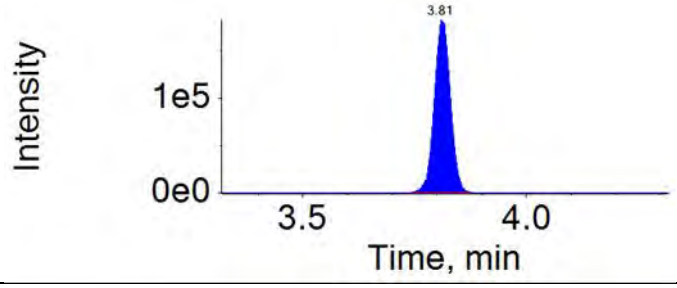

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



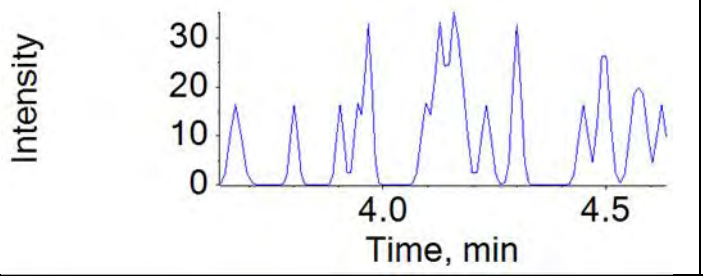



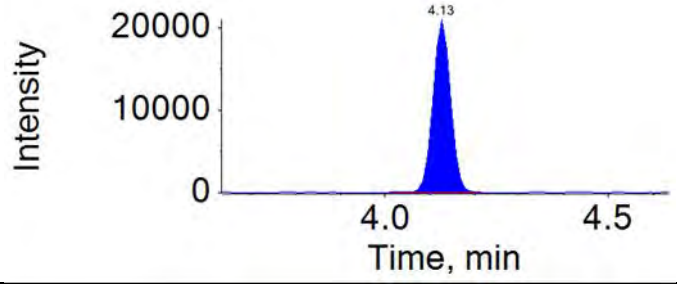

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



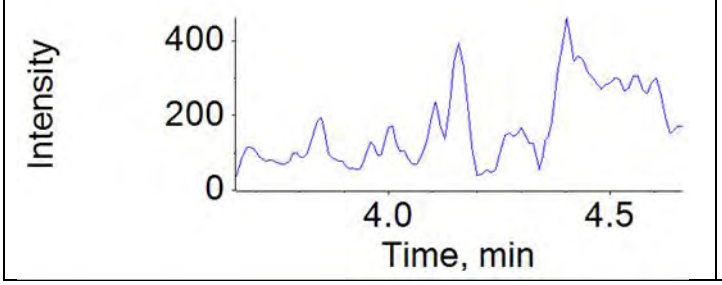

APPROVED
*By JPT at 8:42 am, 11/20/18*

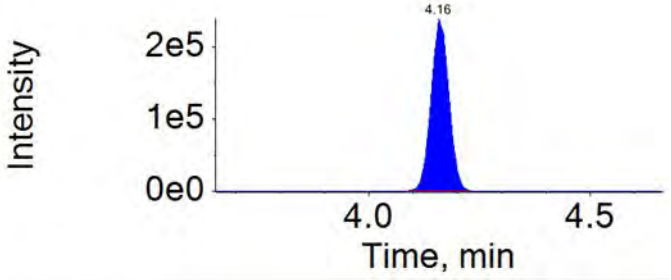


REVIEWED
*By HMK at 8:47 am, 11/20/18*

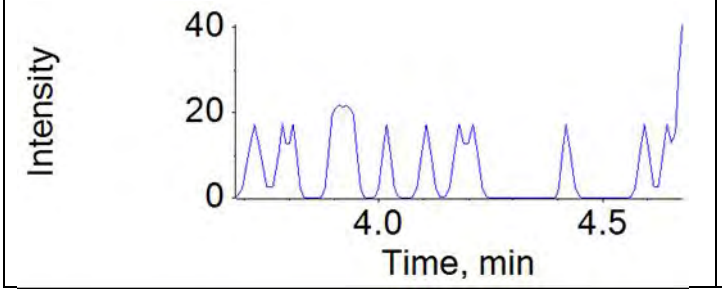
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

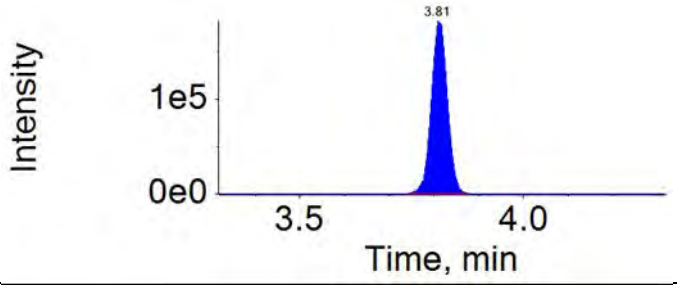
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



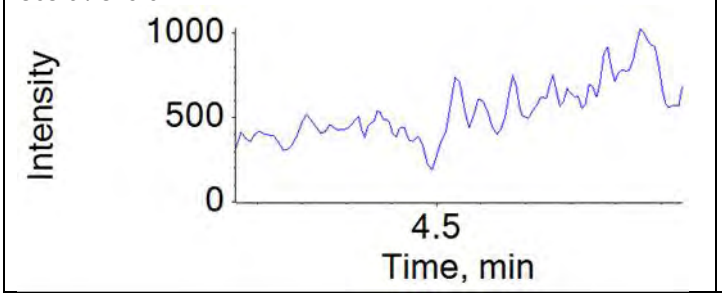



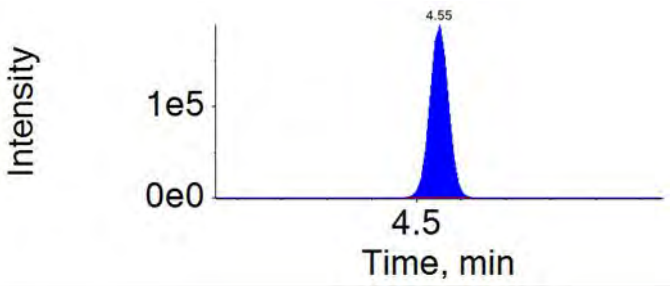

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



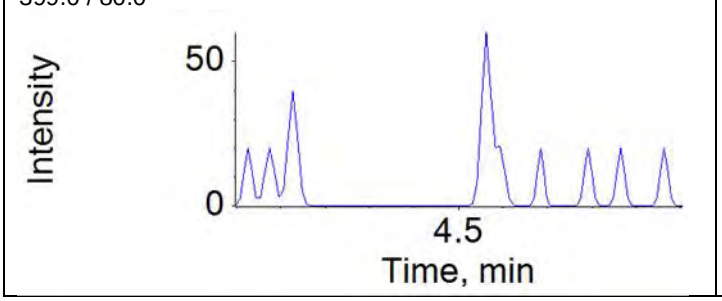



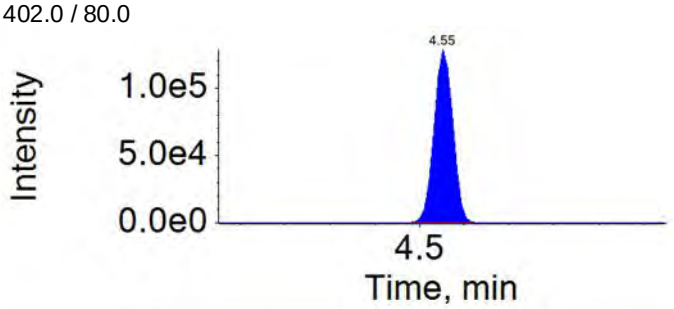

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



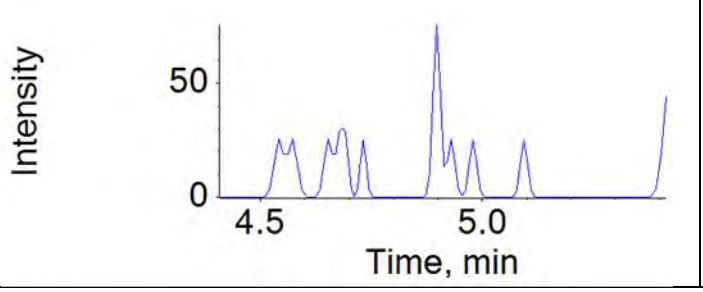

APPROVED
*By JPT at 8:42 am, 11/20/18*

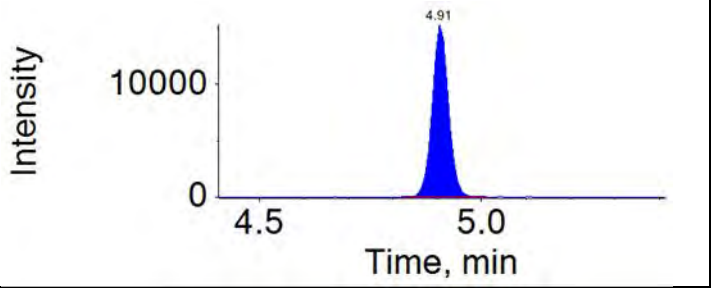


REVIEWED
*By HMK at 8:47 am, 11/20/18*

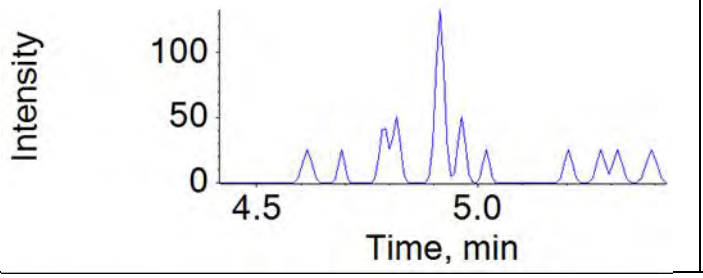
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

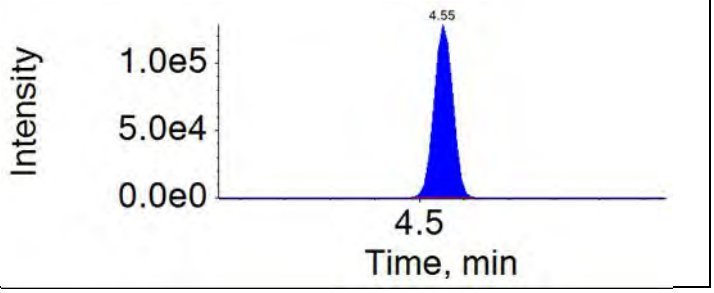
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



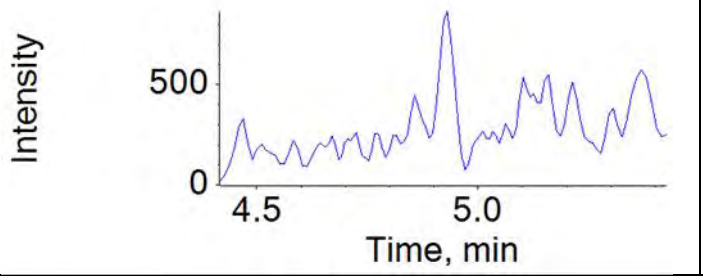



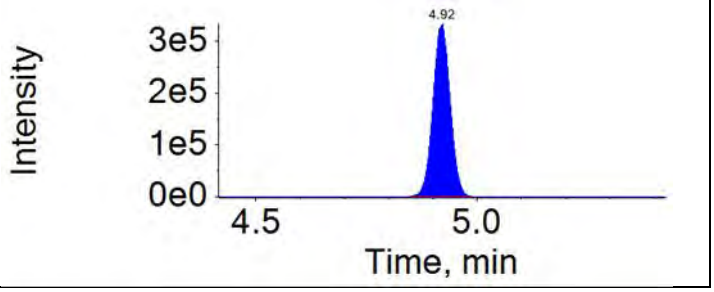

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



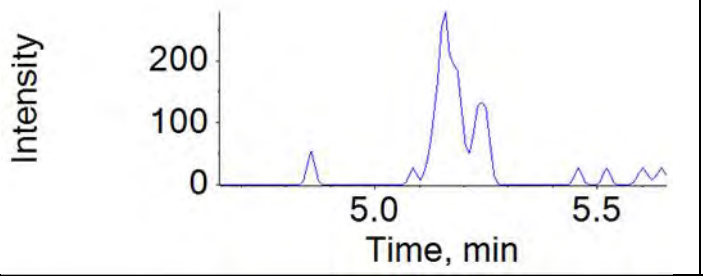



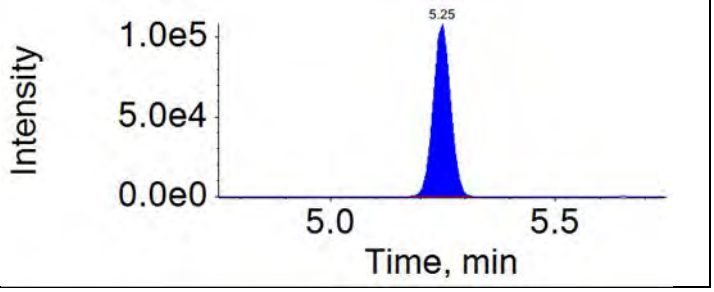

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



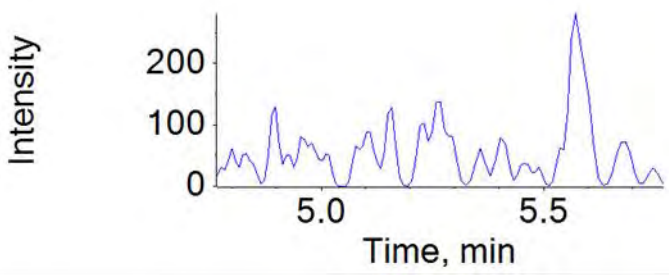

APPROVED
*By JPT at 8:42 am, 11/20/18*

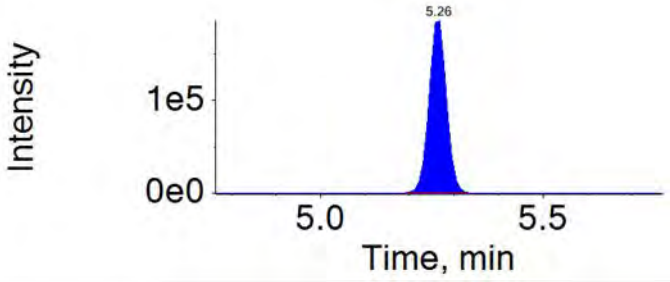


REVIEWED
*By HMK at 8:47 am, 11/20/18*

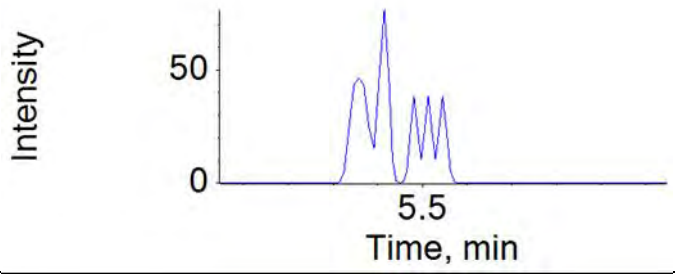
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

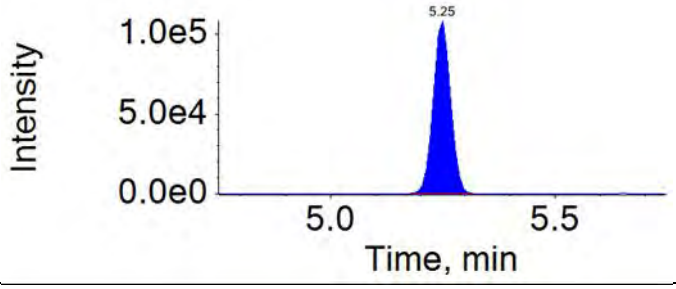
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



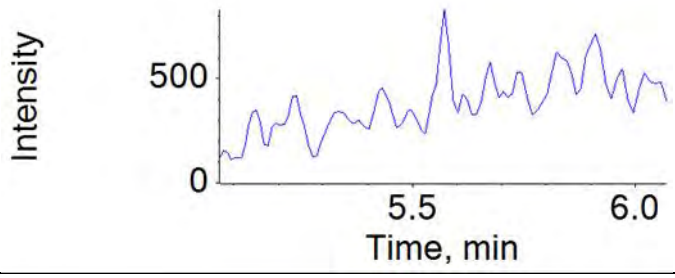



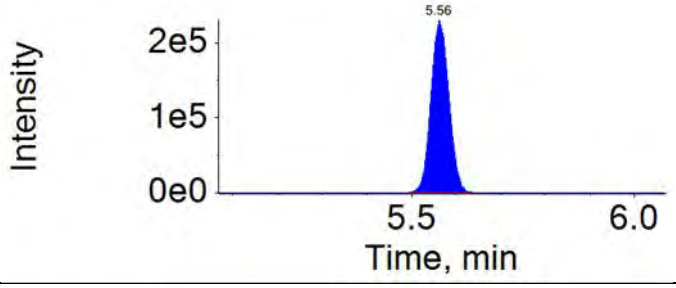

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



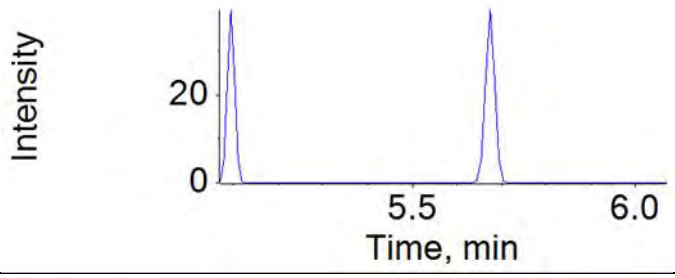



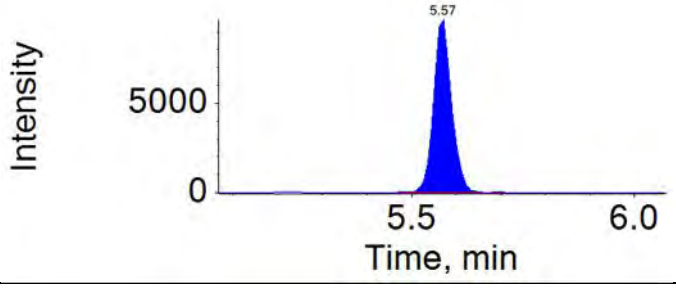

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



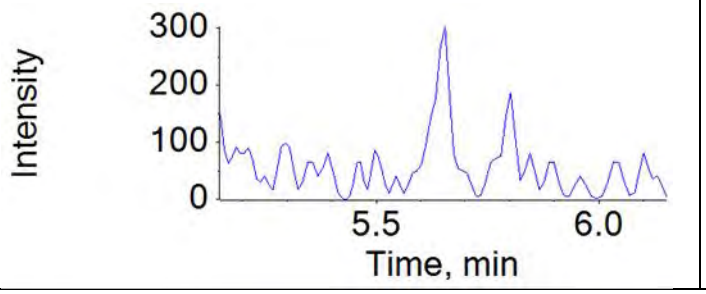

APPROVED
*By JPT at 8:42 am, 11/20/18*

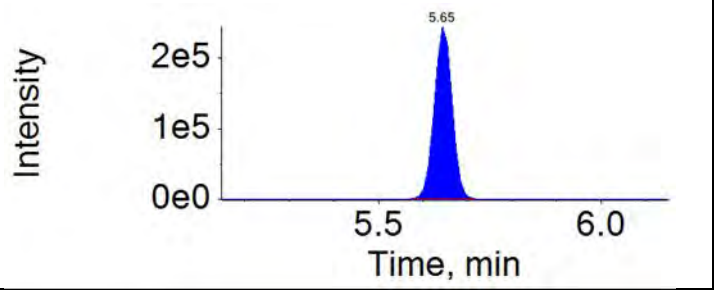


REVIEWED
*By HMK at 8:47 am, 11/20/18*

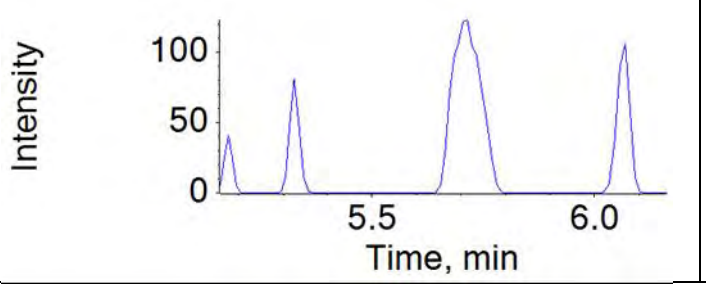
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

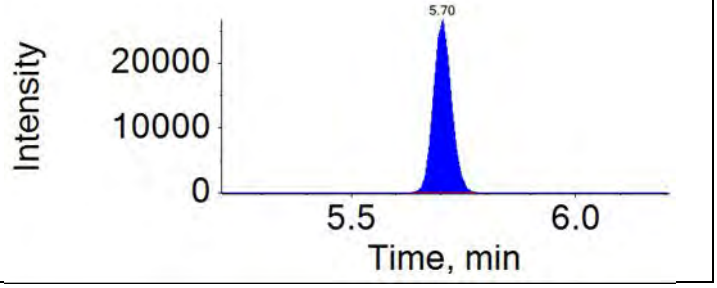
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



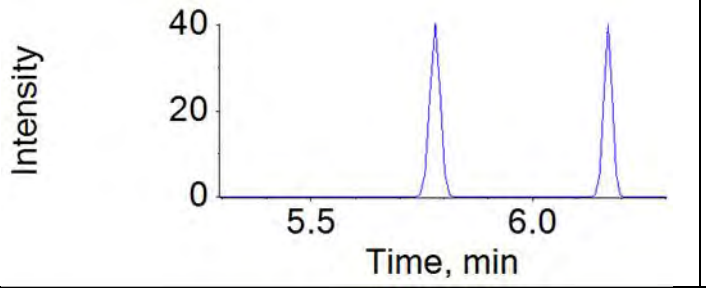



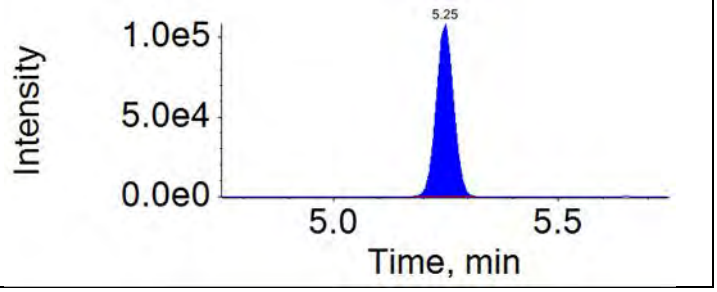

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



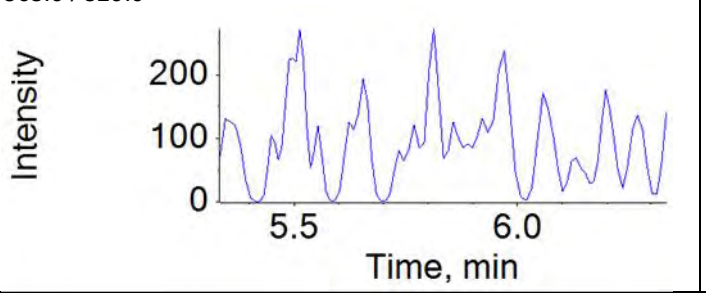



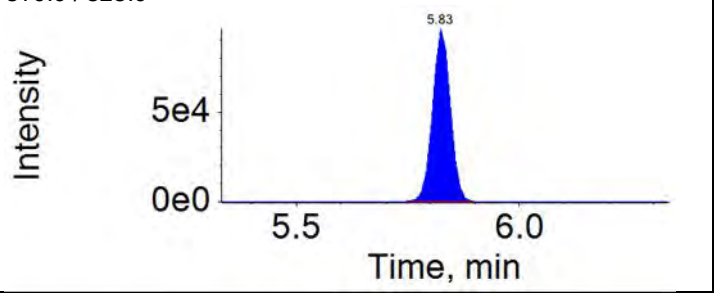

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



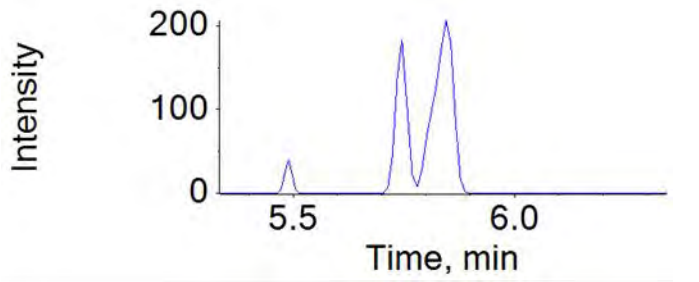

APPROVED
*By JPT at 8:42 am, 11/20/18*

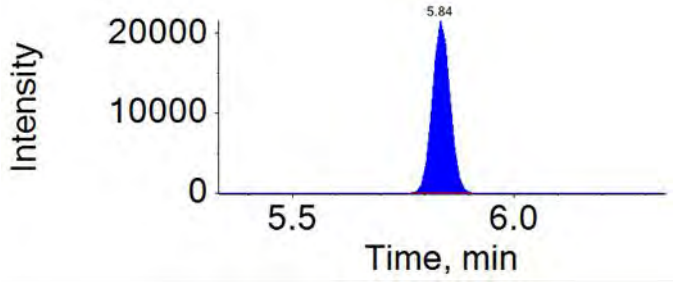


REVIEWED
*By HMK at 8:47 am, 11/20/18*

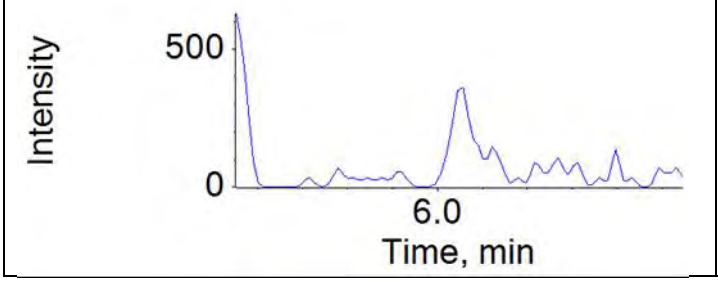
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

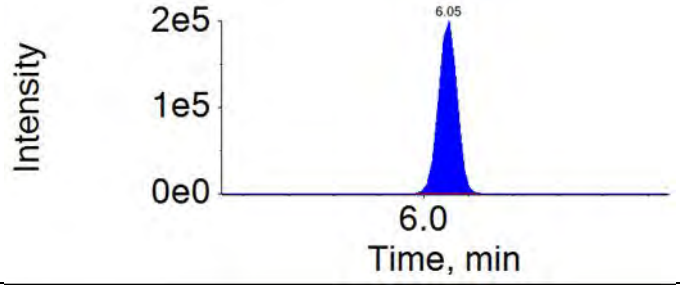
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



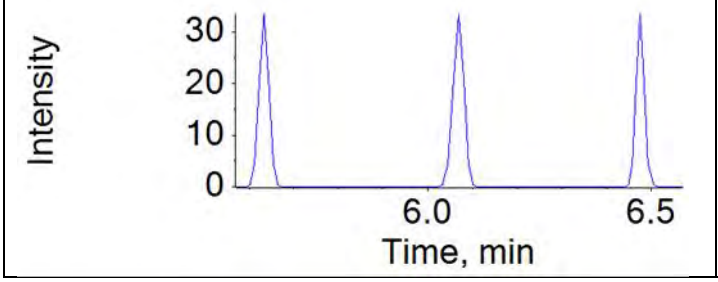



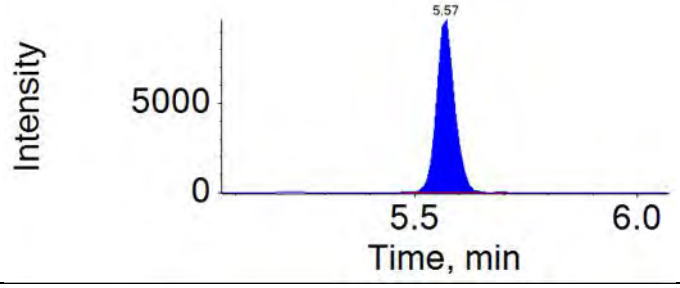

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



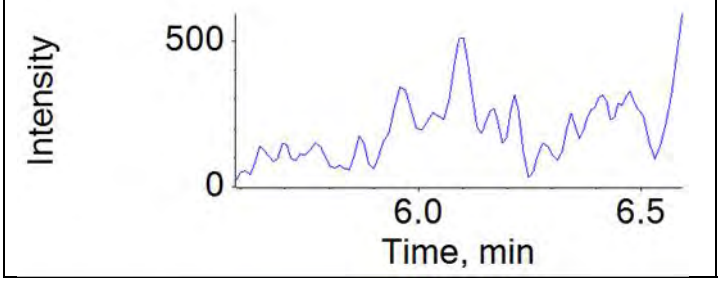



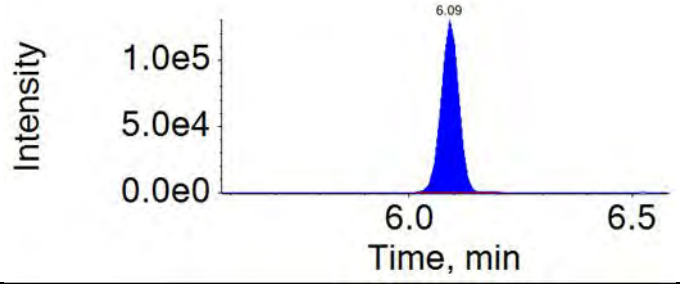

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



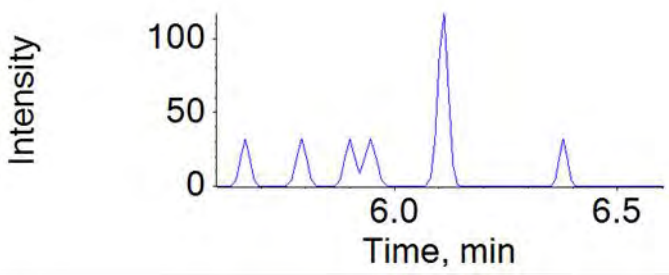

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*By JPT at 8:42 am, 11/20/18*

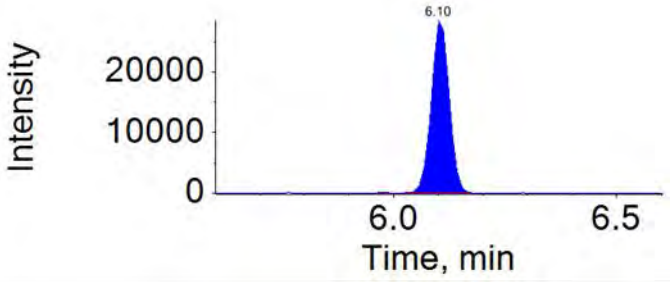


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*By HMK at 8:47 am, 11/20/18*

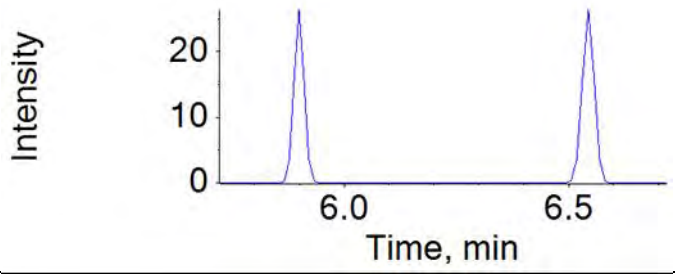
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

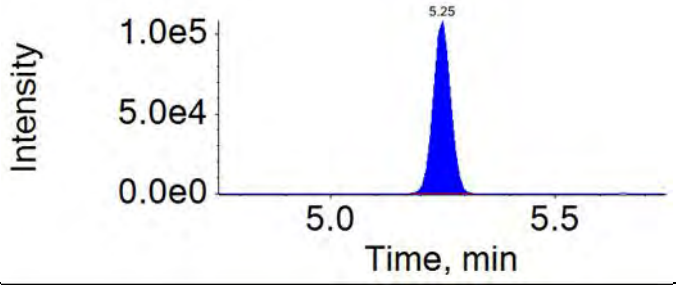
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



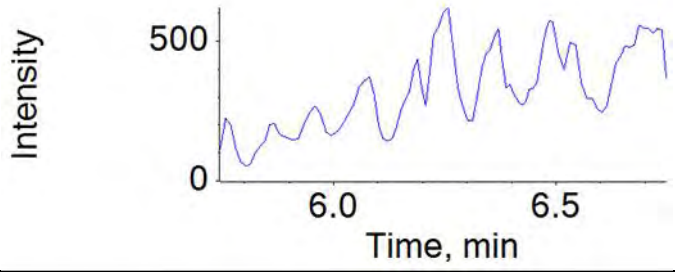



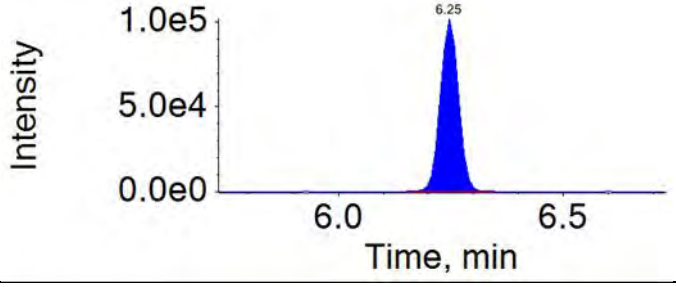

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



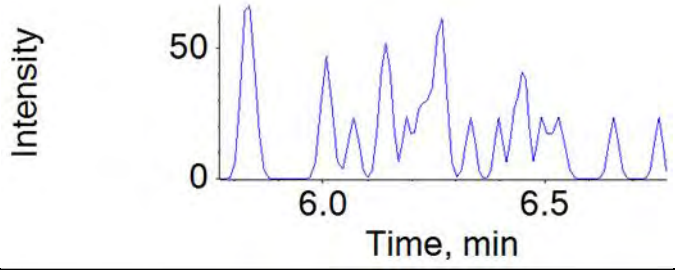



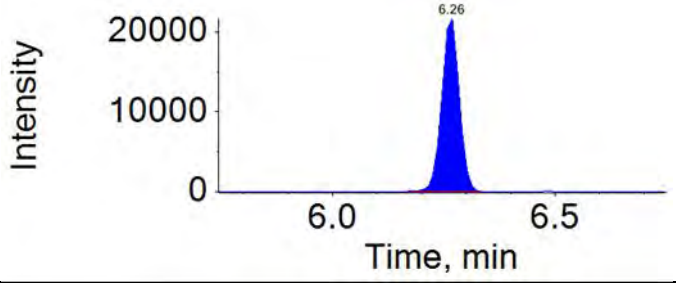

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |



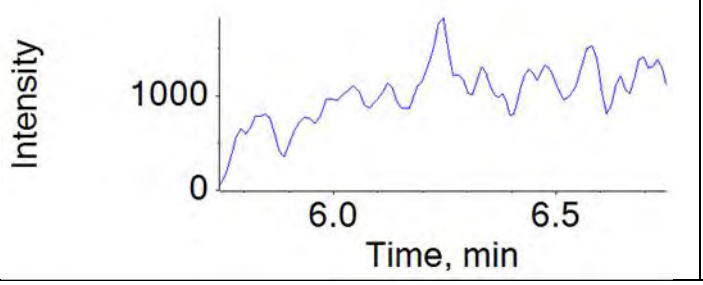

| Analyte: NEtPFOSA | Extraction Standard: d5-NEtPFOSA |
|---|---|
| 526.0 / 169.0 | 531.0 / 169.0 |

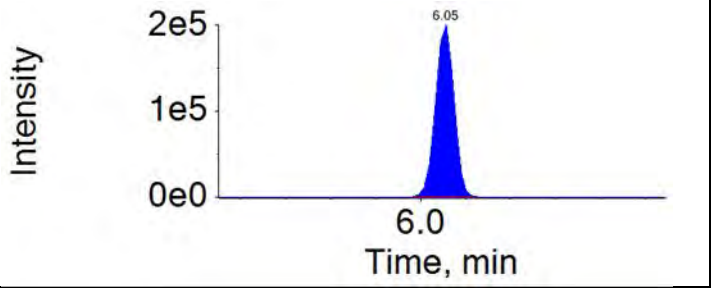


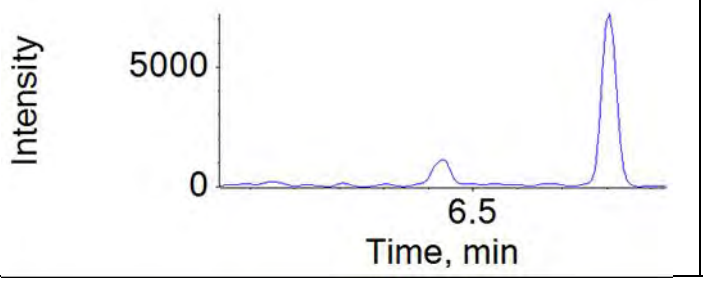
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/20/2018 8:36:28 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

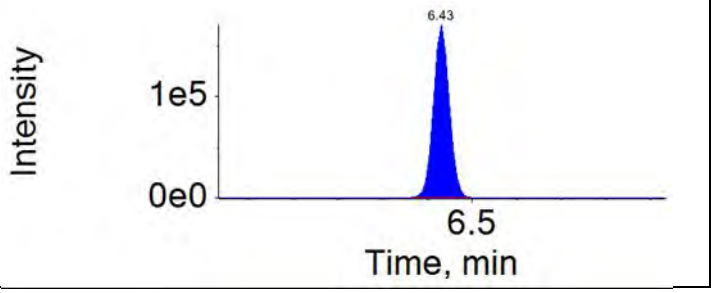
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



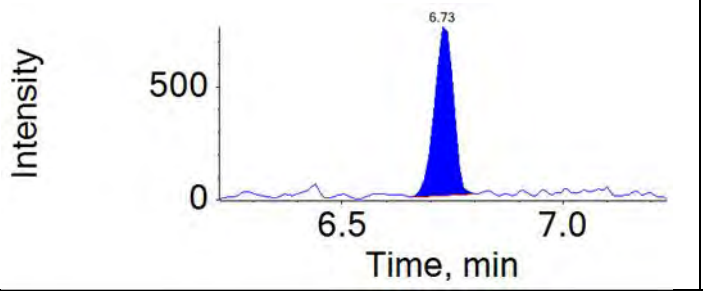



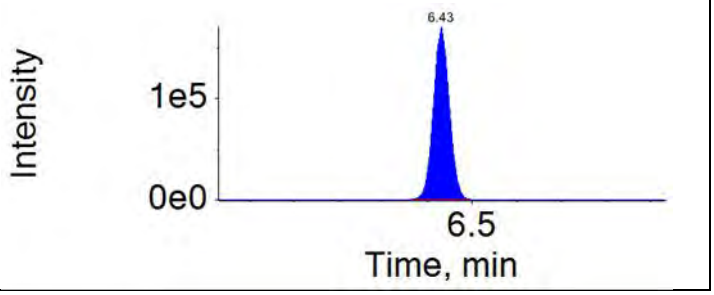

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



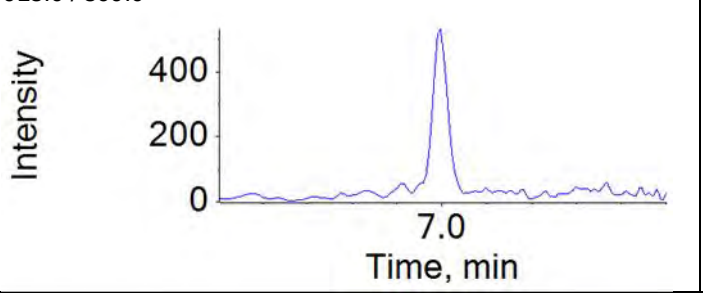



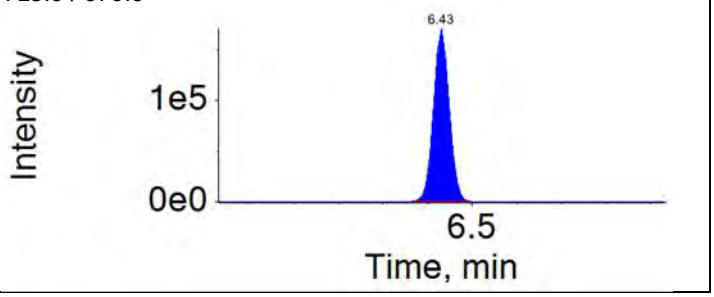

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




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




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*By JPT at 8:42 am, 11/20/18*



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*By HMK at 8:47 am, 11/20/18*

## Ion Ratio Report

**Sample Name:** INBLK **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-49.wiff

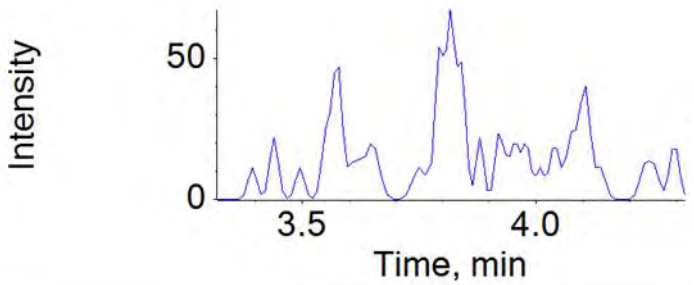
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| 4:2-FTS | 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 | | #NA! | |
| PFHxA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHxA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFPeS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFPeS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHpA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHpA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHxS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| 6:2-FTS | N/A | N/A | N/A | A | N/A | N/A | | | |
| 6:2 FTS_2 | N/A | N/A | N/A | A | N/A | N/A | | #NA! | |
| 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 | | #NA! | |
| 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 | 5.81 | 1.00 | 64.89 | 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 | | #NA! | |
| 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 | 6.73 | 1.05 | 2221.67 | A | N/A | 1.0000 | | | |
| PFHxDA_2 | 6.74 | 1.05 | 133.29 | A | N/A | 0.0600 | -11 | 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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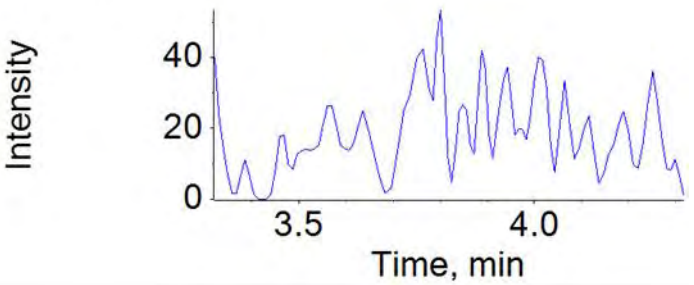


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*By HMK at 8:47 am, 11/20/18*

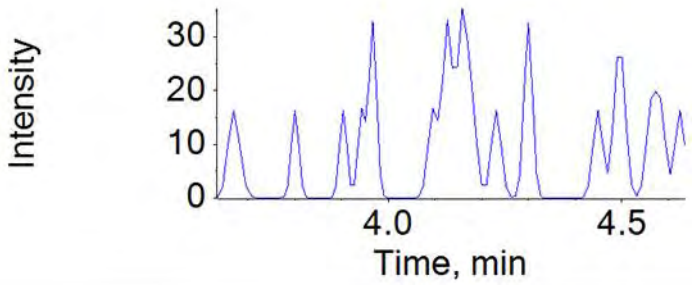
Component: PFBS
Primary Mass: 299.0 / 80.0



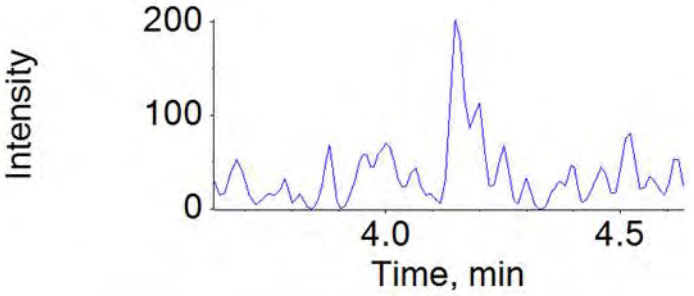

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



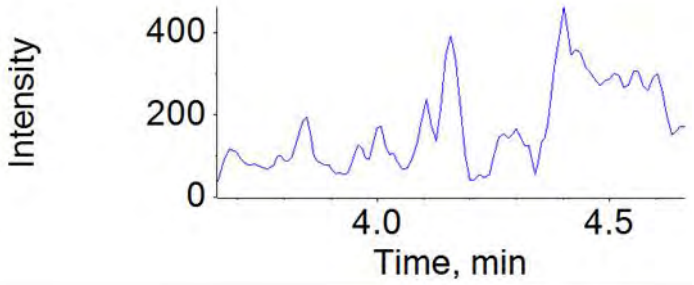

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



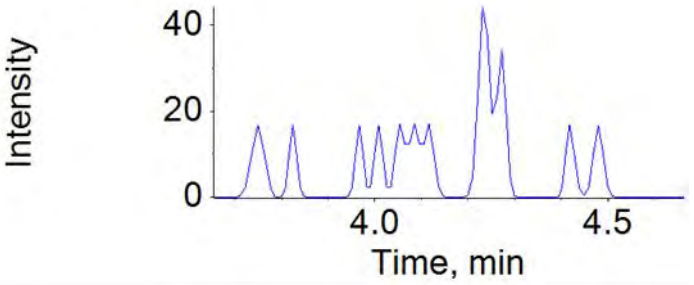

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



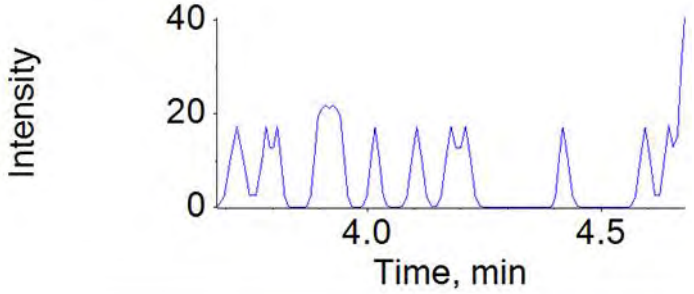

Component: PFHxA
Primary Mass: 313.0 / 269.0



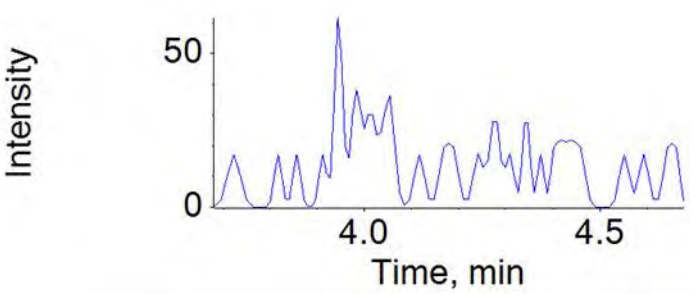

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

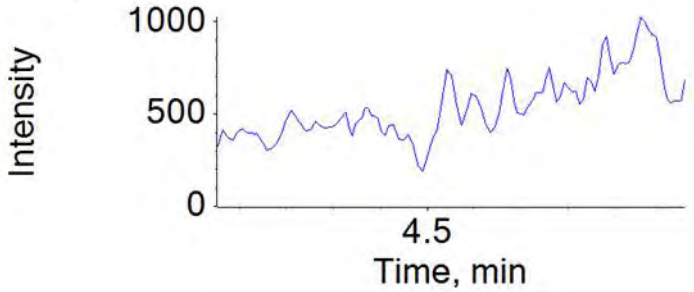



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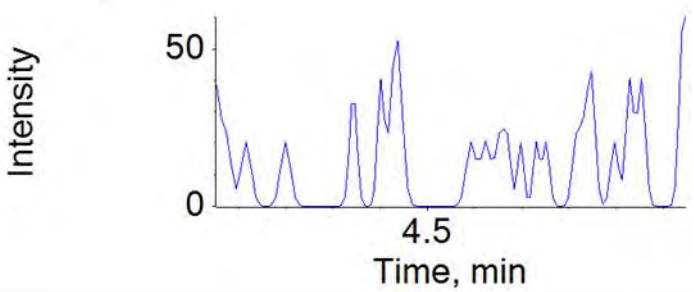


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*By HMK at 8:47 am, 11/20/18*

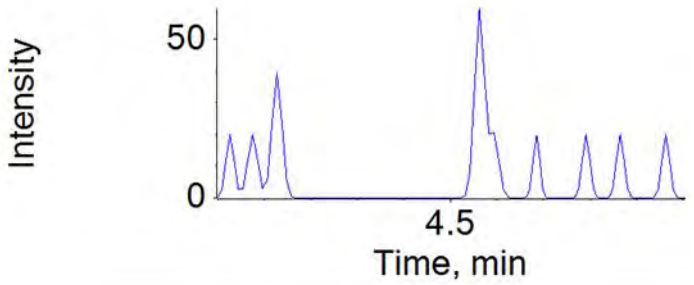
Component: PFHpA
Primary Mass: 363.0 / 319.0



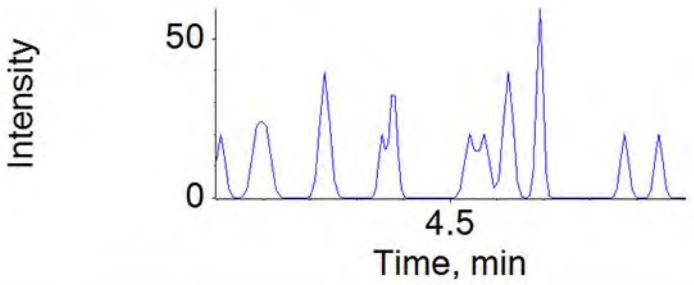

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



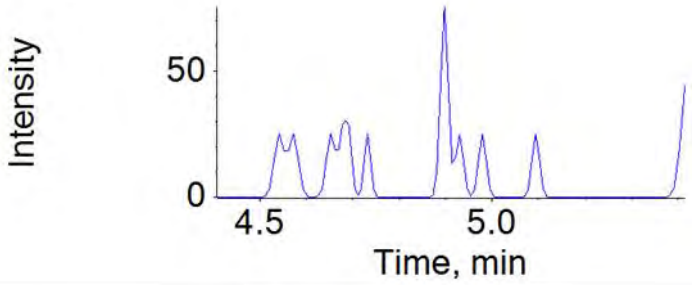

Component: PFHxS
Primary Mass: 399.0 / 80.0



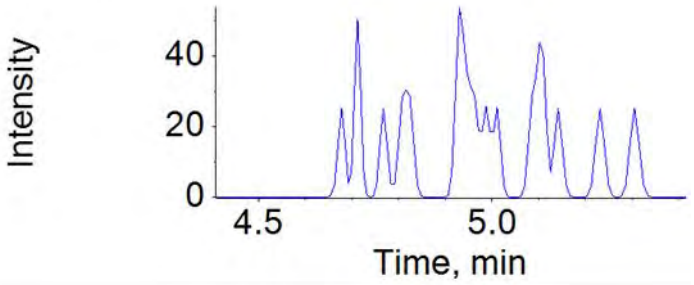

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



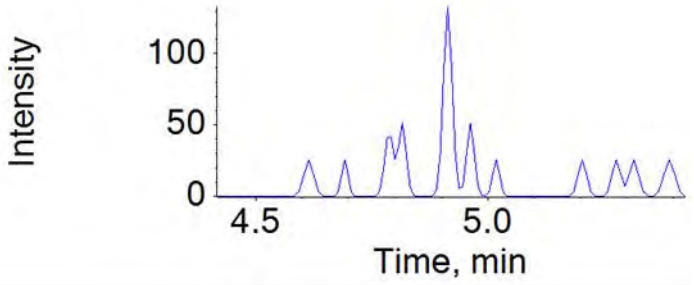

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



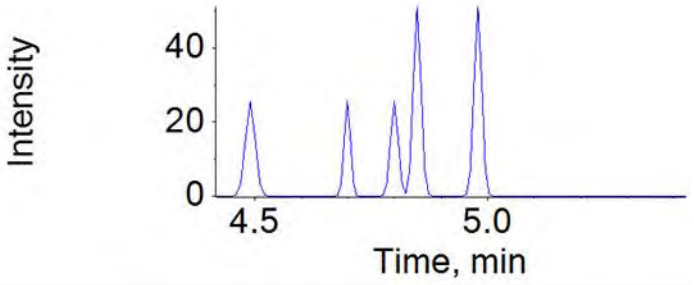

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

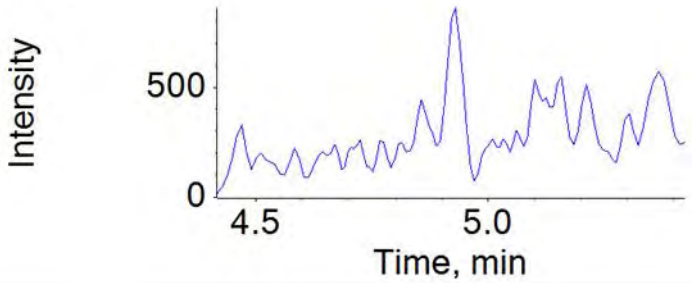



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*By JPT at 8:42 am, 11/20/18*

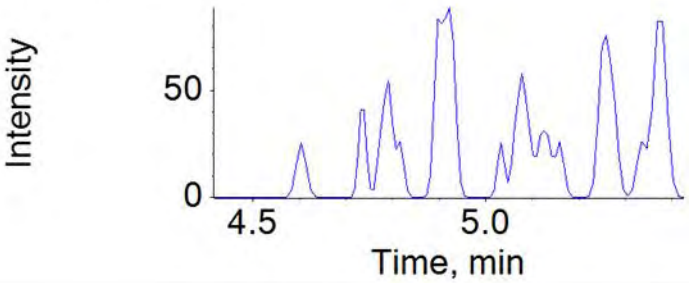


REVIEWED
*By HMK at 8:47 am, 11/20/18*

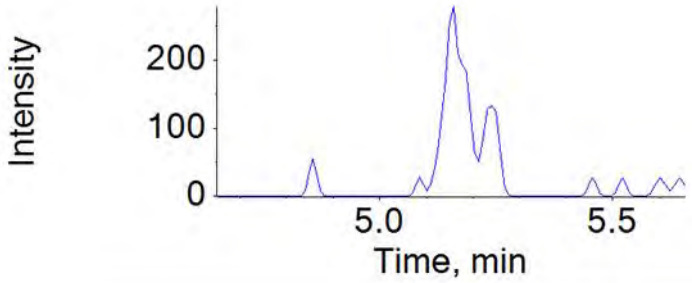
Component: PFOA
Primary Mass: 413.0 / 369.0



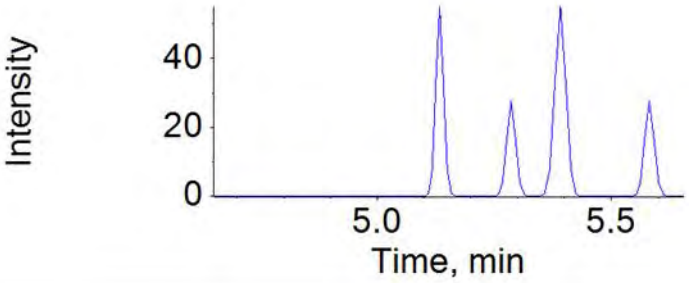

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



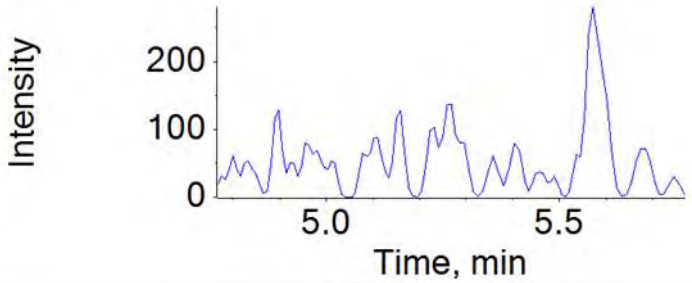

Component: PFOS
Primary Mass: 499.0 / 80.0



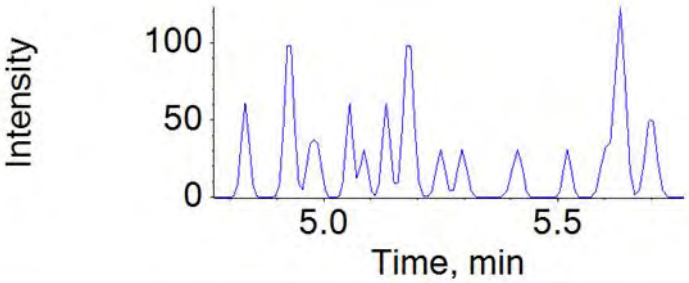

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



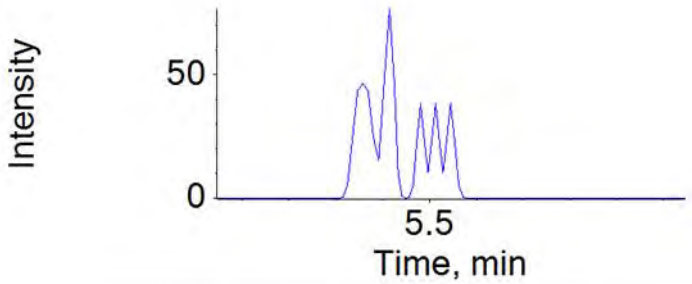

Component: PFNA
Primary Mass: 463.0 / 419.0



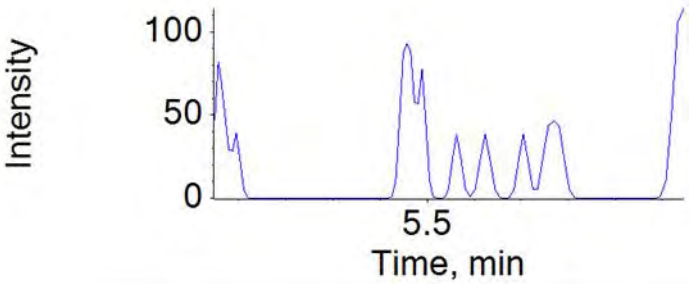

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

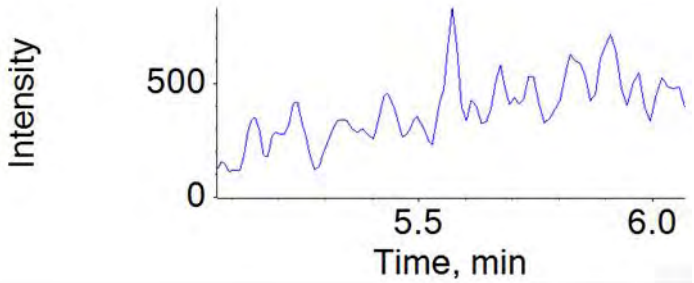



APPROVED
*By JPT at 8:42 am, 11/20/18*

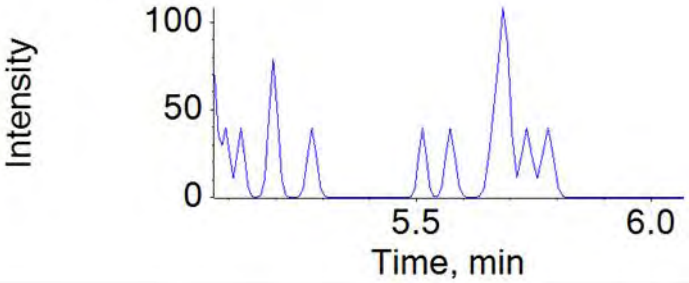


REVIEWED
*By HMK at 8:47 am, 11/20/18*

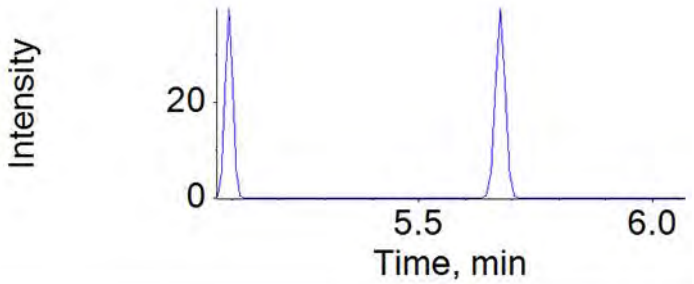
Component: PFDA
Primary Mass: 513.0 / 469.0



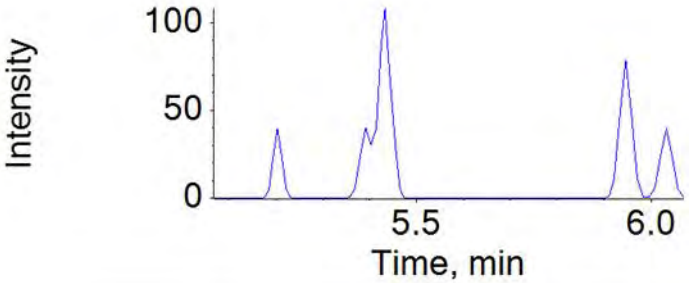

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



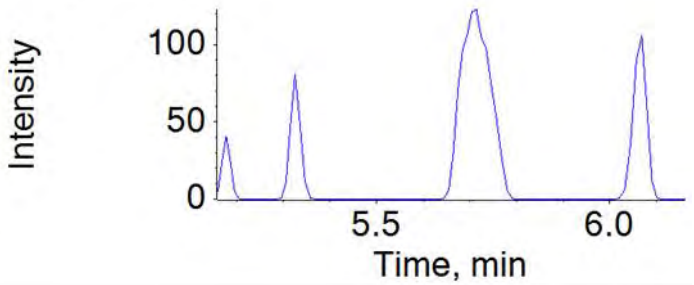

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



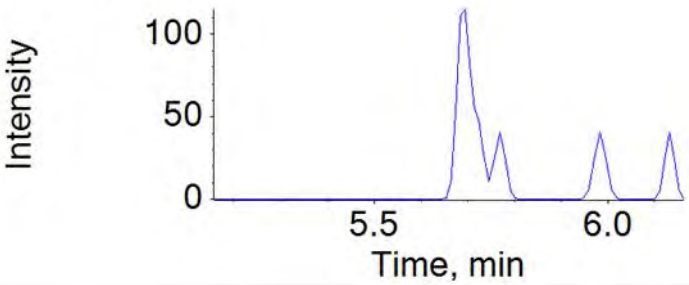

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



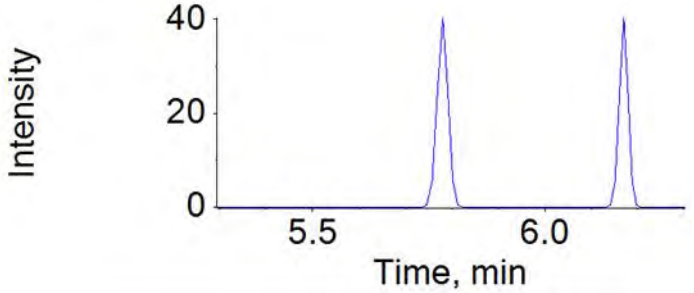

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



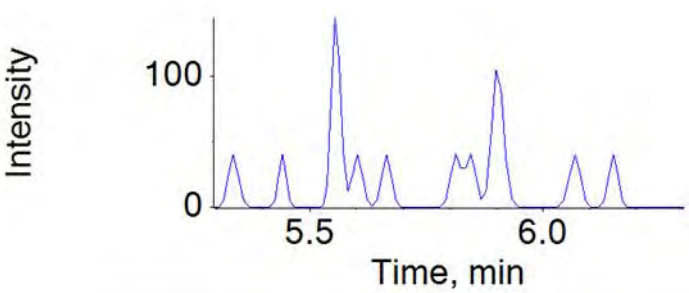

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

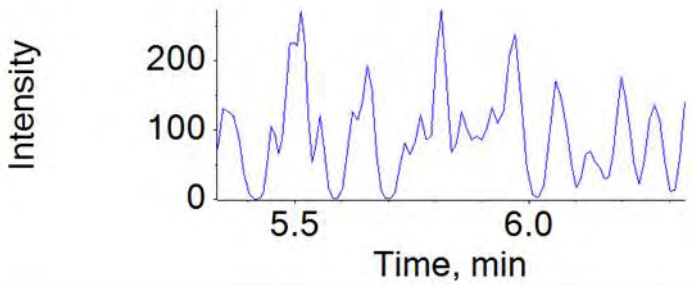



APPROVED
*By JPT at 8:42 am, 11/20/18*

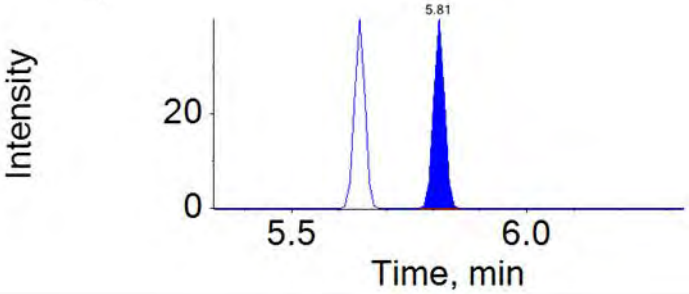


REVIEWED
*By HMK at 8:47 am, 11/20/18*

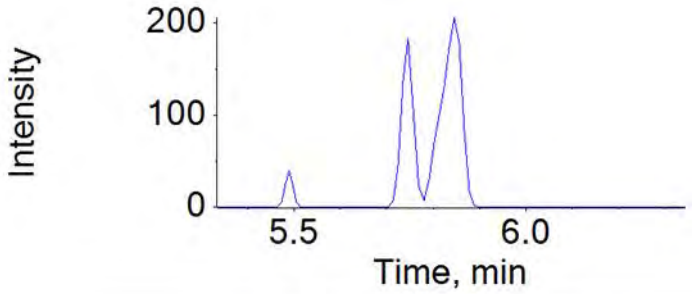
Component: PFUnDA
Primary Mass: 563.0 / 519.0



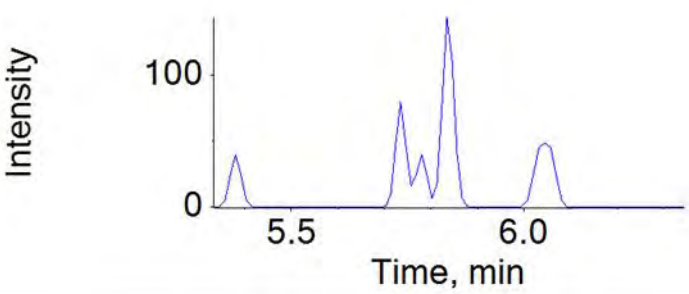

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



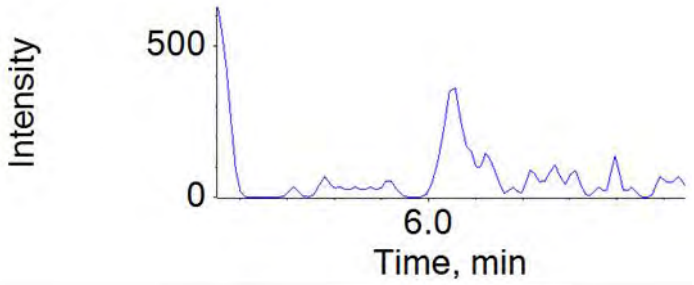

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



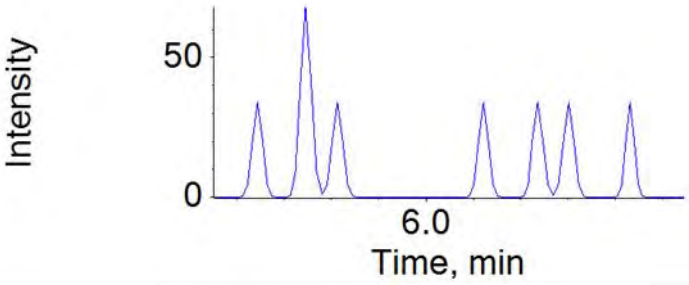

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



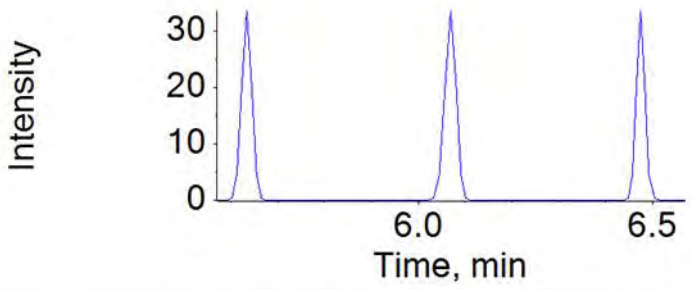

Component: PFDoDA
Primary Mass: 613.0 / 569.0



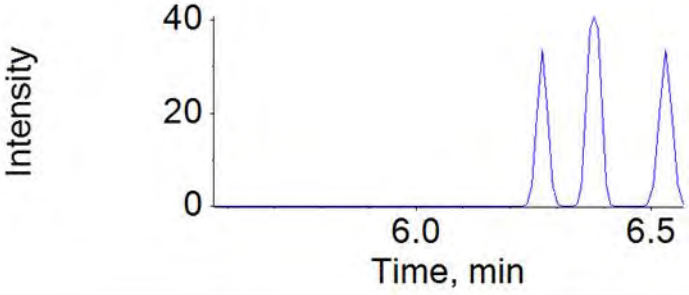

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

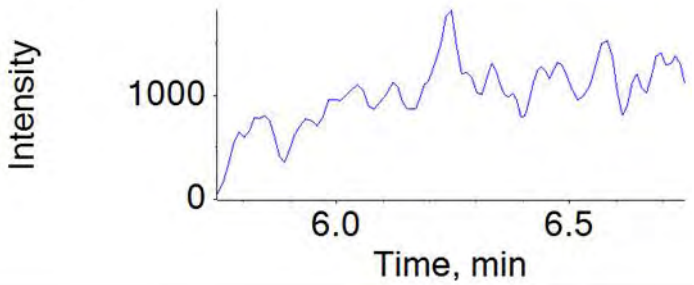



APPROVED
*By JPT at 8:42 am, 11/20/18*

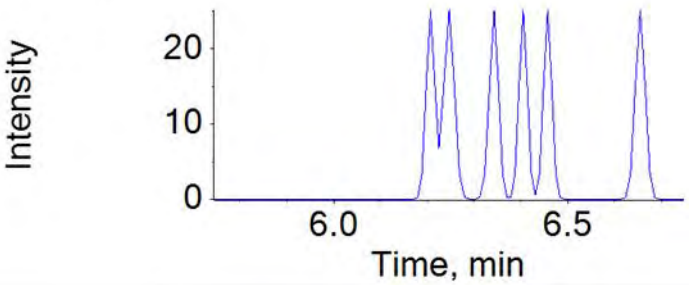


REVIEWED
*By HMK at 8:47 am, 11/20/18*

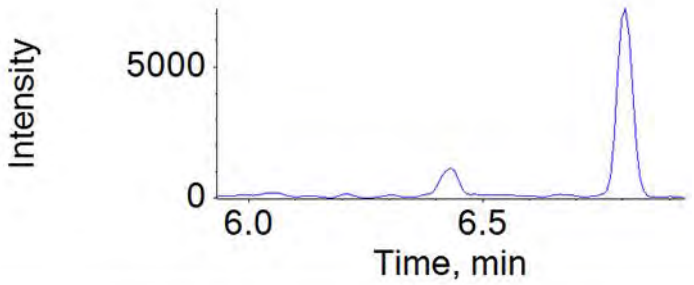
Component: PFTrDA
Primary Mass: 663.0 / 619.0



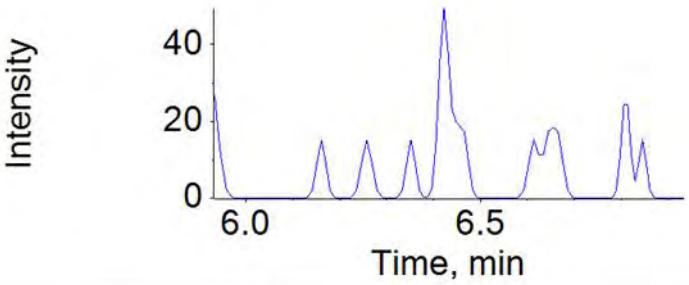

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



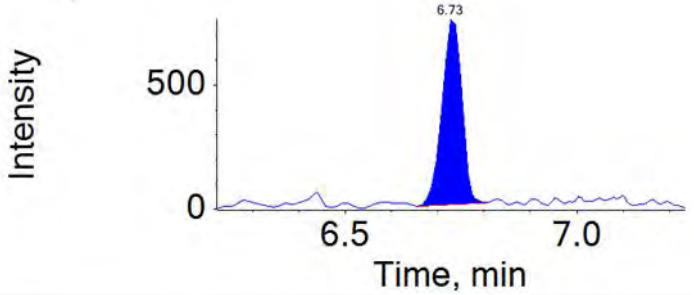

Component: PFTeDA
Primary Mass: 713.0 / 669.0



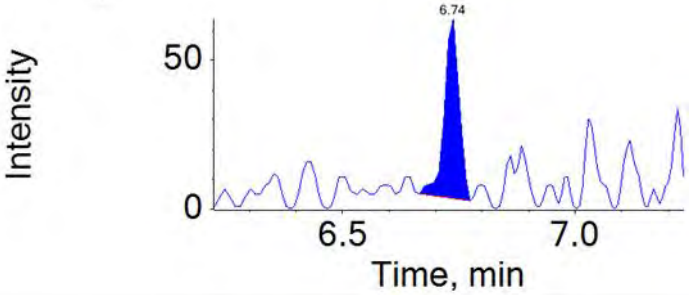

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



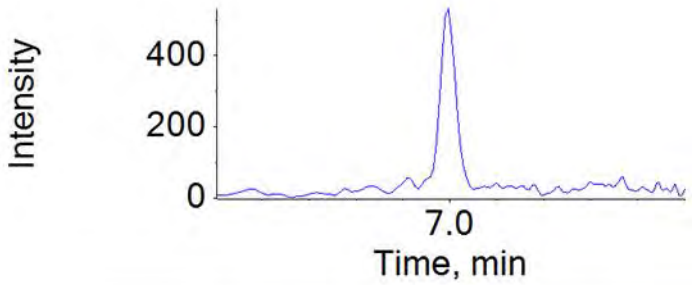

Component: PFHxDA
Primary Mass: 813.0 / 769.0



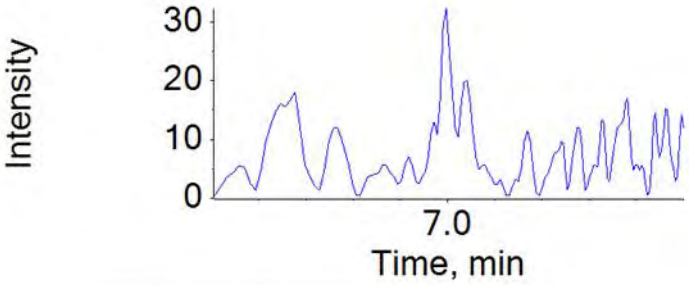

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By JPT at 8:42 am, 11/20/18*



REVIEWED
*By HMK at 8:47 am, 11/20/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | ICV | | | **Data File:** | | 18NOV12DCAL-50.wiff |
| **Sample ID:** | ICVMODX1833G | | | **Acquis Date:** | | 2018-11-12T16:18:11 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 10 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL_Updated |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 655209.3 | 659926.2 | -1 | 50 | |
| 13C2-PFOA | 5.0 | 452726.2 | 450219.7 | 1 | 50 | |
| 13C4-PFOS | 4.8 | 253010.3 | 249205.8 | 2 | 50 | |
| 13C2-PFDA | 5.0 | 277002.7 | 278743.9 | -1 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 715834.4 | 13C3-PFBA | 655209.3 | 1.093 | 5.000 | 4.898 | 98 | 70-130 | |
| E13C5-PFPeA | 699482.2 | 13C3-PFBA | 655209.3 | 1.068 | 5.000 | 4.788 | 96 | 70-130 | |
| E13C3-PFBS | 394903.4 | 13C3-PFBA | 655209.3 | 0.603 | 4.650 | 4.255 | 91 | 70-130 | |
| E13C2-4:2-FTS | 47297.3 | 13C2-PFOA | 452726.2 | 0.104 | 4.670 | 4.653 | 100 | 70-130 | |
| E13C5-PFHxA | 613579.4 | 13C2-PFOA | 452726.2 | 1.355 | 5.000 | 4.896 | 98 | 70-130 | |
| E13C3-PFHxS | 304897.8 | 13C2-PFOA | 452726.2 | 0.673 | 4.730 | 4.621 | 98 | 70-130 | |
| E13C4-PFHpA | 485394.9 | 13C2-PFOA | 452726.2 | 1.072 | 5.000 | 4.830 | 97 | 70-130 | |
| E13C2-6:2-FTS | 31532.8 | 13C2-PFOA | 452726.2 | 0.070 | 4.750 | 4.660 | 98 | 70-130 | |
| E13C8-PFOA | 843573.3 | 13C2-PFOA | 452726.2 | 1.863 | 5.000 | 5.134 | 103 | 70-130 | |
| E13C8-PFOS | 266211.4 | 13C4-PFOS | 253010.3 | 1.052 | 4.780 | 4.662 | 98 | 70-130 | |
| E13C9-PFNA | 458821.5 | 13C4-PFOS | 253010.3 | 1.813 | 5.000 | 5.056 | 101 | 70-130 | |
| E13C6-PFDA | 590290.3 | 13C2-PFDA | 277002.7 | 2.131 | 5.000 | 4.973 | 99 | 70-130 | |
| E13C2-8:2-FTS | 22188.9 | 13C2-PFDA | 277002.7 | 0.080 | 4.790 | 3.995 | 83 | 70-130 | |
| E13C8-PFOSA | 587080.1 | 13C2-PFDA | 277002.7 | 2.119 | 5.000 | 4.699 | 94 | 70-130 | |
| Ed3-NMeFOSAA | 70133.2 | 13C2-PFDA | 277002.7 | 0.253 | 5.000 | 4.570 | 91 | 70-130 | |
| E13C7-PFUnDA | 228363.9 | 13C2-PFDA | 277002.7 | 0.824 | 5.000 | 4.786 | 96 | 70-130 | |
| Ed5-NEtFOSAA | 59551.3 | 13C2-PFDA | 277002.7 | 0.215 | 5.000 | 4.548 | 91 | 70-130 | |
| E13C2-PFDoDA | 495858.1 | 13C2-PFDA | 277002.7 | 1.790 | 5.000 | 4.648 | 93 | 70-130 | |
| Ed7-NMePFOSAE | 299185.4 | 13C2-PFDA | 277002.7 | 1.080 | 5.000 | 4.674 | 93 | 70-130 | |
| Ed3-NMePFOSA | 75186.9 | 13C2-PFDA | 277002.7 | 0.271 | 5.000 | 4.931 | 99 | 70-130 | |
| Ed9-NEtPFOSAE | 255149.8 | 13C2-PFDA | 277002.7 | 0.921 | 5.000 | 4.791 | 96 | 70-130 | |
| Ed5-NEtPFOSA | 53596.2 | 13C2-PFDA | 277002.7 | 0.193 | 5.000 | 4.539 | 91 | 70-130 | |
| E13C2-PFTeDA | 365300.2 | 13C2-PFDA | 277002.7 | 1.319 | 5.000 | 4.630 | 93 | 70-130 | |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

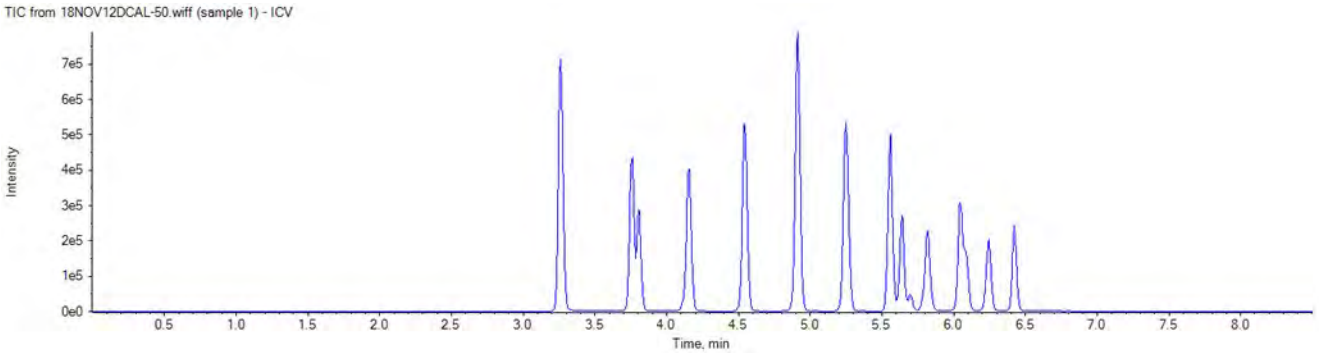
## Analyte Quantitation Peak Table

**Sample Name:** ICV **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-50.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 | 270820.6 | | A | 13C4-PFBA | 3.26 | 715834.4 | 0.378 | 2.096 |
| PFPeA | 3.76 | 1.000 | 265646.8 | | A | 13C5-PFPeA | 3.76 | 699482.2 | 0.380 | 2.198 |
| PFBS | 3.80 | 1.000 | 150059.6 | | A | 13C3-PFBS | 3.81 | 394903.4 | 0.380 | 1.808 |
| 4:2-FTS | N/A | N/A | N/A | | A | 13C2-4:2-FTS | 4.12 | 47297.3 | N/A | |
| PFHxA | 4.15 | 1.000 | 328694.3 | | A | 13C5-PFHxA | 4.15 | 613579.4 | 0.536 | 2.237 |
| PFPeS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.81 | 394903.4 | N/A | |
| PFHpA | 4.54 | 1.000 | 316975.3 | | A | 13C4-PFHpA | 4.54 | 485394.9 | 0.653 | 2.165 |
| PFHxS | 4.55 | 1.000 | 115564.2 | | A | 13C3-PFHxS | 4.55 | 304897.8 | 0.379 | 1.838 |
| 6:2-FTS | N/A | N/A | N/A | | A | 13C2-6:2-FTS | 4.90 | 31532.8 | N/A | |
| PFHpS | 4.91 | 1.080 | 118318.7 | | A | 13C3-PFHxS | 4.55 | 304897.8 | 0.388 | 2.043 |
| PFOA | 4.91 | 1.000 | 332094.4 | | A | 13C8-PFOA | 4.91 | 843573.3 | 0.394 | 2.103 |
| PFOS | 5.24 | 1.000 | 100952.5 | | M | 13C8-PFOS | 5.24 | 266211.4 | 0.379 | 1.658 |
| PFNA | 5.26 | 1.000 | 271240.4 | | A | 13C9-PFNA | 5.26 | 458821.5 | 0.591 | 2.132 |
| PFNS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 266211.4 | N/A | |
| PFDA | 5.56 | 1.000 | 224279.7 | | A | 13C6-PFDA | 5.56 | 590290.3 | 0.380 | 2.014 |
| 8:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.56 | 22188.9 | N/A | |
| PFOSA | N/A | N/A | N/A | | A | 13C8-PFOSA | 5.64 | 587080.1 | N/A | |
| NMeFOSAA | 5.70 | 1.000 | 30591.9 | | A | d3-NMeFOSAA | 5.70 | 70133.2 | 0.436 | 2.465 |
| PFDS | 5.79 | 1.110 | 52860.9 | | M | 13C8-PFOS | 5.24 | 266211.4 | 0.199 | 1.799 |
| PFUnDA | 5.82 | 1.000 | 183511.3 | | A | 13C7-PFUnDA | 5.82 | 228363.9 | 0.804 | 2.101 |
| NEtFOSAA | 5.83 | 1.000 | 26149.3 | | A | d5-NEtFOSAA | 5.83 | 59551.3 | 0.439 | 2.302 |
| PFDoDA | 6.05 | 1.000 | 185295.0 | | A | 13C2-PFDoDA | 6.05 | 495858.1 | 0.374 | 1.903 |
| 10:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.56 | 22188.9 | N/A | |
| NMePFOSAE | N/A | N/A | N/A | | A | d7-NMePFOSAE | 6.08 | 299185.4 | N/A | |
| NMePFOSA | N/A | N/A | N/A | | A | d3-NMePFOSA | 6.10 | 75186.9 | N/A | |
| PFDoS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 266211.4 | N/A | |
| NEtPFOSAE | N/A | N/A | N/A | | A | d9-NEtPFOSAE | 6.24 | 255149.8 | N/A | |
| NEtPFOSA | N/A | N/A | N/A | | A | d5-NEtPFOSA | 6.26 | 53596.2 | N/A | |
| PFTrDA | 6.25 | 1.030 | 165153.1 | | A | 13C2-PFDoDA | 6.05 | 495858.1 | 0.333 | 2.102 |
| PFTeDA | 6.42 | 1.000 | 135651.0 | | A | 13C2-PFTeDA | 6.42 | 365300.2 | 0.371 | 2.082 |
| PFHxDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 365300.2 | N/A | |
| PFODA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 365300.2 | N/A | |

## Total Ion Chromatogram



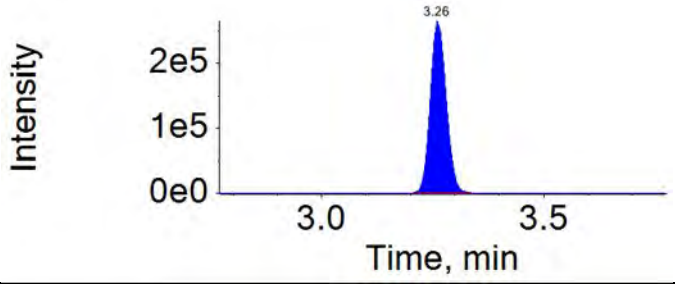

APPROVED
*By MCD at 3:23 pm, 1/10/19*



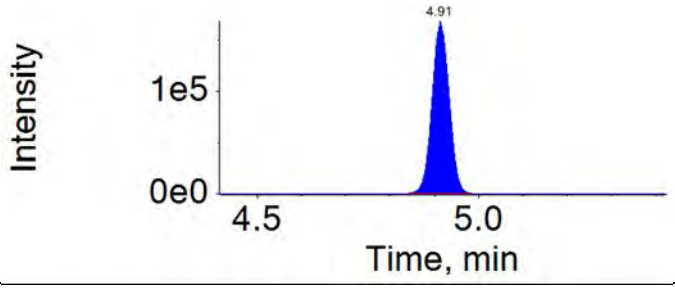
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

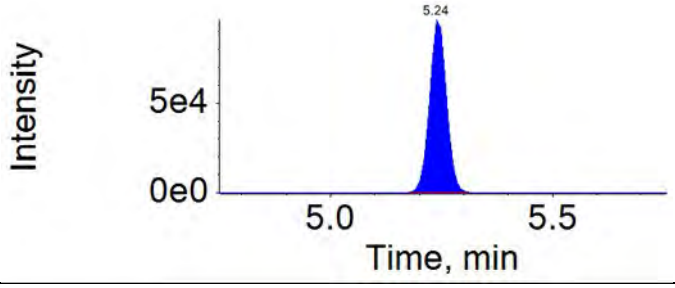
Injection Standard: 13C3-PFBA
216.0 / 172.0



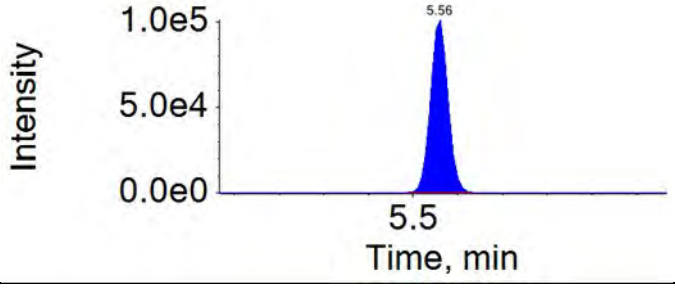

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0

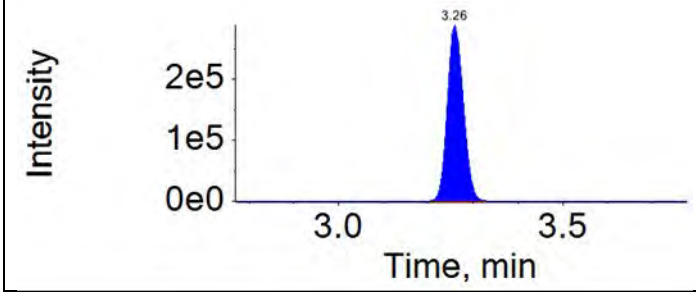


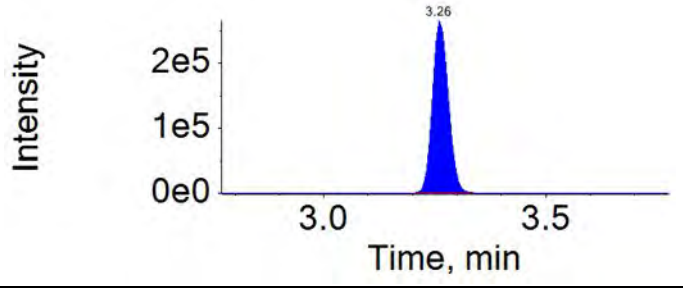

Injection Standard: 13C2-PFDA
515.0 / 470.0



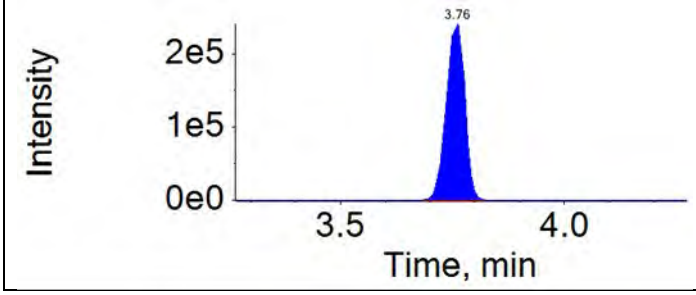
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

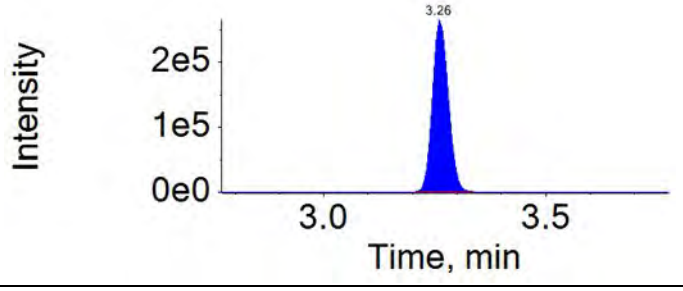
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



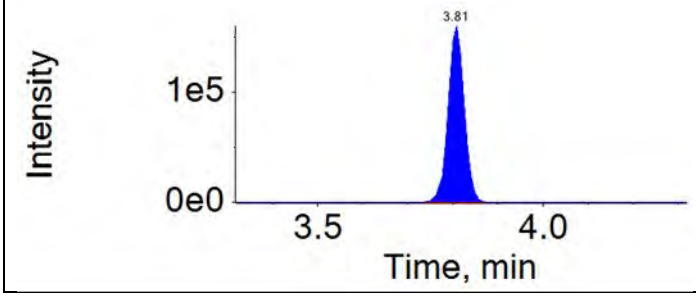



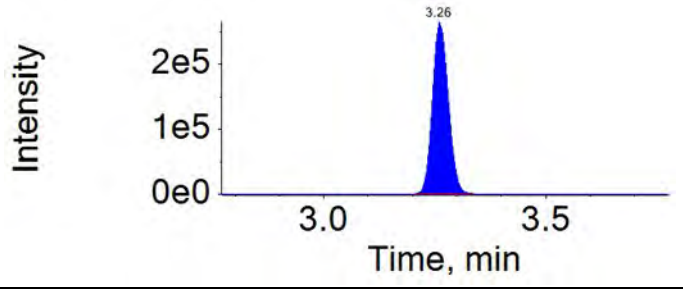

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



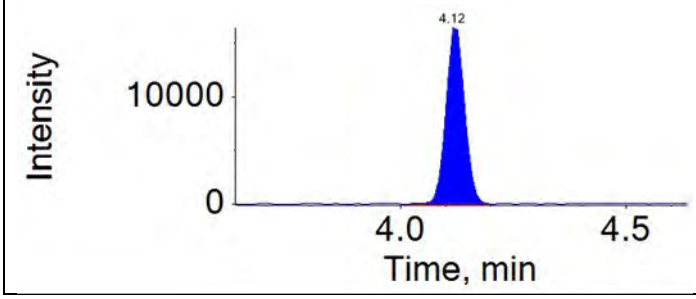



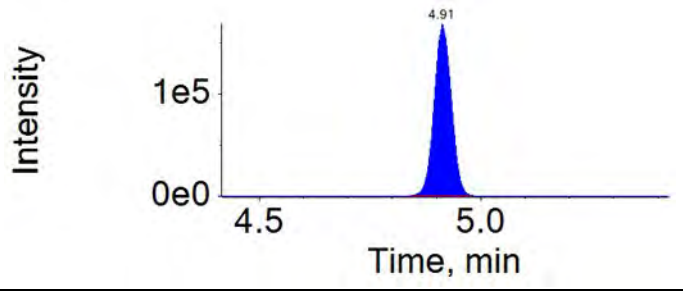

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



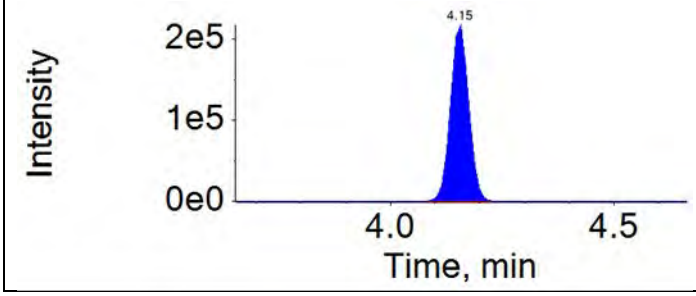

APPROVED
*By MCD at 3:23 pm, 1/10/19*

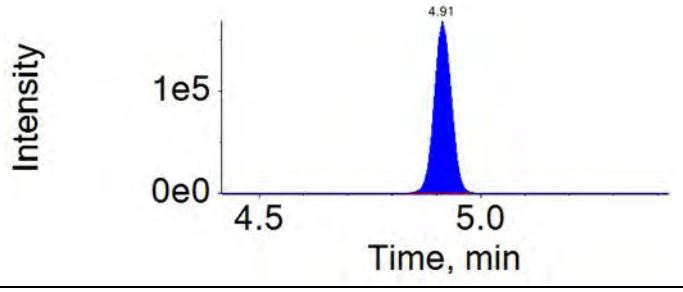


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

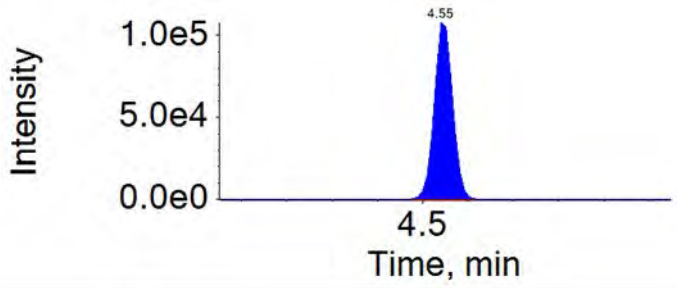
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

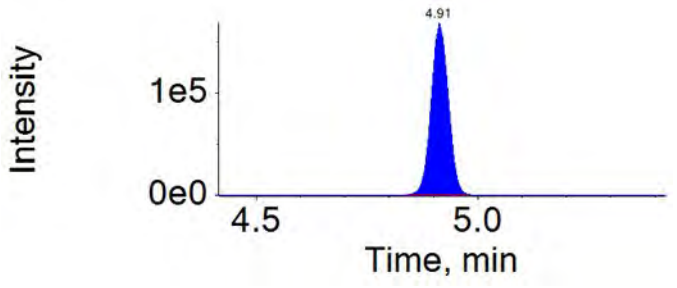
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



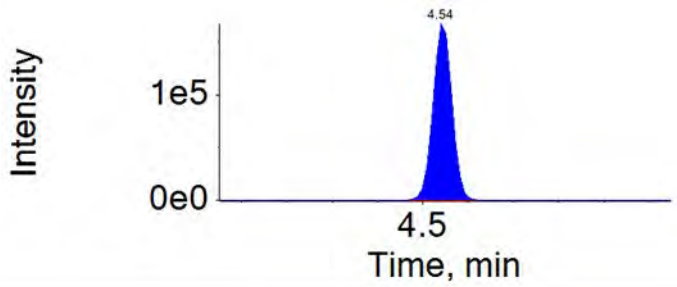



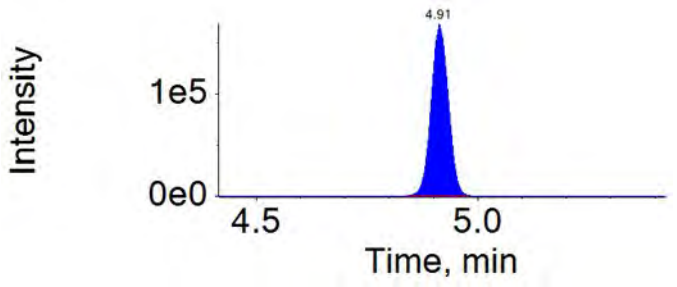

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



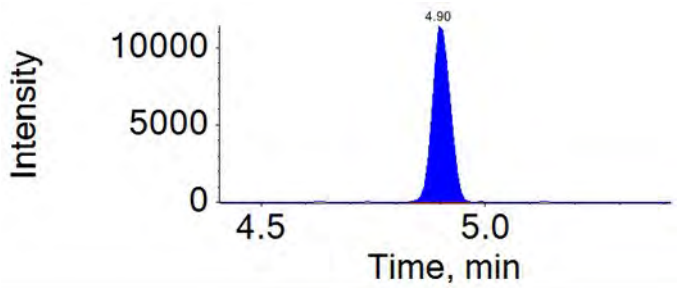



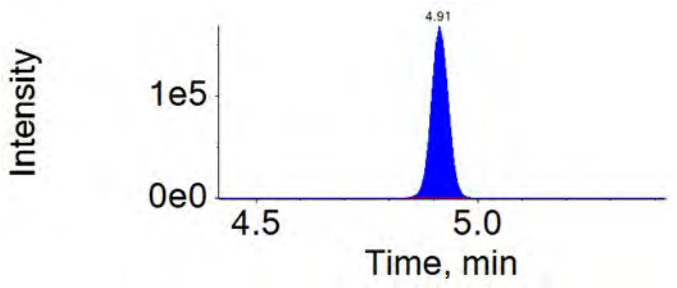

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



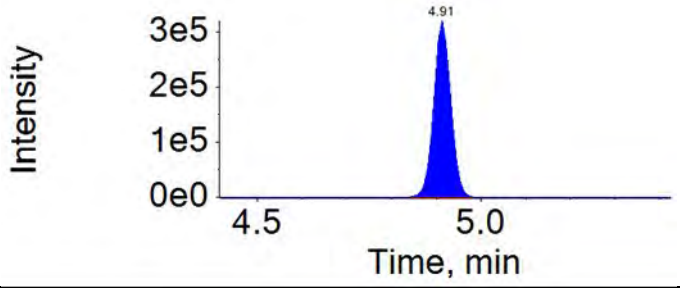
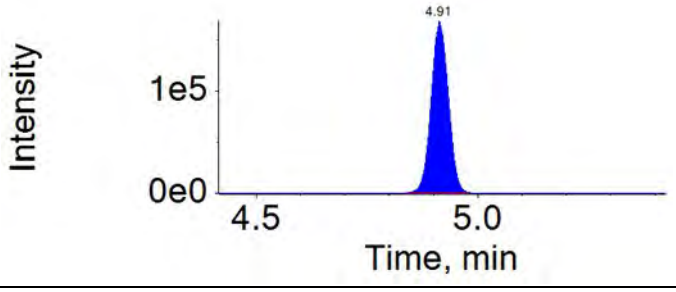




APPROVED
*By MCD at 3:23 pm, 1/10/19*



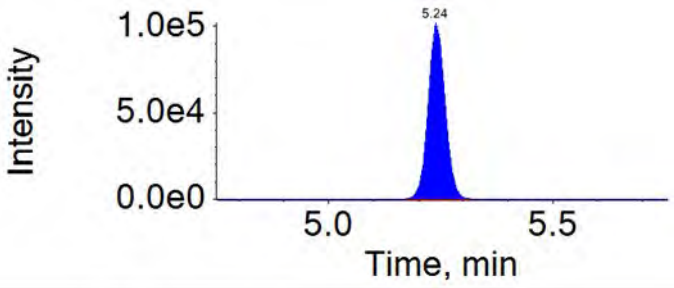
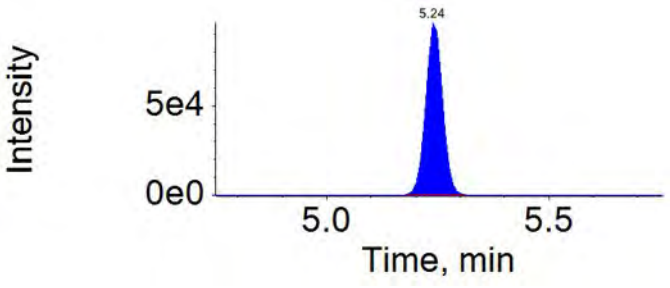
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

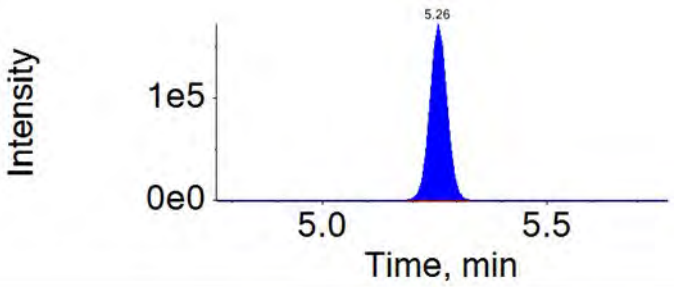
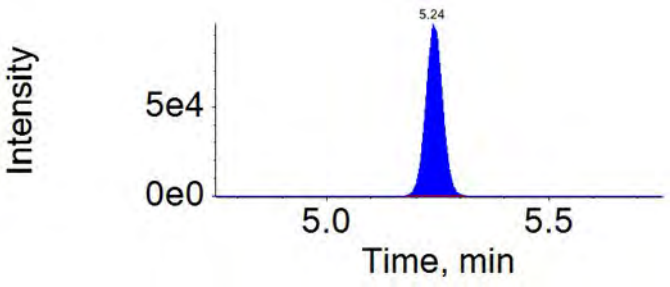




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

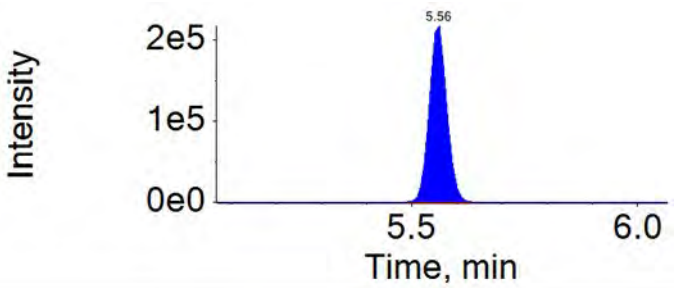
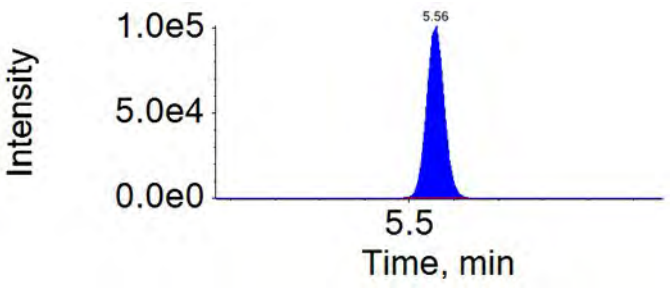




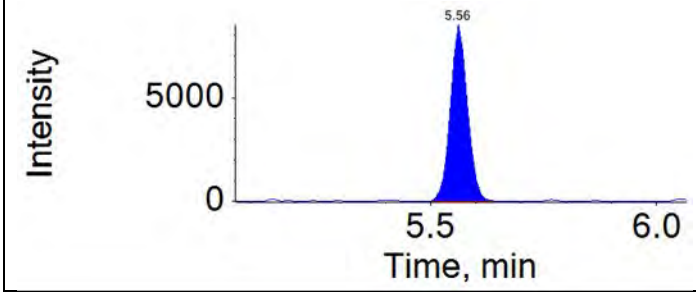
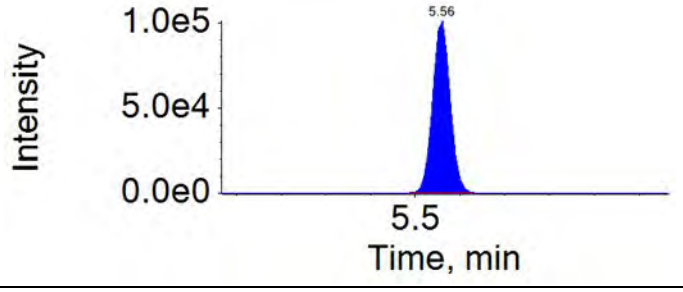
| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





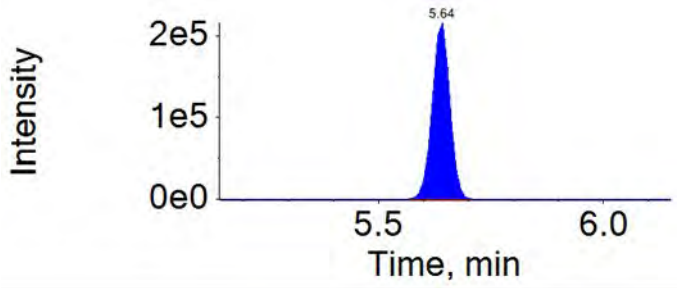
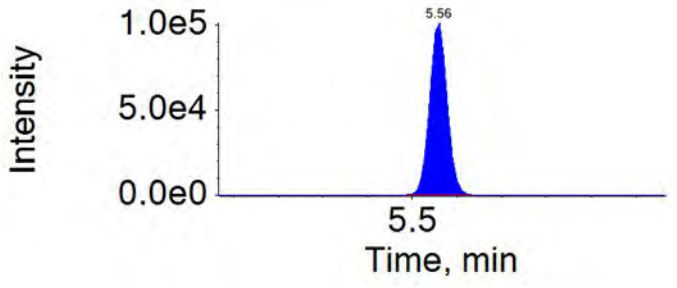
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|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

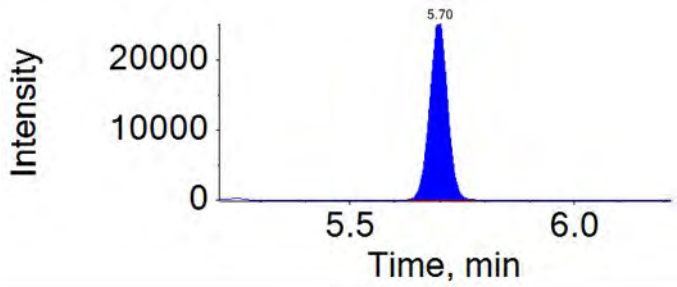
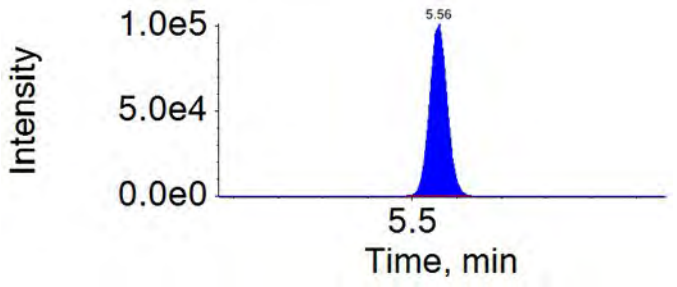




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

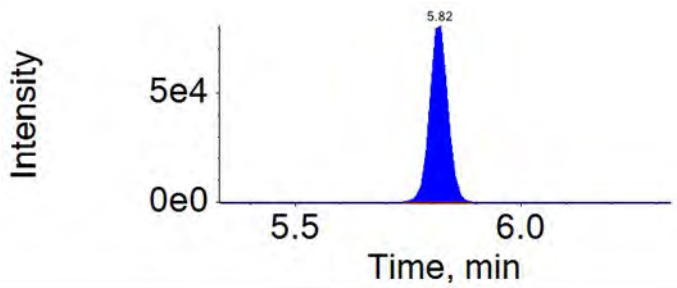
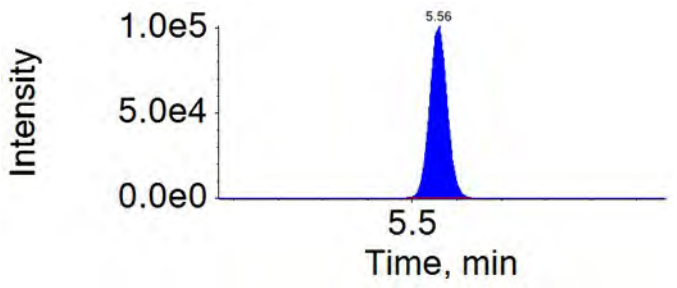




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |

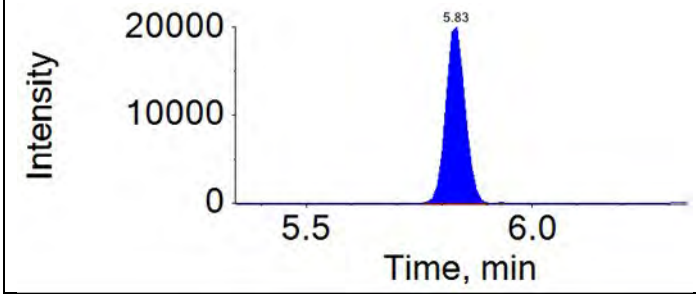


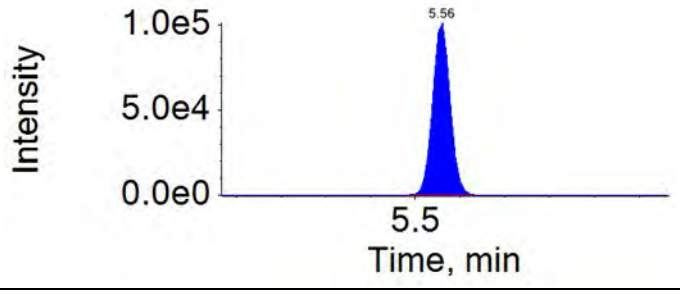


| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

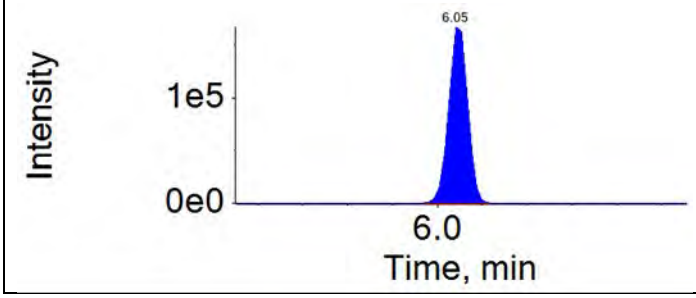
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

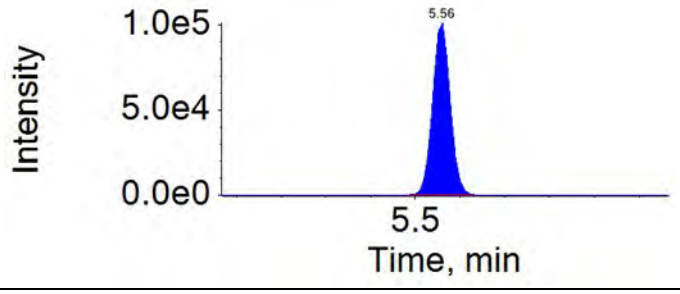
| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |



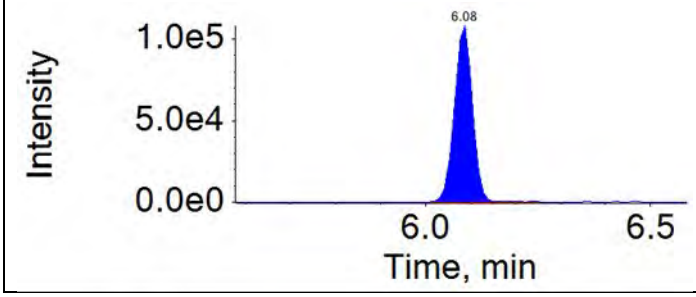



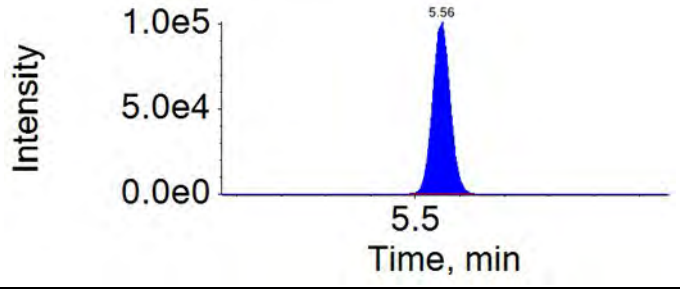

| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |



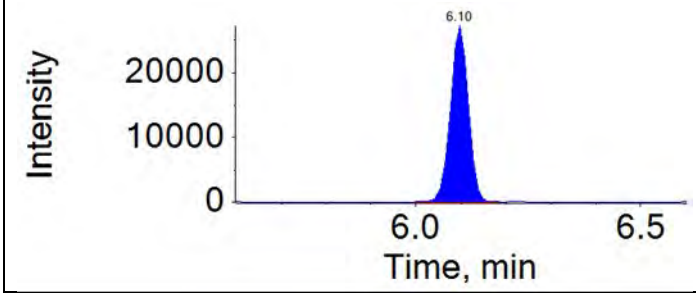



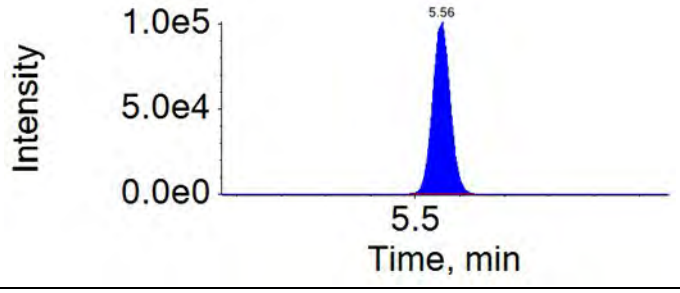

| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |



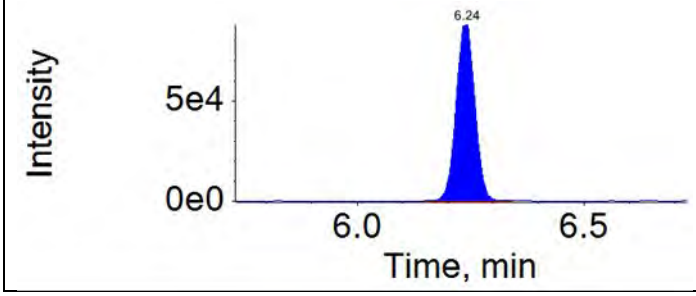

| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |

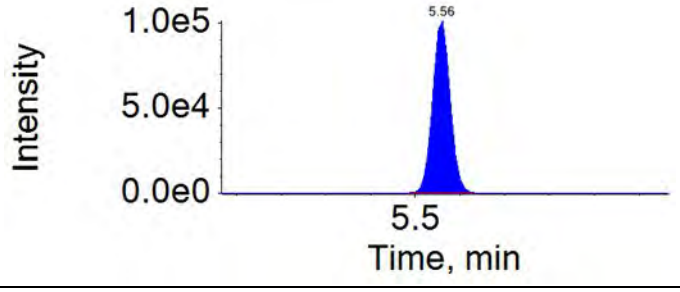


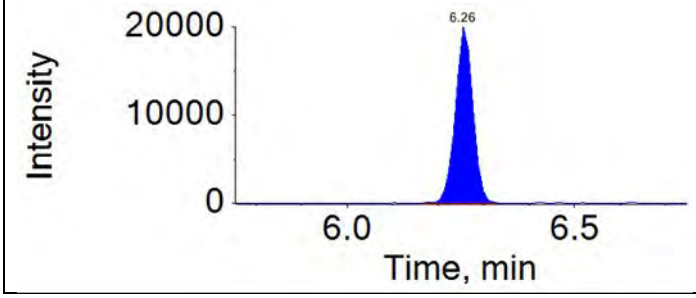
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

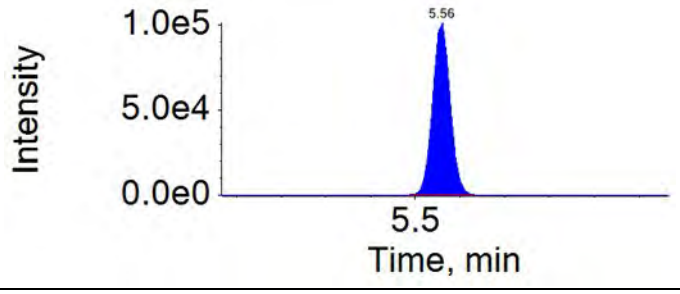
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



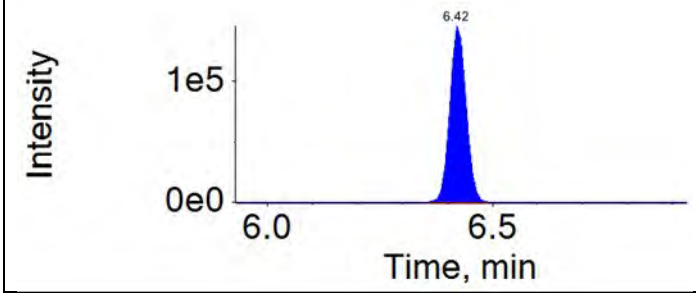



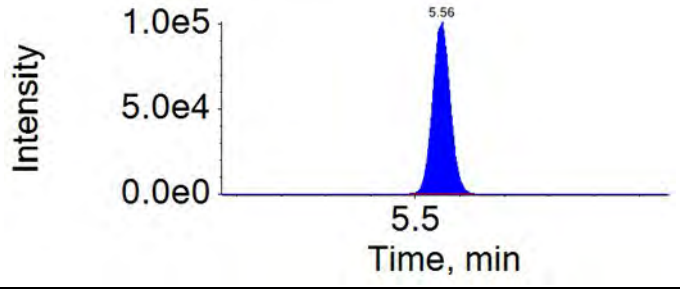

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



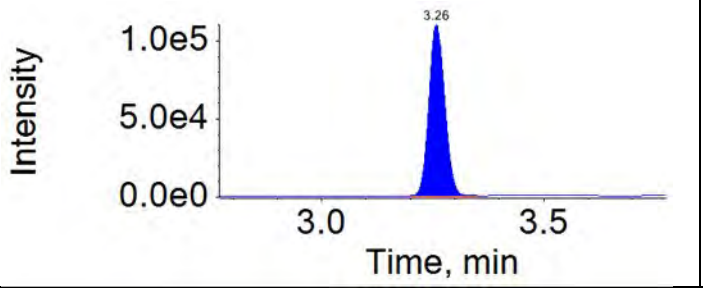

APPROVED
*By MCD at 3:23 pm, 1/10/19*

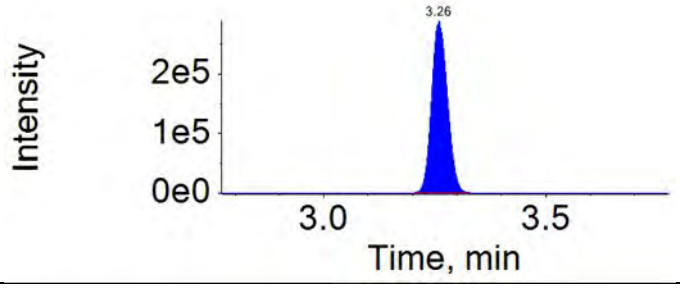


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

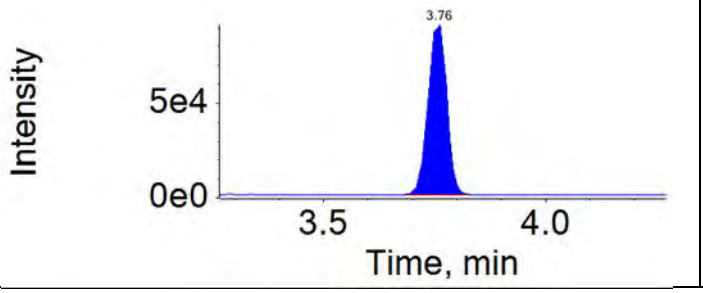
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

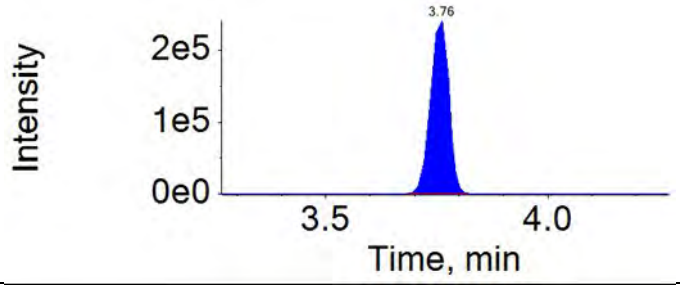
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



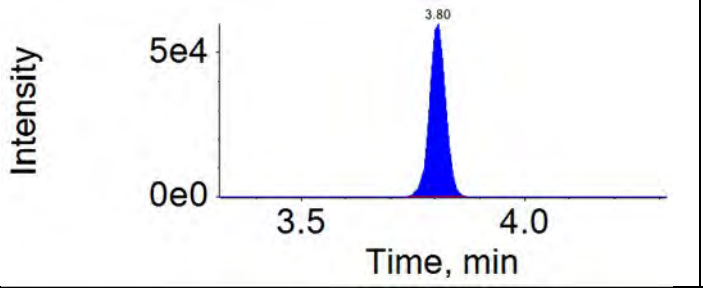



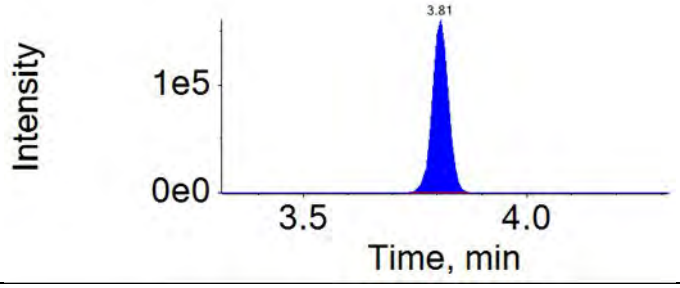

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



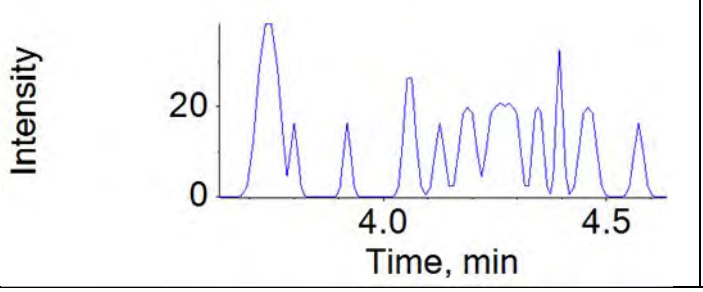



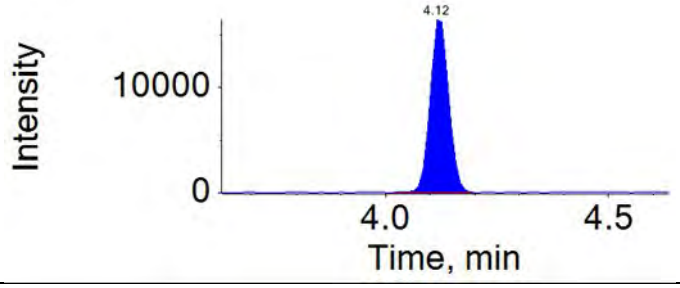

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



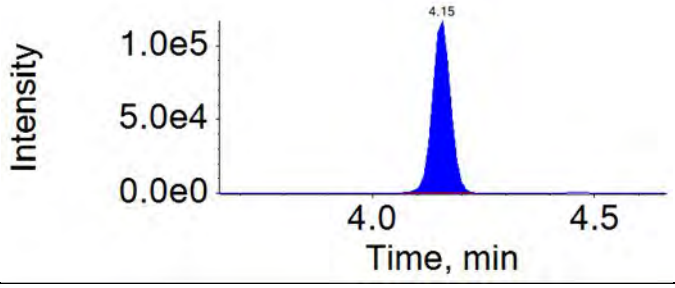

APPROVED
By MCD at 3:23 pm, 1/10/19

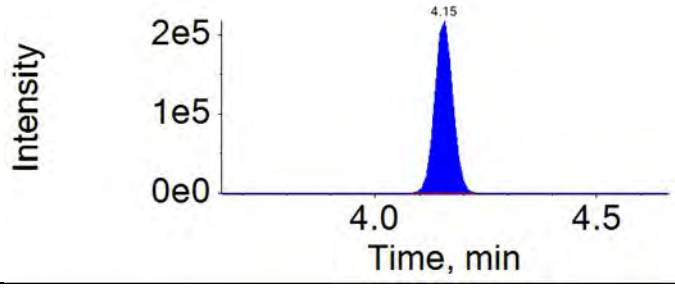


REVIEWED
By ucmr at 3:21 pm, 1/25/19

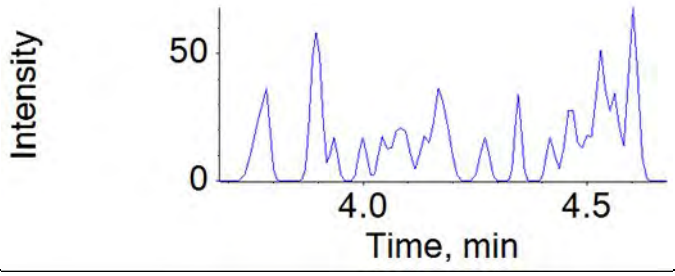
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

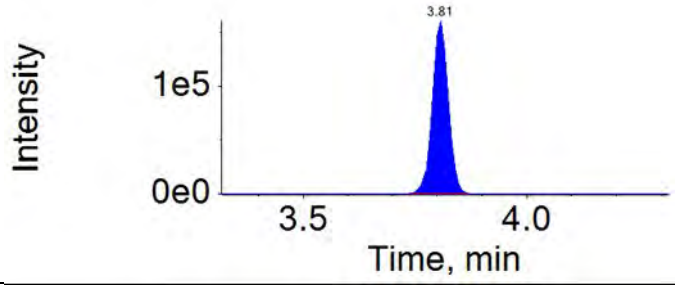
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



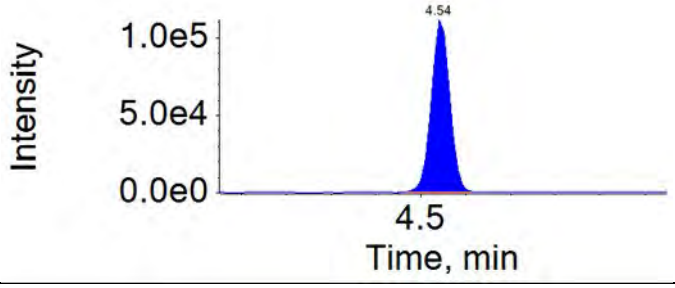



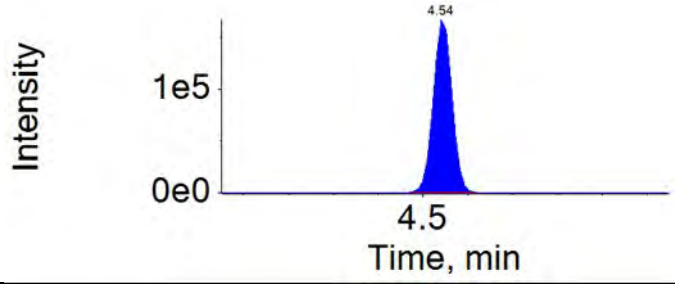

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



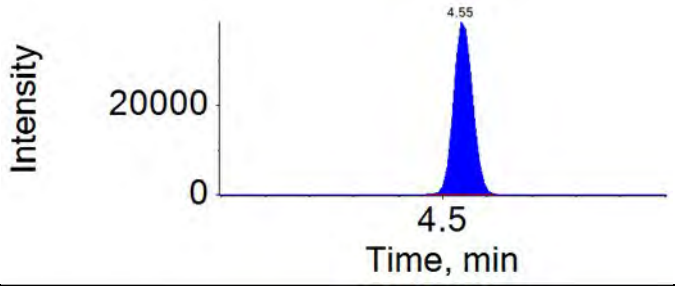



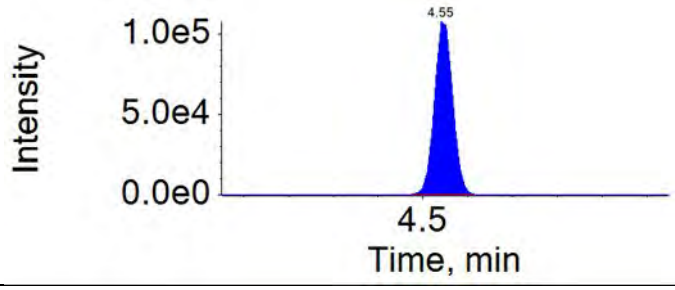

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |



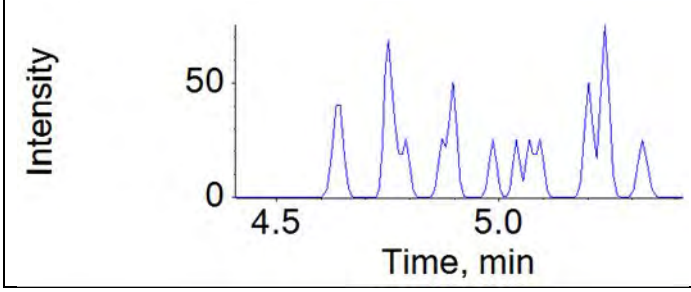
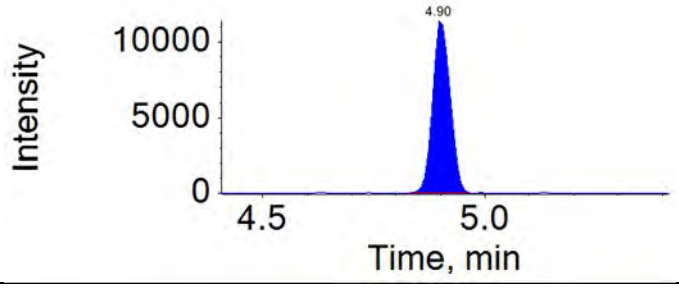




| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |



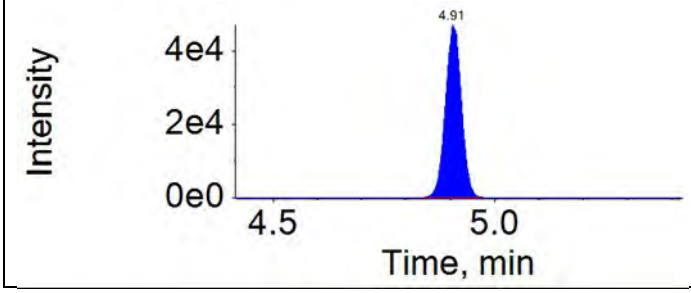
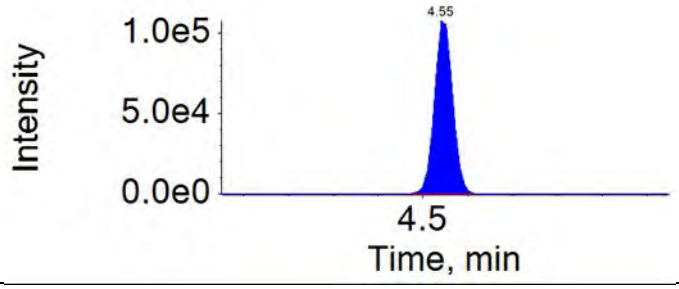



**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |
|  |  |

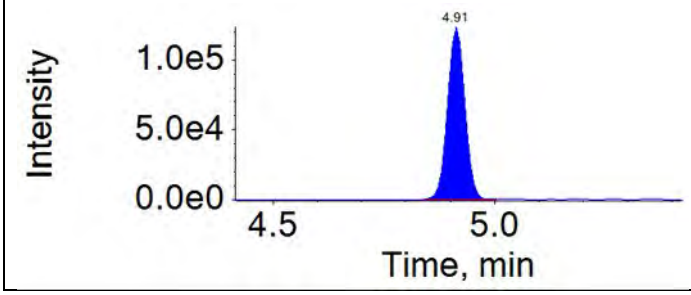
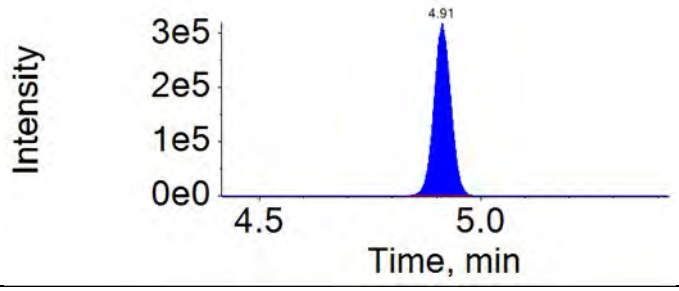




| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |
|  |  |

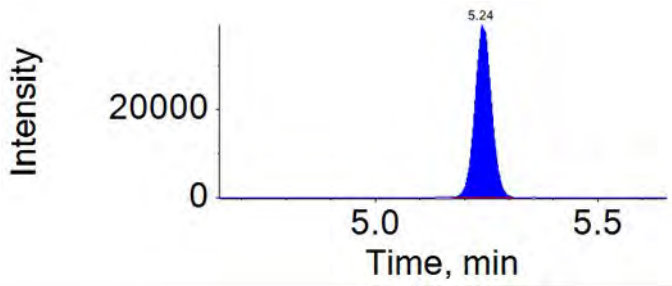
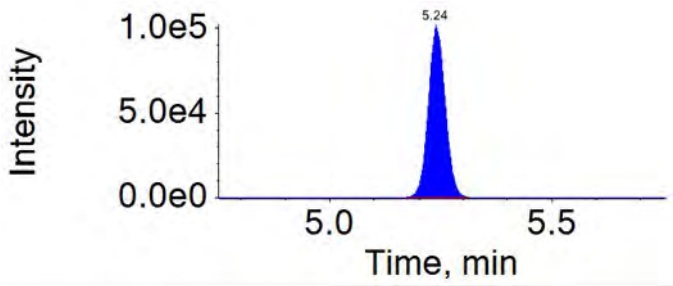




| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |
|  |  |





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





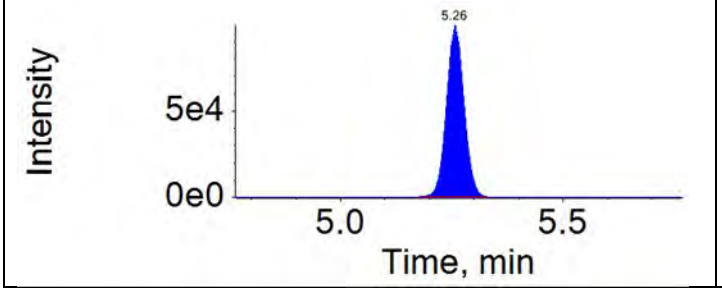
APPROVED
*By MCD at 3:23 pm, 1/10/19*

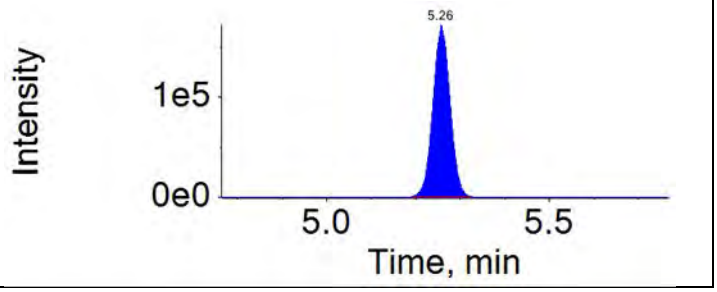


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

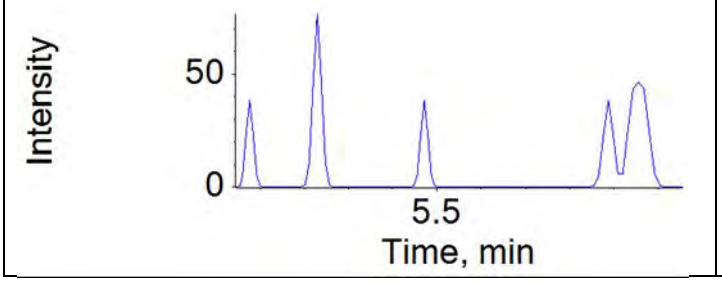
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

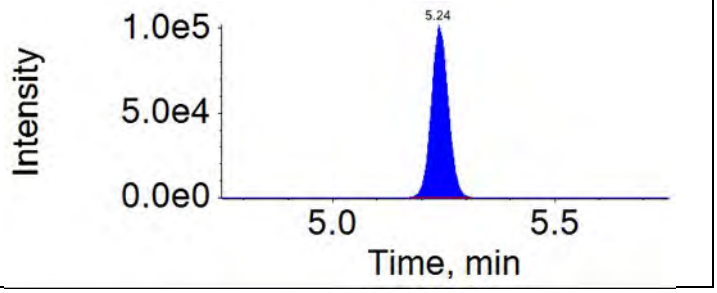
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



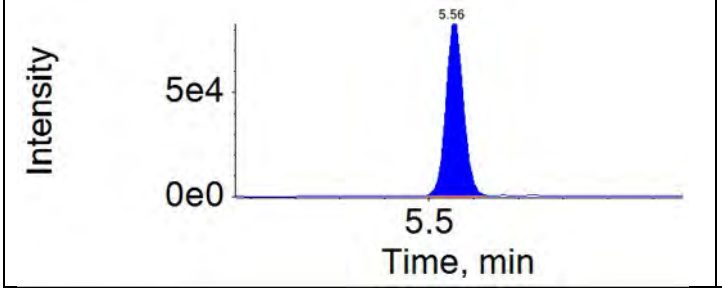



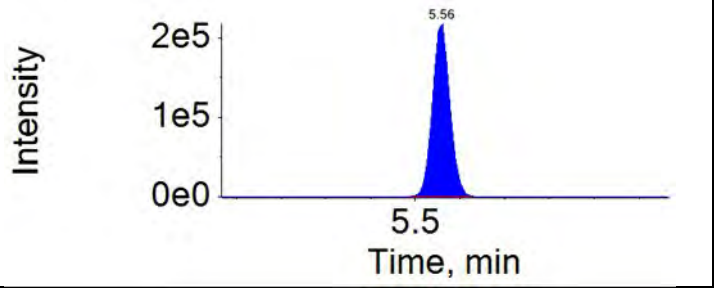

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



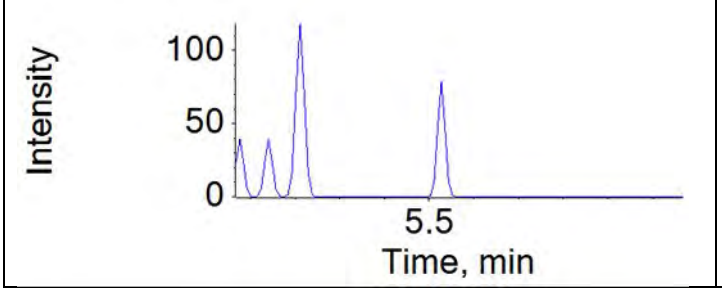



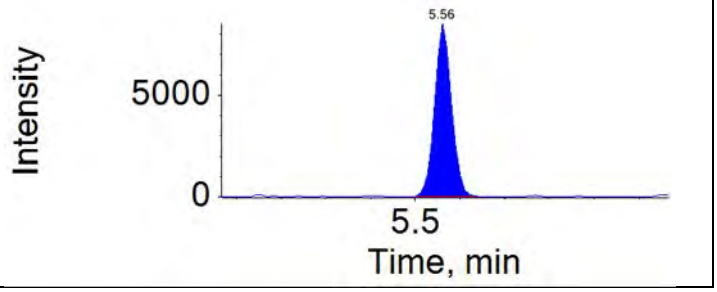

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



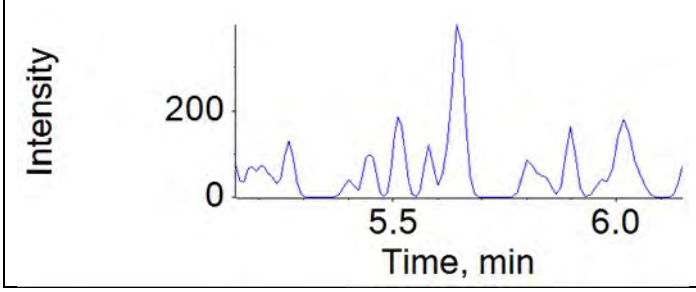
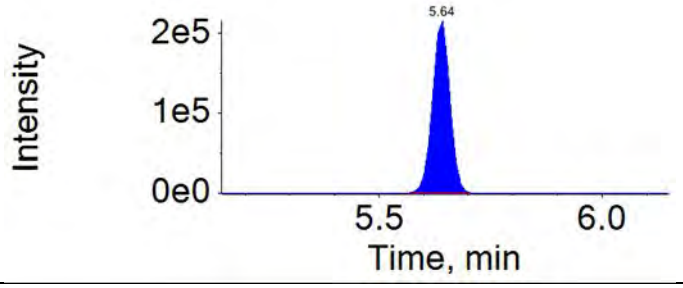




APPROVED
*By MCD at 3:23 pm, 1/10/19*



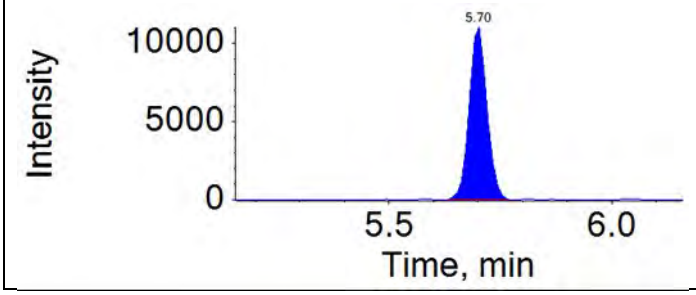
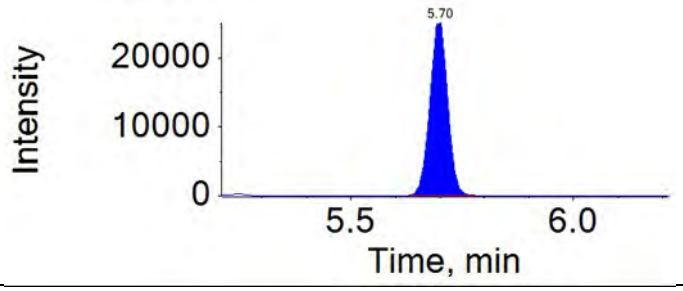
REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |
|  |  |

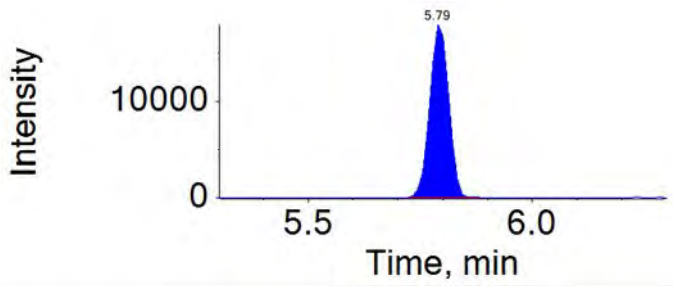
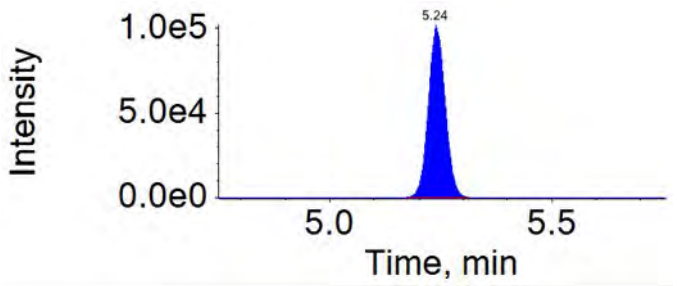




| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |
|  |  |

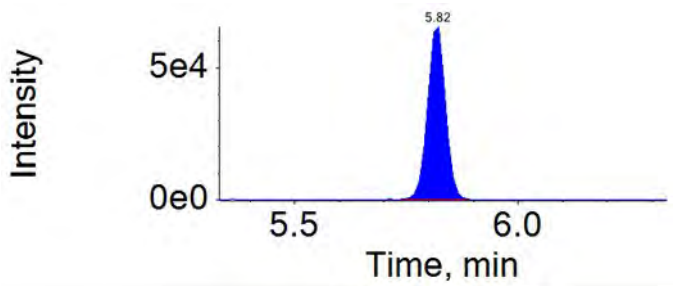
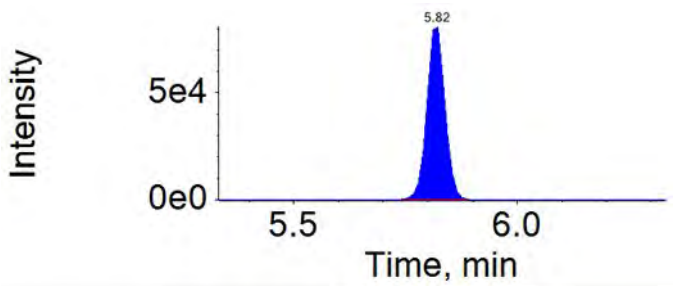




| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |
|  |  |





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





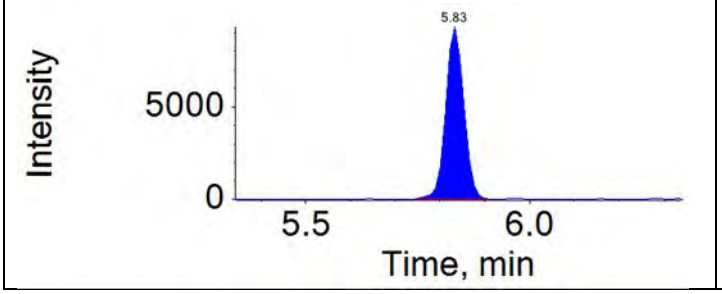
APPROVED
By MCD at 3:23 pm, 1/10/19

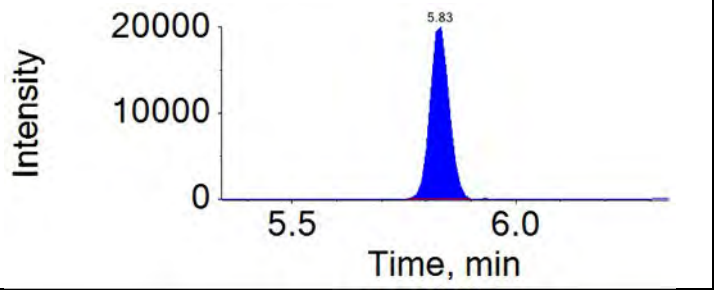


REVIEWED
By ucmr at 3:21 pm, 1/25/19

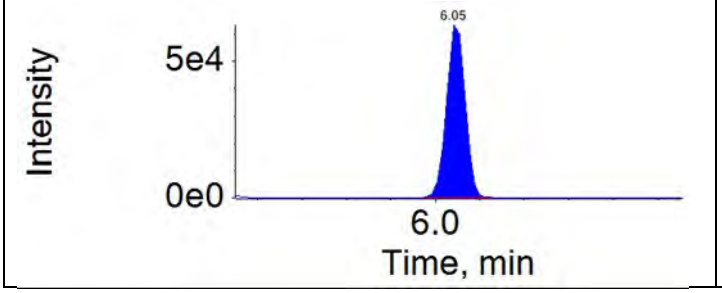
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

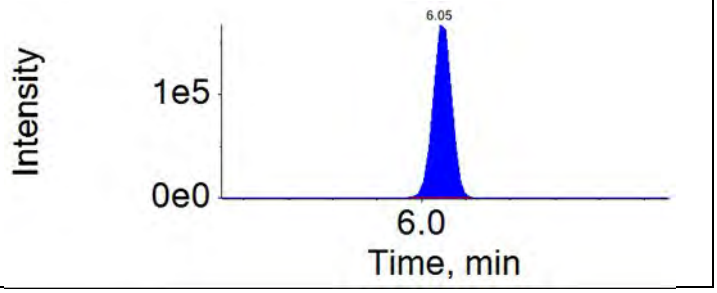
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



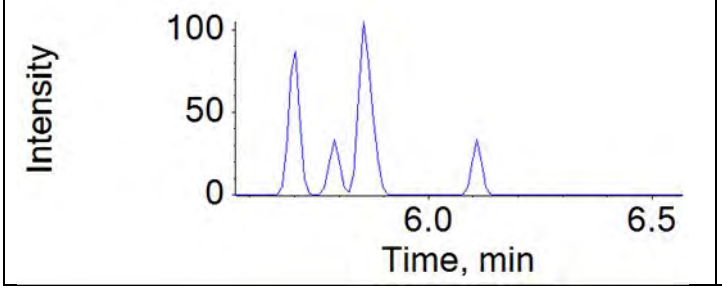



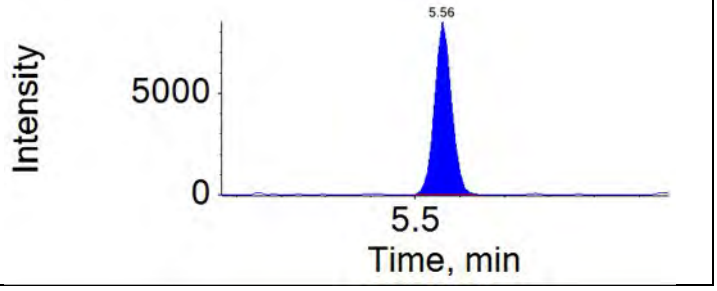

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



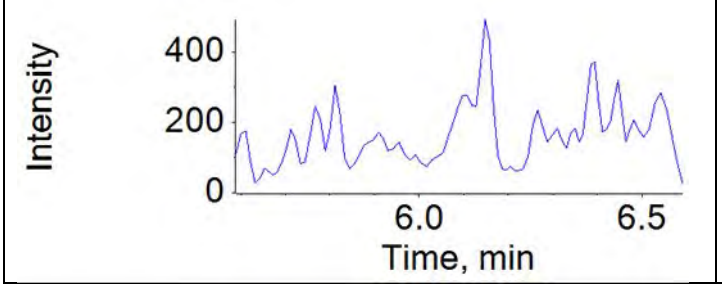



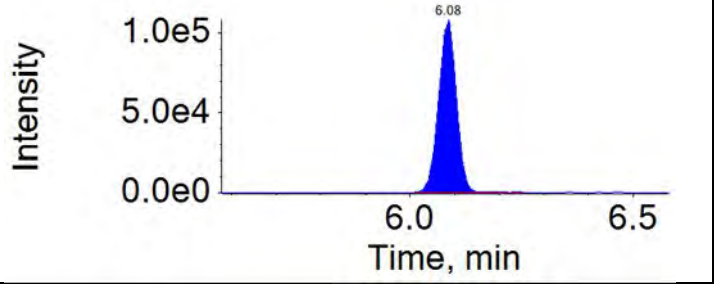

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



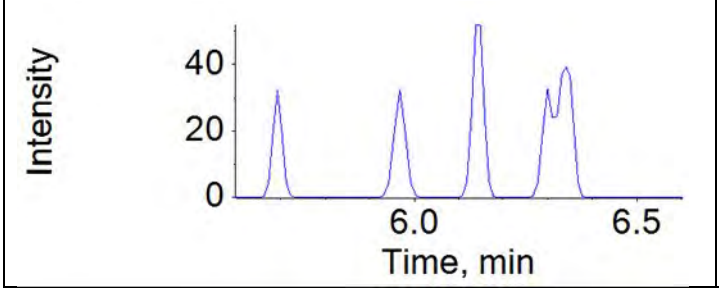

APPROVED
*By MCD at 3:23 pm, 1/10/19*

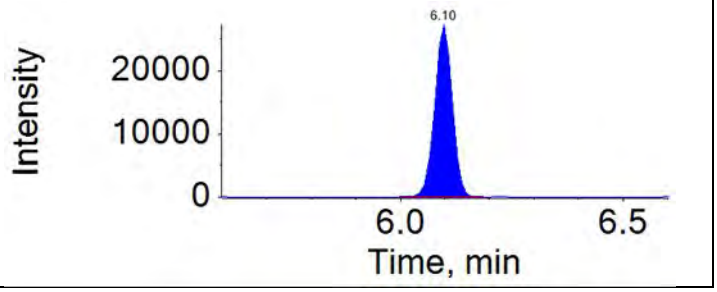


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

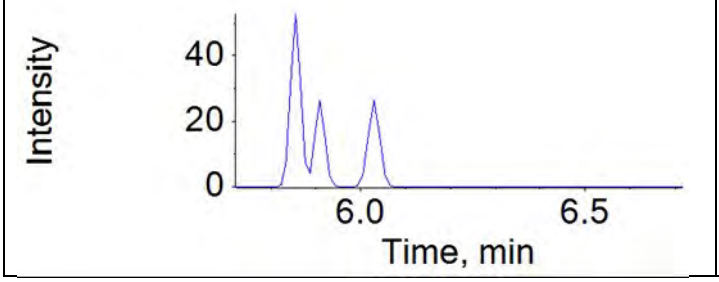
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

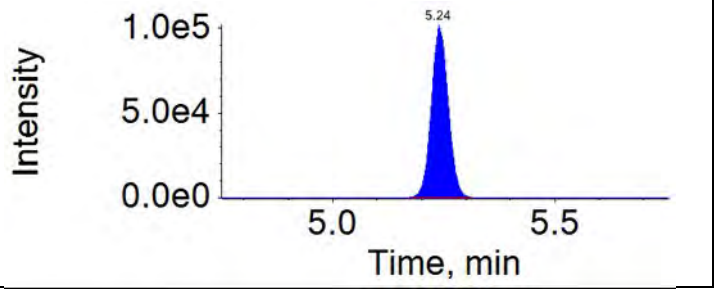
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



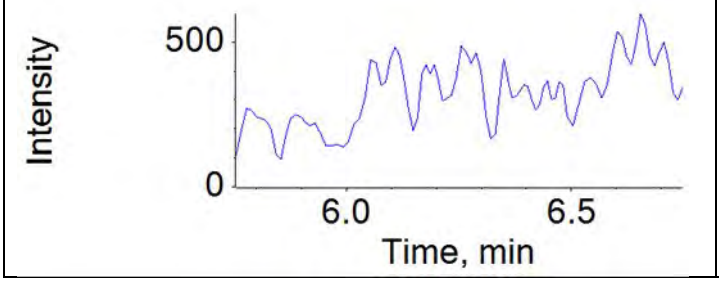



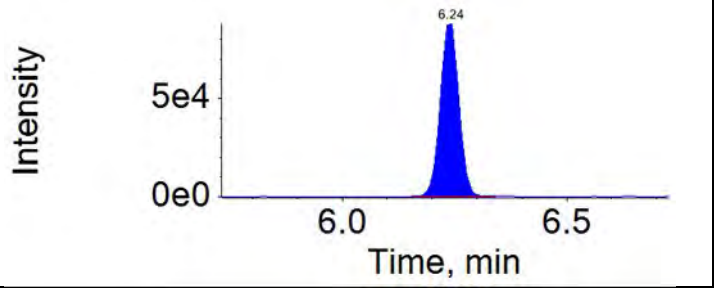

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



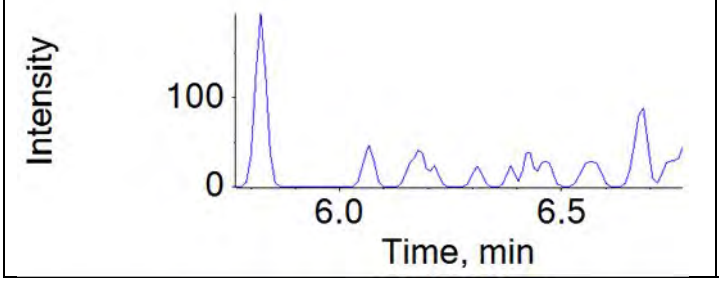



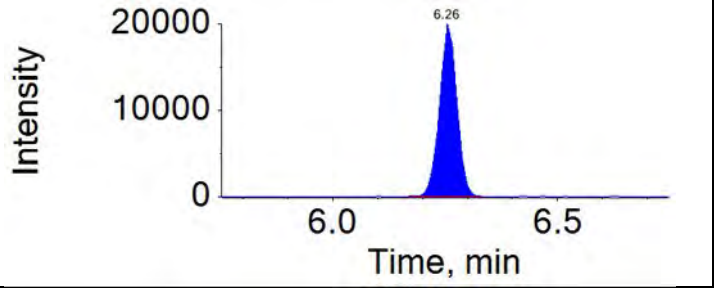

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



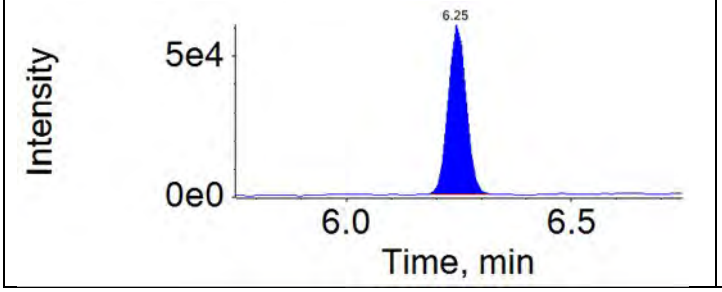

APPROVED
*By MCD at 3:23 pm, 1/10/19*

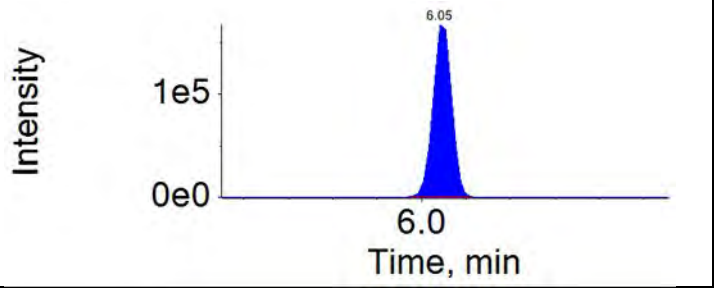


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

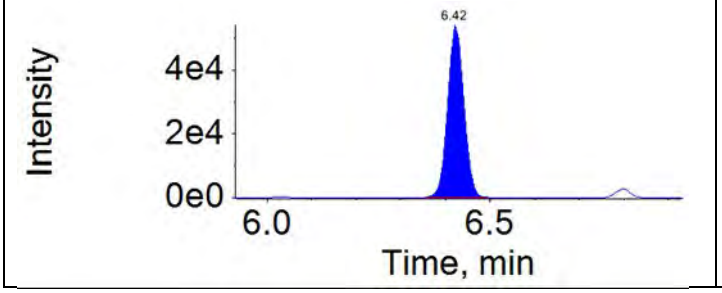
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL_Updated 1/10/2019 3:19:00 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

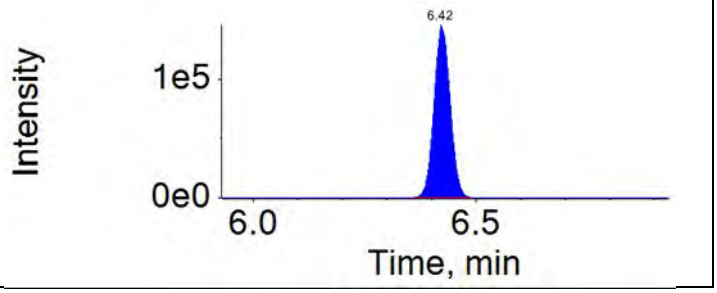
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



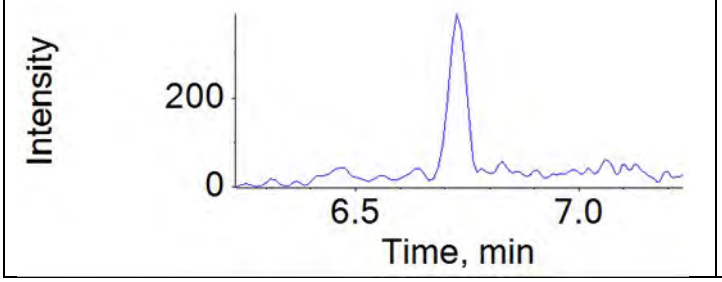



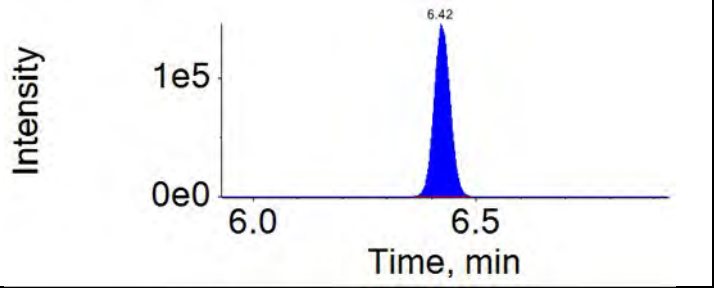

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



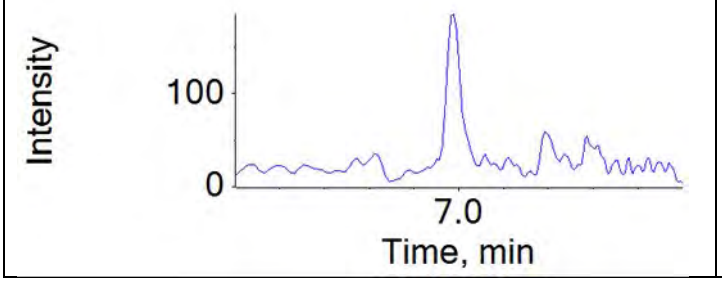



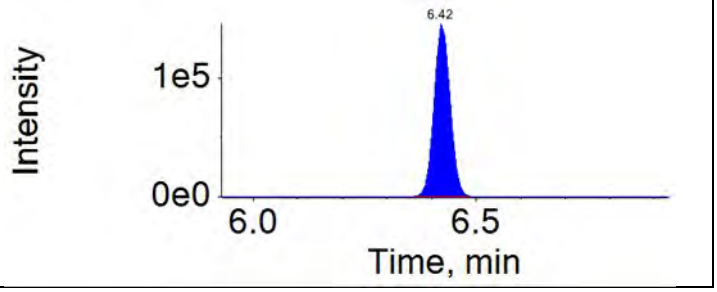

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




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



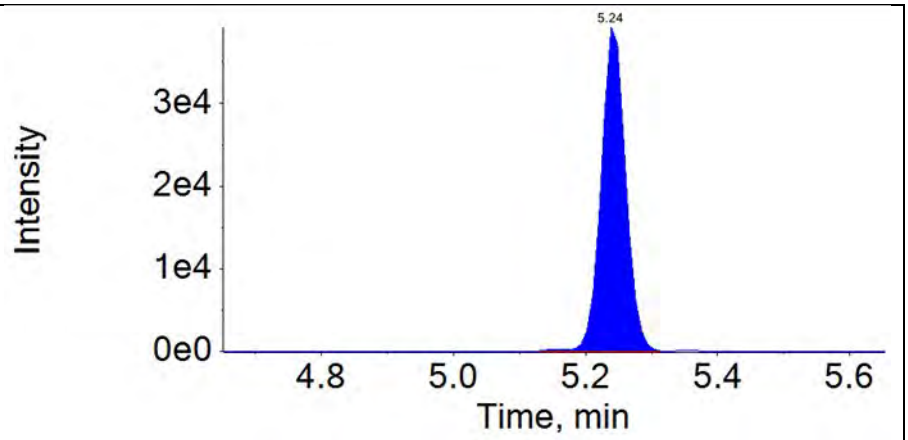

APPROVED
*By MCD at 3:23 pm, 1/10/19*



REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

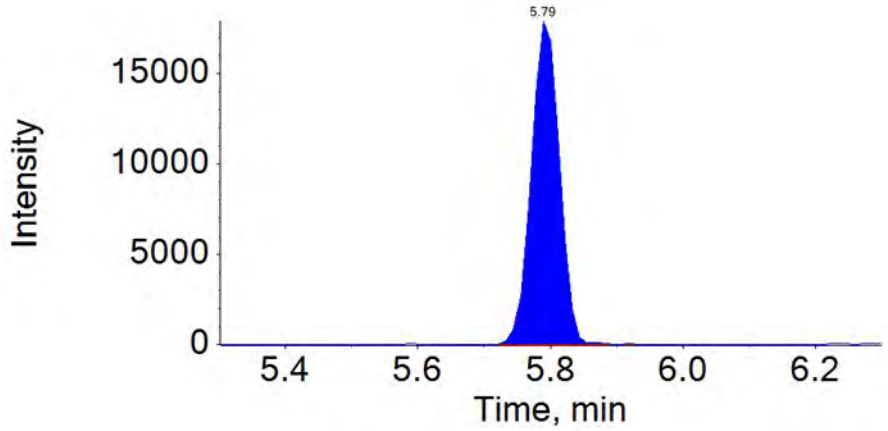
**Results Table Name:** 18NOV12DCAL_Updated
**Results Table Date:** 1/10/2019 3:19:00 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFOS
**RT (min.):**
5.24
**Peak Area:**
101508.8
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-50.wiff
**Sample Name:**
ICV



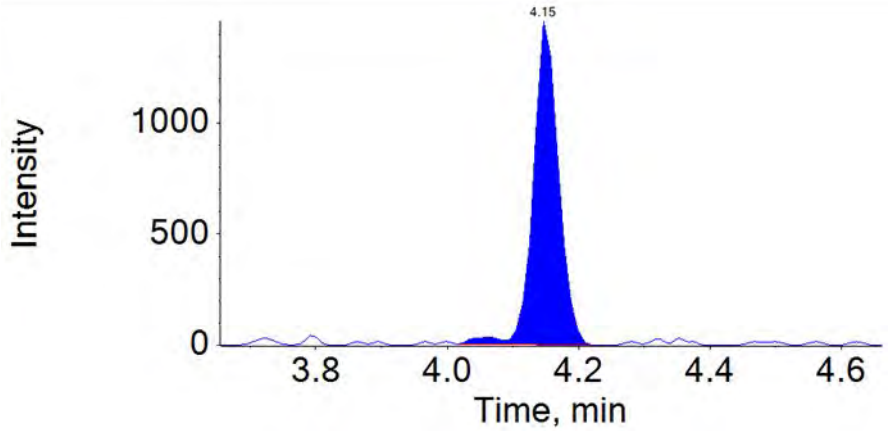

**Integration Comment:** incorrect integration

**Component Name:**
PFDS
**RT (min.):**
5.79
**Peak Area:**
52928.5
**Mass Range:**
599.0 / 80.0
**File Name:**
18NOV12DCAL-50.wiff
**Sample Name:**
ICV




**Integration Comment:** incorrect integration

**Component Name:**
PFHxA_2
**RT (min.):**
4.15
**Peak Area:**
3909.7
**Mass Range:**
313.0 / 119.0
**File Name:**
18NOV12DCAL-50.wiff
**Sample Name:**
ICV



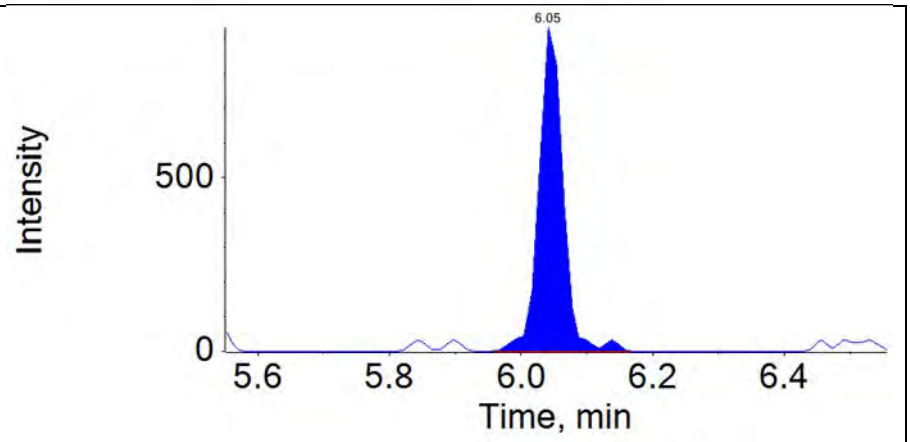

**Integration Comment:** incorrect integration

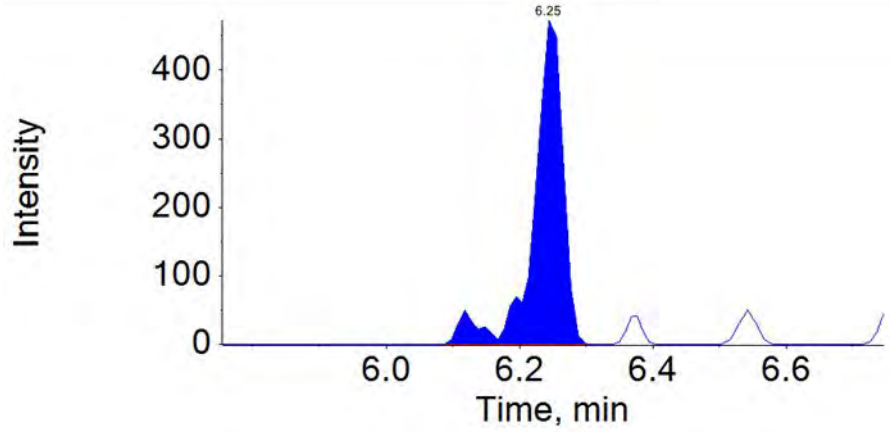
APPROVED
*By MCD at 3:23 pm, 1/10/19*



REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

**Results Table Name:** 18NOV12DCAL_Updated
**Results Table Date:** 1/10/2019 3:19:00 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFDoDA_2<br>**RT (min.):** 6.05<br>**Peak Area:** 2399.9<br>**Mass Range:** 613.0 / 169.0<br>**File Name:** 18NOV12DCAL-50.wiff<br>**Sample Name:** ICV | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFTrDA_2<br>**RT (min.):** 6.25<br>**Peak Area:** 1468.6<br>**Mass Range:** 663.0 / 169.0<br>**File Name:** 18NOV12DCAL-50.wiff<br>**Sample Name:** ICV | <br>**Integration Comment:** incorrect integration |

APPROVED
*By MCD at 3:23 pm, 1/10/19*



REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

**Results Table Name:** 18NOV12DCAL_Updated
**Results Table Date:** 1/10/2019 3:19:00 PM

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

# Ion Ratio Report

**Sample Name:** ICV **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-50.wiff

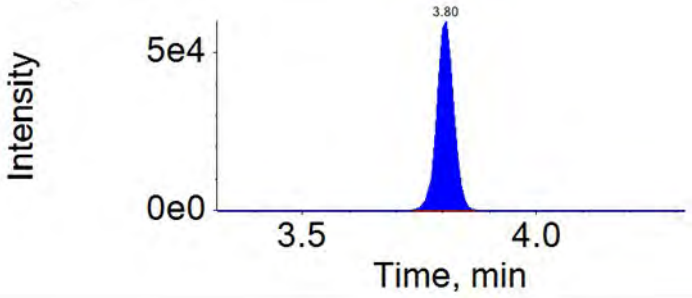
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.80 | 1.00 | 150059.6 | A | N/A | 0.3773 | | | |
| PFBS_2 | 3.81 | 1.00 | 56617.7 | A | N/A | 0.3773 | 4 | 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 | | #NA! | |
| PFHxA | 4.15 | 1.00 | 328694.3 | A | N/A | 0.0117 | | | |
| PFHxA_2 | 4.15 | 1.00 | 3829.7 | M | N/A | 0.0117 | 0 | 50 | |
| PFPeS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFPeS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHpA | 4.54 | 1.00 | 316975.3 | A | N/A | 0.0530 | | | |
| PFHpA_2 | 4.54 | 1.00 | 16790.6 | A | N/A | 0.0530 | -6 | 50 | |
| PFHxS | 4.55 | 1.00 | 115564.2 | A | N/A | 0.3340 | | | |
| PFHxS_2 | 4.55 | 1.00 | 38596.8 | A | N/A | 0.3340 | -3 | 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 | | #NA! | |
| PFHpS | 4.91 | 1.08 | 118318.7 | A | N/A | 0.3735 | | | |
| PFHpS_2 | 4.91 | 1.08 | 44193.2 | A | N/A | 0.3735 | -8 | 50 | |
| PFOA | 4.91 | 1.00 | 332094.4 | A | N/A | 0.0559 | | | |
| PFOA_2 | 4.91 | 1.00 | 18574.5 | A | N/A | 0.0559 | 0 | 50 | |
| PFOS | 5.24 | 1.00 | 100952.5 | M | N/A | 0.3741 | | | |
| PFOS_2 | 5.24 | 1.00 | 37762.8 | A | N/A | 0.3741 | 26 | 50 | |
| PFNA | 5.26 | 1.00 | 271240.4 | A | N/A | 0.0190 | | | |
| PFNA_2 | 5.26 | 1.00 | 5150.4 | A | N/A | 0.0190 | -17 | 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 | 5.56 | 1.00 | 224279.7 | A | N/A | 0.0061 | | | |
| PFDA_2 | 5.56 | 1.00 | 1372.7 | A | N/A | 0.0061 | -24 | 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 | | #NA! | |
| NMeFOSAA | 5.70 | 1.00 | 30591.9 | A | N/A | 0.2719 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 8316.9 | A | N/A | 0.2719 | 6 | 50 | |
| PFDS | 5.79 | 1.11 | 52860.9 | M | N/A | 0.5291 | | | |
| PFDS_2 | 5.79 | 1.11 | 27969.6 | A | N/A | 0.5291 | 3 | 50 | |
| PFUnDA | 5.82 | 1.00 | 183511.3 | A | N/A | 0.0078 | | | |
| PFUnDA_2 | 5.82 | 1.00 | 1432.4 | A | N/A | 0.0078 | 34 | 50 | |
| NEtFOSAA | 5.83 | 1.00 | 26149.3 | A | N/A | 0.6365 | | | |
| NEtFOSAA_2 | 5.83 | 1.00 | 16644.9 | A | N/A | 0.6365 | -12 | 50 | |
| PFDoDA | 6.05 | 1.00 | 185295.0 | A | N/A | 0.0127 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 2349.0 | M | N/A | 0.0127 | -19 | 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 | | #NA! | |
| PFTrDA | 6.25 | 1.03 | 165153.1 | A | N/A | 0.0082 | | | |
| PFTrDA_2 | 6.25 | 1.03 | 1357.0 | M | N/A | 0.0082 | -4 | 50 | |
| PFTeDA | 6.42 | 1.00 | 135651.0 | A | N/A | 0.0054 | | | |
| PFTeDA_2 | 6.42 | 1.00 | 727.0 | A | N/A | 0.0054 | -14 | 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 3:23 pm, 1/10/19*

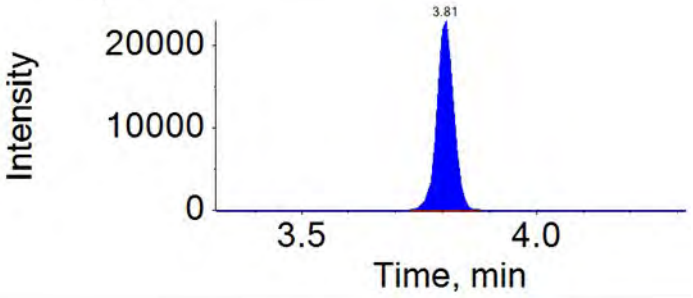


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

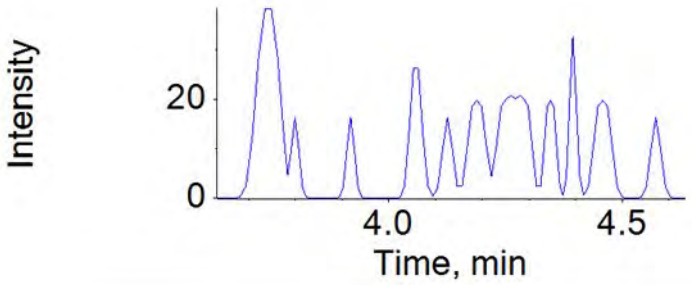
Component: PFBS
Primary Mass: 299.0 / 80.0



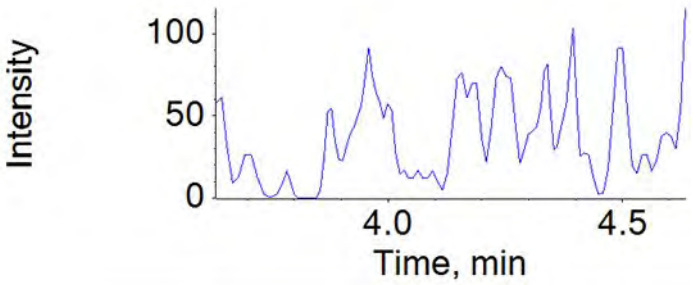

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



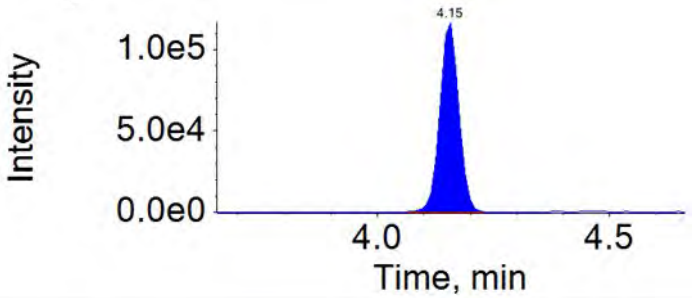

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



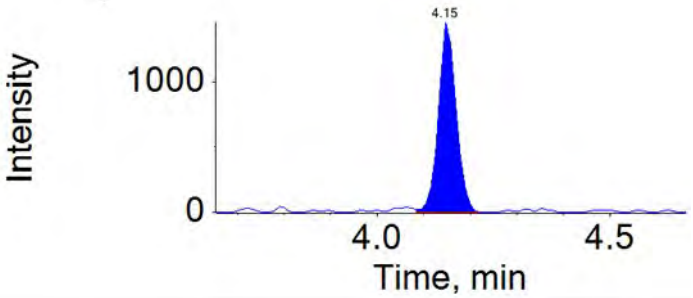

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



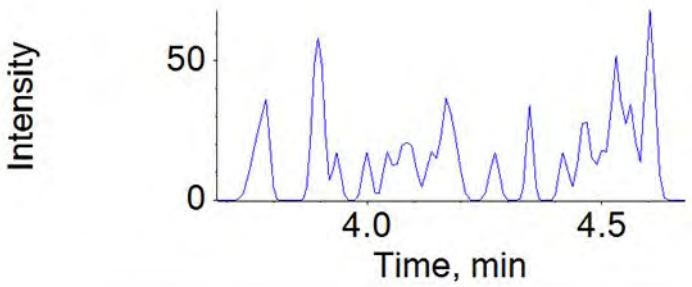

Component: PFHxA
Primary Mass: 313.0 / 269.0



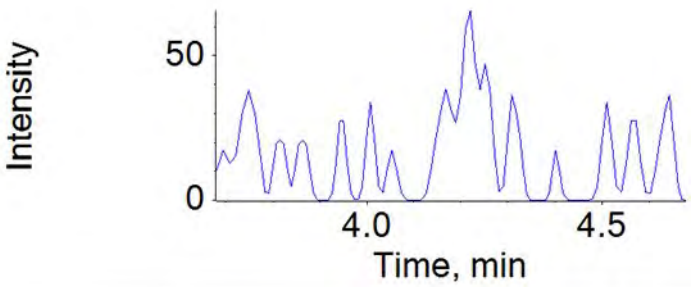

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

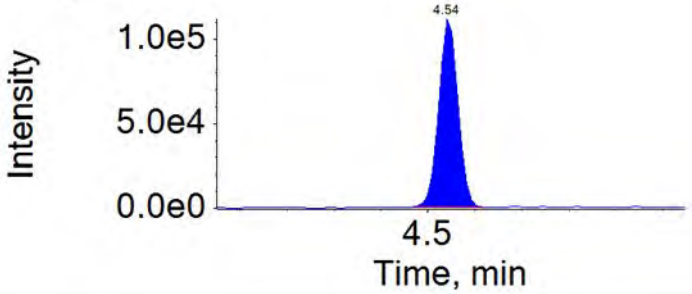



APPROVED
*By MCD at 3:23 pm, 1/10/19*

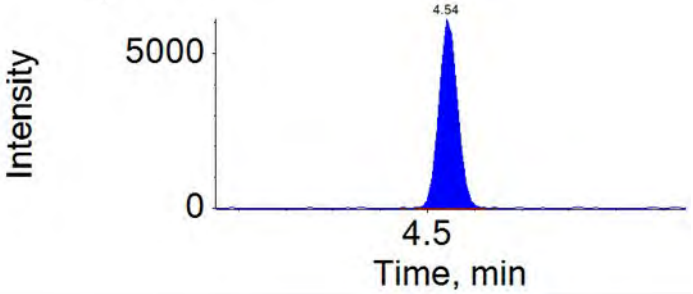


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

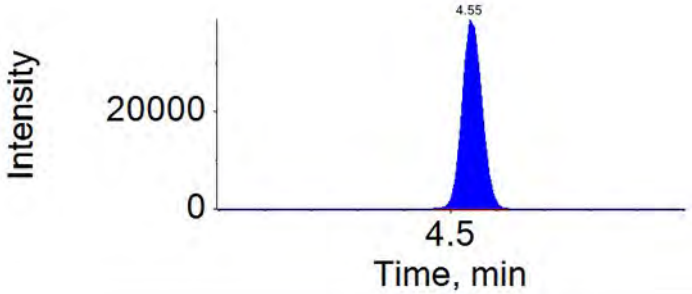
Component: PFHpA
Primary Mass: 363.0 / 319.0



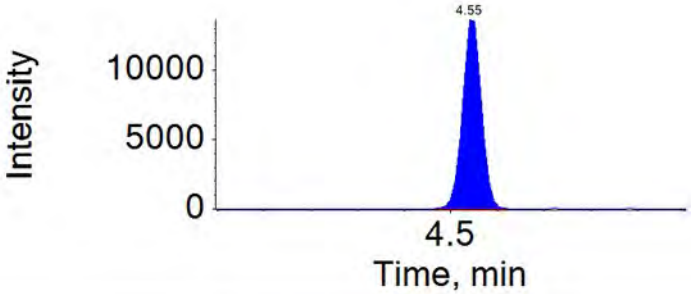

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



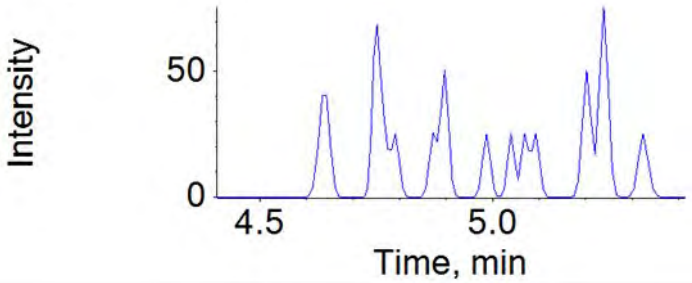

Component: PFHxS
Primary Mass: 399.0 / 80.0



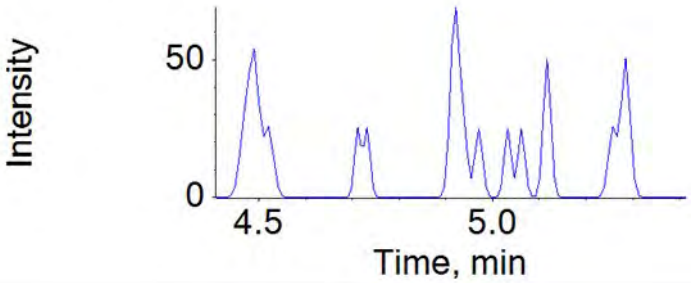

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



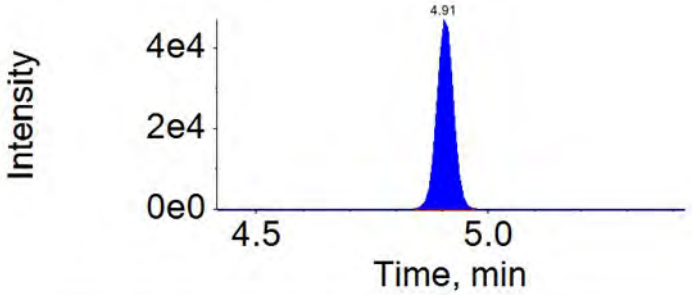

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



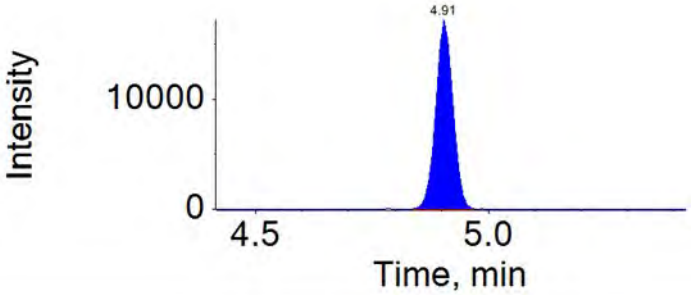

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0



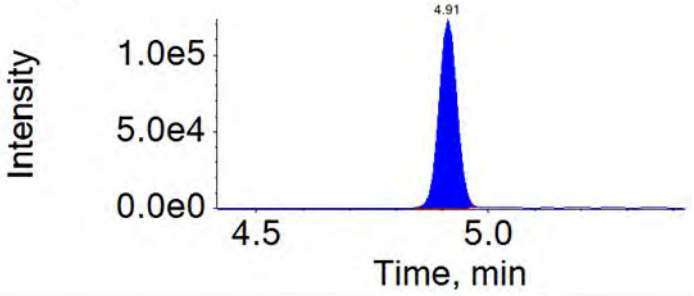

Component: PFHpS
Primary Mass: 449.0 / 80.0



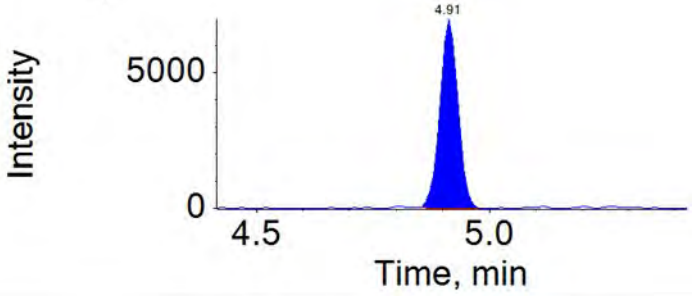

Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



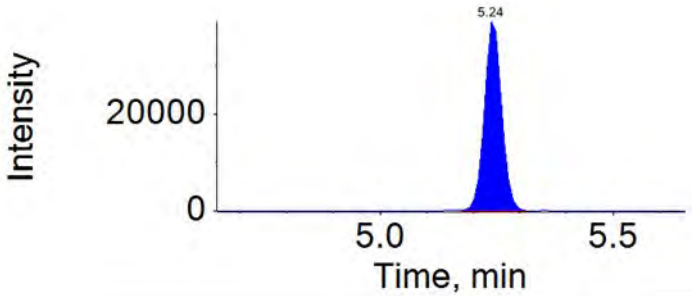
Component: PFOA
Primary Mass: 413.0 / 369.0



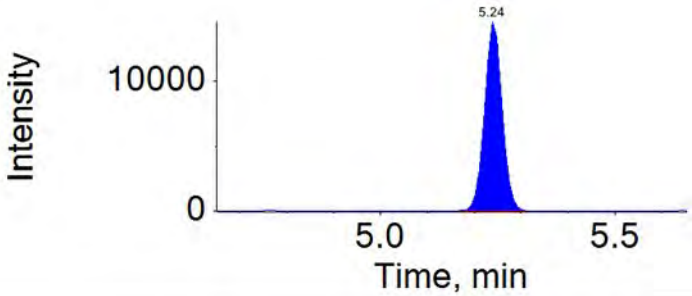

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



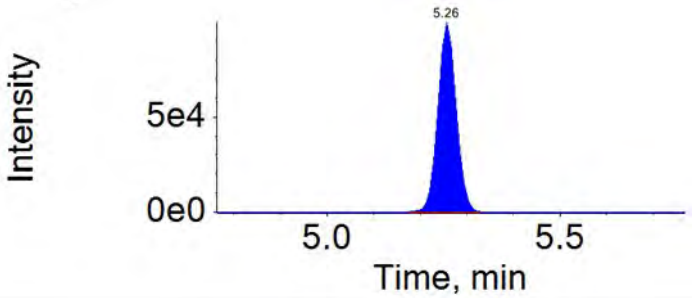

Component: PFOS
Primary Mass: 499.0 / 80.0



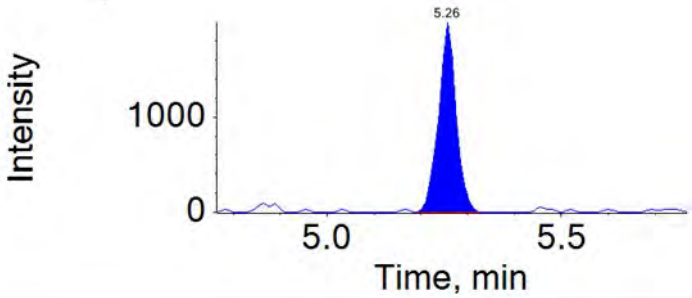

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



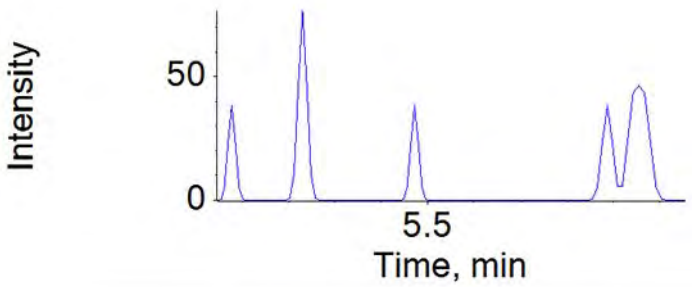

Component: PFNA
Primary Mass: 463.0 / 419.0



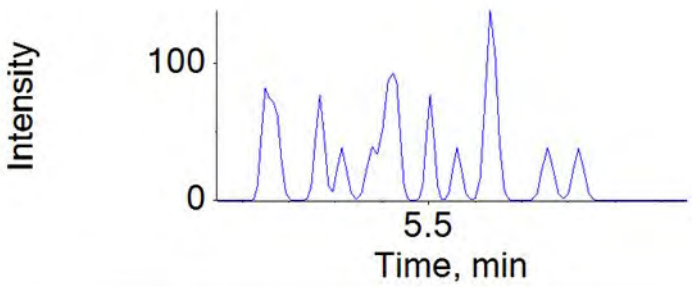

Component: PFNA_2
Secondary Mass: 463.0 / 169.0



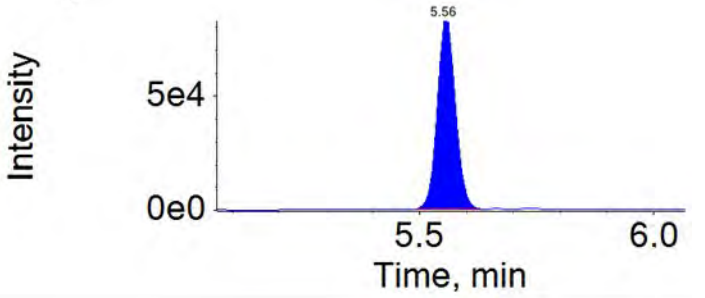

Component: PFNS
Primary Mass: 549.0 / 80.0



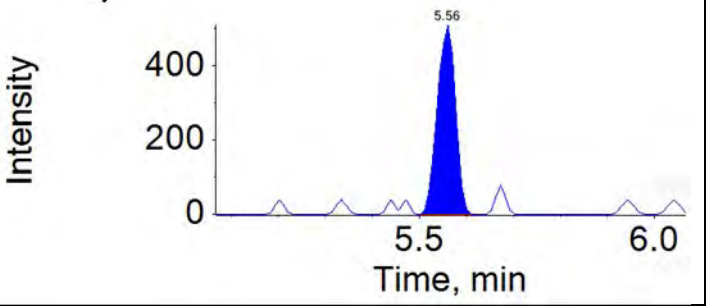

Component: PFNS_2
Secondary Mass: 549.0 / 99.0



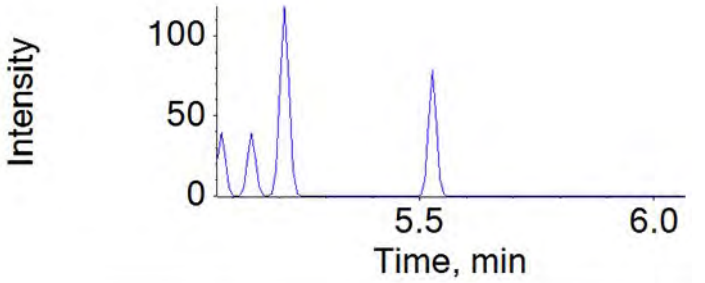
Component: PFDA
Primary Mass: 513.0 / 469.0



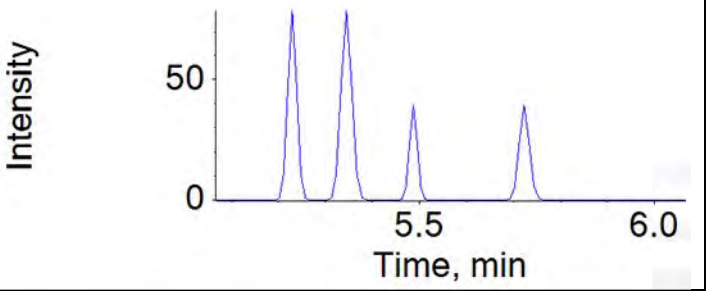

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



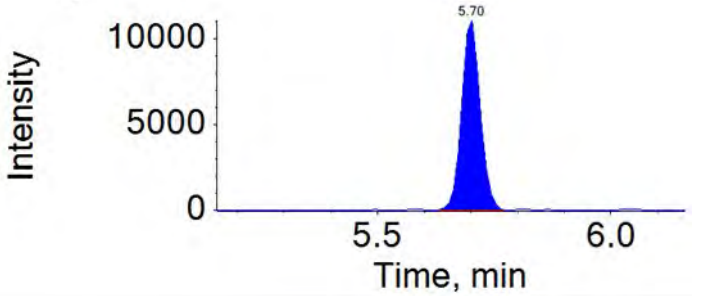

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



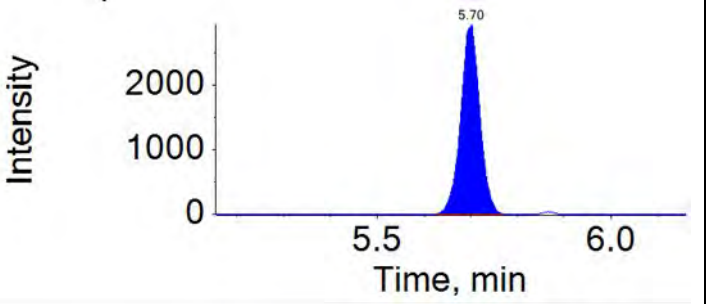

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



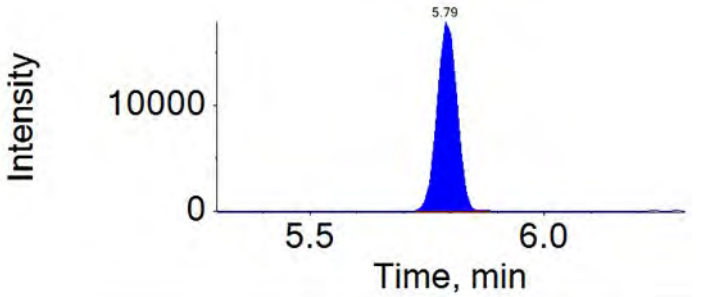

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



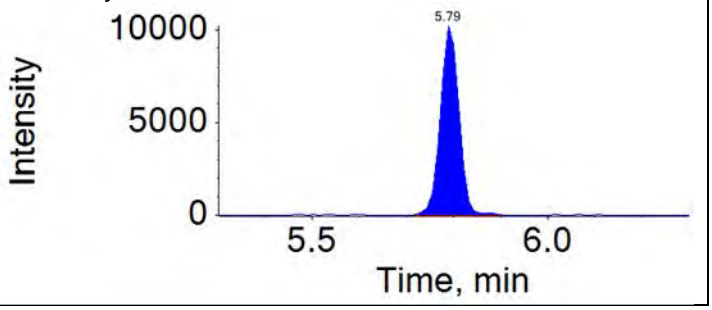

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

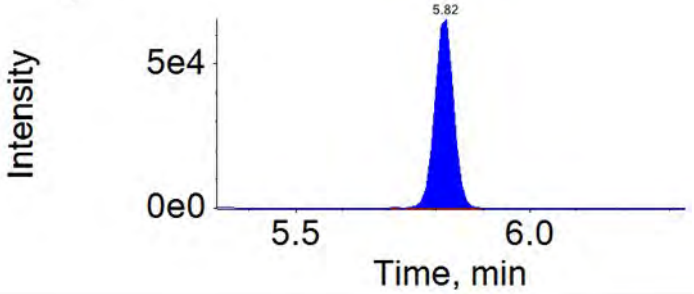



APPROVED
*By MCD at 3:23 pm, 1/10/19*

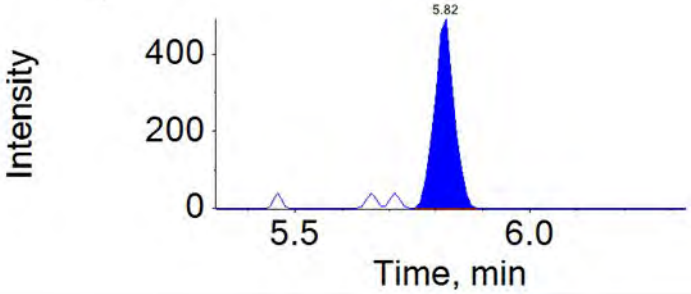


REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

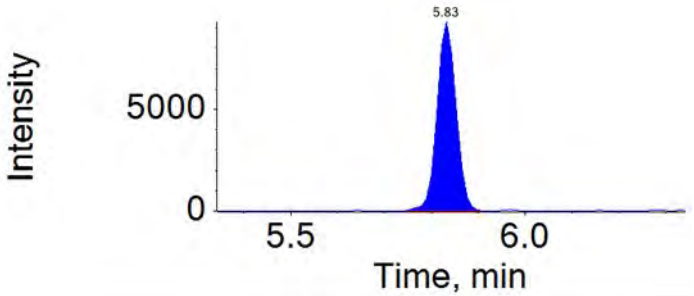
Component: PFUnDA
Primary Mass: 563.0 / 519.0



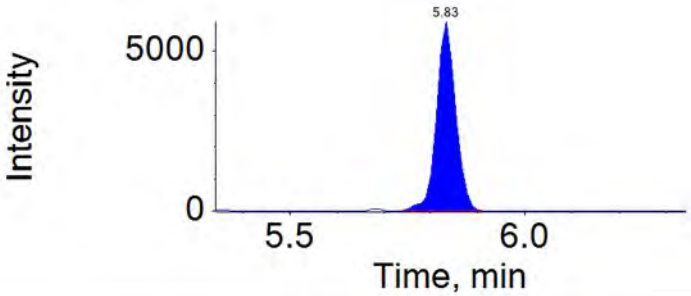

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



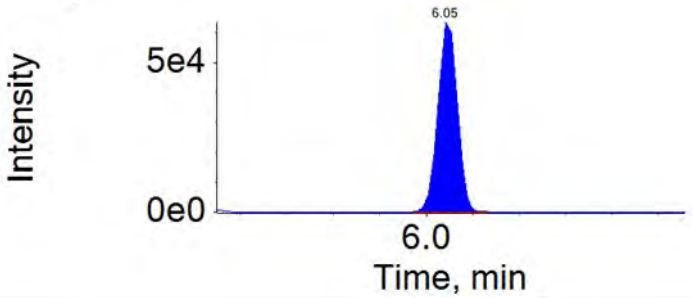

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



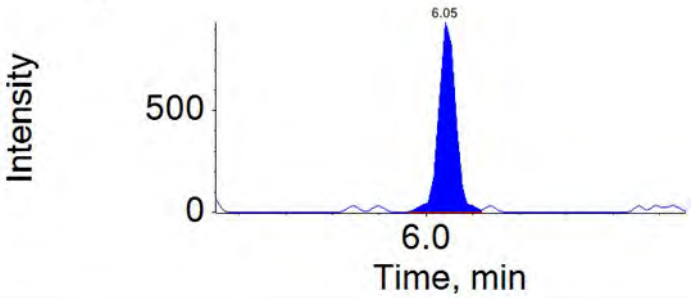

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



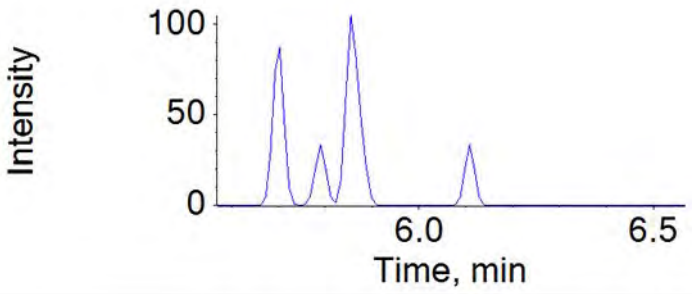

Component: PFDoDA
Primary Mass: 613.0 / 569.0



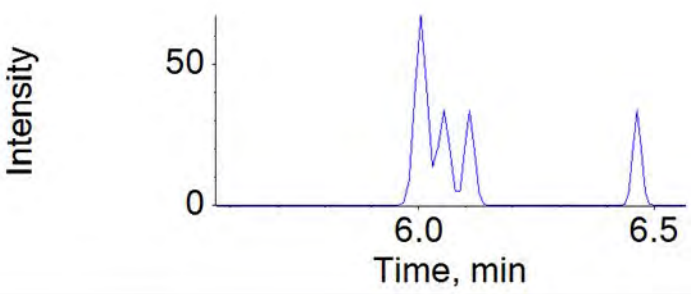

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



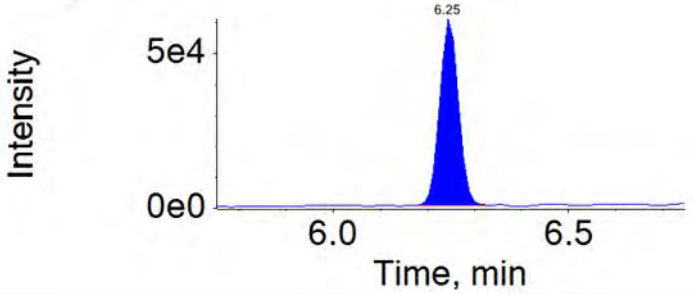

Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



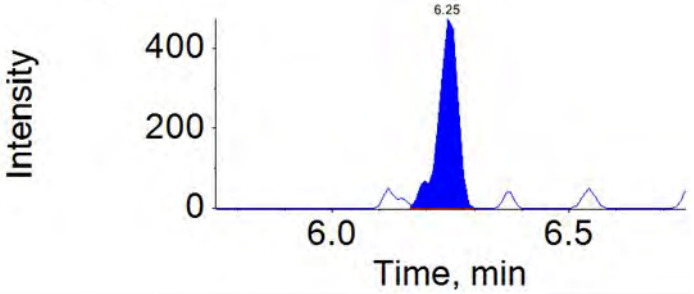

Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0



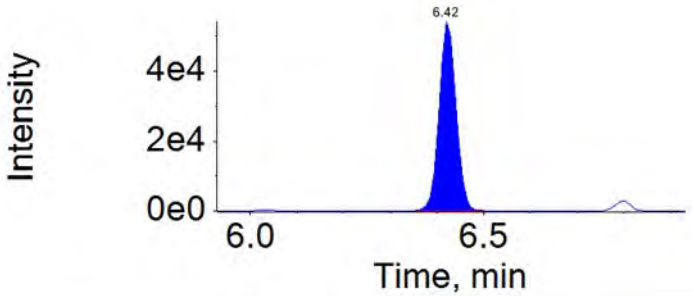
Component: PFTrDA
Primary Mass: 663.0 / 619.0



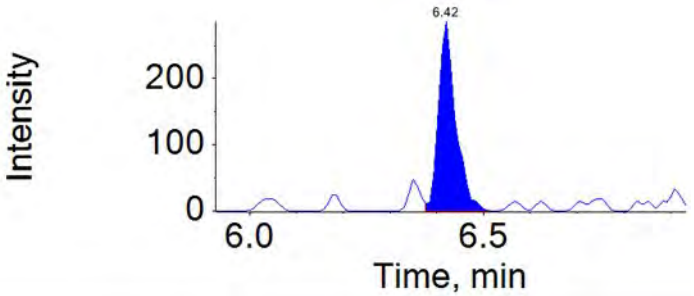

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



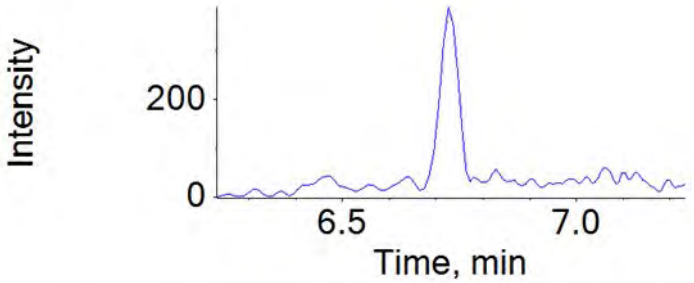

Component: PFTeDA
Primary Mass: 713.0 / 669.0



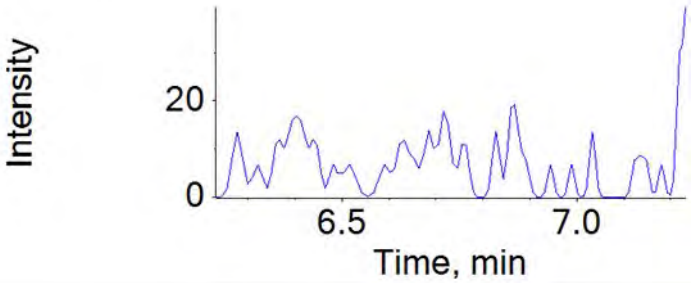

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



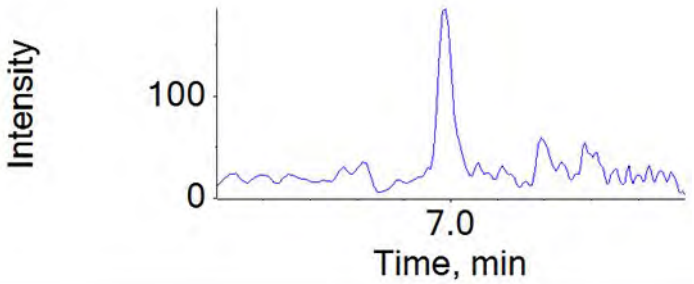

Component: PFHxDA
Primary Mass: 813.0 / 769.0



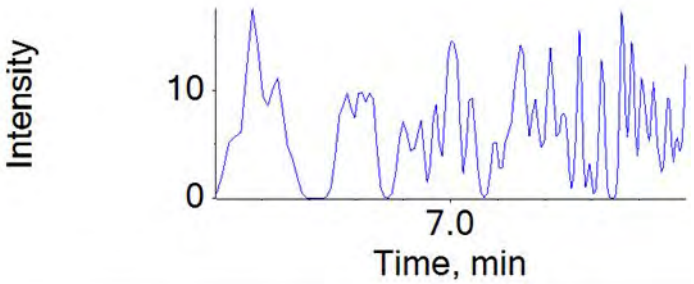

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0






APPROVED
*By MCD at 3:23 pm, 1/10/19*



REVIEWED
*By ucmr at 3:21 pm, 1/25/19*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | L+B CAL3 | | | **Data File:** | | 18NOV12DCAL-51.wiff |
| **Sample ID:** | LBMODX1833D | | | **Acquis Date:** | | 2018-11-12T16:27:15 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 11 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 682528.6 | 659926.2 | 3 | 50 | |
| 13C2-PFOA | 5.0 | 446810.2 | 450219.7 | -1 | 50 | |
| 13C4-PFOS | 4.8 | 256014.8 | 249205.8 | 3 | 50 | |
| 13C2-PFDA | 5.0 | 295115.2 | 278743.9 | 6 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 735331.8 | 13C3-PFBA | 682528.6 | 1.077 | 5.000 | 4.830 | 97 | 70-130 | |
| E13C5-PFPeA | 714738.5 | 13C3-PFBA | 682528.6 | 1.047 | 5.000 | 4.697 | 94 | 70-130 | |
| E13C3-PFBS | 418749.4 | 13C3-PFBA | 682528.6 | 0.614 | 4.650 | 4.331 | 93 | 70-130 | |
| E13C2-4:2-FTS | 45470.2 | 13C2-PFOA | 446810.2 | 0.102 | 4.670 | 4.532 | 97 | 70-130 | |
| E13C5-PFHxA | 624943.7 | 13C2-PFOA | 446810.2 | 1.399 | 5.000 | 5.052 | 101 | 70-130 | |
| E13C3-PFHxS | 318599.1 | 13C2-PFOA | 446810.2 | 0.713 | 4.730 | 4.893 | 103 | 70-130 | |
| E13C4-PFHpA | 492218.6 | 13C2-PFOA | 446810.2 | 1.102 | 5.000 | 4.963 | 99 | 70-130 | |
| E13C2-6:2-FTS | 35757.3 | 13C2-PFOA | 446810.2 | 0.080 | 4.750 | 5.354 | 113 | 70-130 | |
| E13C8-PFOA | 860795.2 | 13C2-PFOA | 446810.2 | 1.927 | 5.000 | 5.308 | 106 | 70-130 | |
| E13C8-PFOS | 257626.7 | 13C4-PFOS | 256014.8 | 1.006 | 4.780 | 4.459 | 93 | 70-130 | |
| E13C9-PFNA | 443649.2 | 13C4-PFOS | 256014.8 | 1.733 | 5.000 | 4.832 | 97 | 70-130 | |
| E13C6-PFDA | 588492.8 | 13C2-PFDA | 295115.2 | 1.994 | 5.000 | 4.653 | 93 | 70-130 | |
| E13C2-8:2-FTS | 26035.6 | 13C2-PFDA | 295115.2 | 0.088 | 4.790 | 4.400 | 92 | 70-130 | |
| E13C8-PFOSA | 615348.9 | 13C2-PFDA | 295115.2 | 2.085 | 5.000 | 4.623 | 92 | 70-130 | |
| Ed3-NMeFOSAA | 69196.9 | 13C2-PFDA | 295115.2 | 0.234 | 5.000 | 4.232 | 85 | 70-130 | |
| E13C7-PFUnDA | 249433.8 | 13C2-PFDA | 295115.2 | 0.845 | 5.000 | 4.907 | 98 | 70-130 | |
| Ed5-NEtFOSAA | 70399.3 | 13C2-PFDA | 295115.2 | 0.239 | 5.000 | 5.047 | 101 | 70-130 | |
| E13C2-PFDoDA | 502206.8 | 13C2-PFDA | 295115.2 | 1.702 | 5.000 | 4.418 | 88 | 70-130 | |
| Ed7-NMePFOSAE | 314874.3 | 13C2-PFDA | 295115.2 | 1.067 | 5.000 | 4.617 | 92 | 70-130 | |
| Ed3-NMePFOSA | 80287.6 | 13C2-PFDA | 295115.2 | 0.272 | 5.000 | 4.943 | 99 | 70-130 | |
| Ed9-NEtPFOSAE | 265747.6 | 13C2-PFDA | 295115.2 | 0.900 | 5.000 | 4.683 | 94 | 70-130 | |
| Ed5-NEtPFOSA | 56128.1 | 13C2-PFDA | 295115.2 | 0.190 | 5.000 | 4.462 | 89 | 70-130 | |
| E13C2-PFTeDA | 379002.1 | 13C2-PFDA | 295115.2 | 1.284 | 5.000 | 4.509 | 90 | 70-130 | |

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

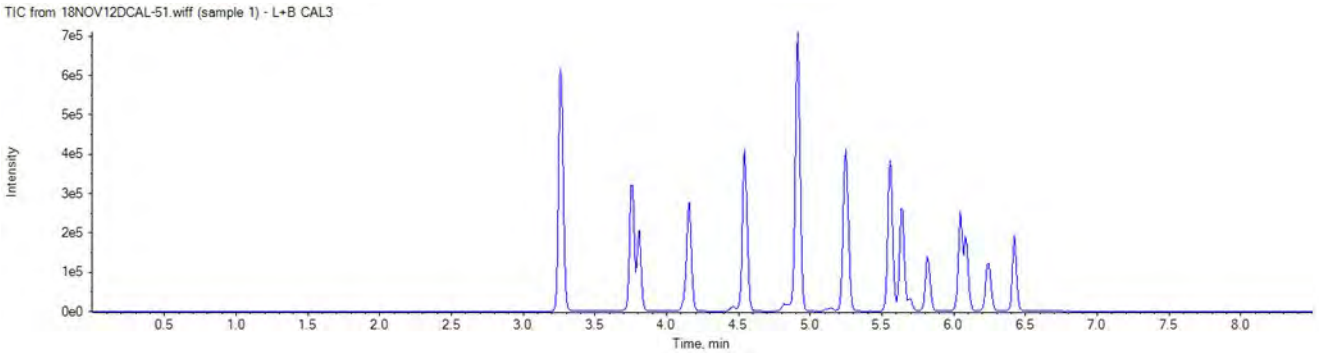
## Analyte Quantitation Peak Table

**Sample Name:** L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-51.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 | 735331.8 | N/A | |
| PFPeA | N/A | N/A | N/A | | A | 13C5-PFPeA | 3.76 | 714738.5 | N/A | |
| PFBS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.81 | 418749.4 | N/A | |
| 4:2-FTS | N/A | N/A | N/A | | A | 13C2-4:2-FTS | 4.12 | 45470.2 | N/A | |
| PFHxA | N/A | N/A | N/A | | A | 13C5-PFHxA | 4.15 | 624943.7 | N/A | |
| PFPeS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.81 | 418749.4 | N/A | |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.54 | 492218.6 | N/A | |
| PFHxS | 4.55 | 1.000 | 122359.8 | | M | 13C3-PFHxS | 4.55 | 318599.1 | 0.384 | 1.862 |
| 6:2-FTS | N/A | N/A | N/A | | A | 13C2-6:2-FTS | 4.90 | 35757.3 | N/A | |
| PFHpS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 318599.1 | N/A | |
| PFOA | 4.91 | 1.000 | 312625.4 | | M | 13C8-PFOA | 4.91 | 860795.2 | 0.363 | 1.940 |
| PFOS | 5.24 | 1.000 | 105809.8 | | M | 13C8-PFOS | 5.24 | 257626.7 | 0.411 | 1.796 |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.26 | 443649.2 | N/A | |
| PFNS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 257626.7 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.56 | 588492.8 | N/A | |
| 8:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.56 | 26035.6 | N/A | |
| PFOSA | N/A | N/A | N/A | | A | 13C8-PFOSA | 5.64 | 615348.9 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.70 | 69196.9 | N/A | |
| PFDS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 257626.7 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.82 | 249433.8 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.83 | 70399.3 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 502206.8 | N/A | |
| 10:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.56 | 26035.6 | N/A | |
| NMePFOSAE | N/A | N/A | N/A | | A | d7-NMePFOSAE | 6.08 | 314874.3 | N/A | |
| NMePFOSA | N/A | N/A | N/A | | A | d3-NMePFOSA | 6.10 | 80287.6 | N/A | |
| PFDoS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 257626.7 | N/A | |
| NEtPFOSAE | N/A | N/A | N/A | | A | d9-NEtPFOSAE | 6.24 | 265747.6 | N/A | |
| NEtPFOSA | N/A | N/A | N/A | | A | d5-NEtPFOSA | 6.26 | 56128.1 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 502206.8 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 379002.1 | N/A | |
| PFHxDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 379002.1 | N/A | |
| PFODA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 379002.1 | N/A | |

## Total Ion Chromatogram



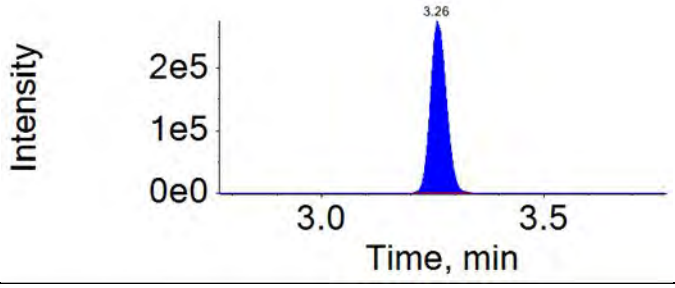

APPROVED
*By MCD at 6:34 pm, 11/12/18*



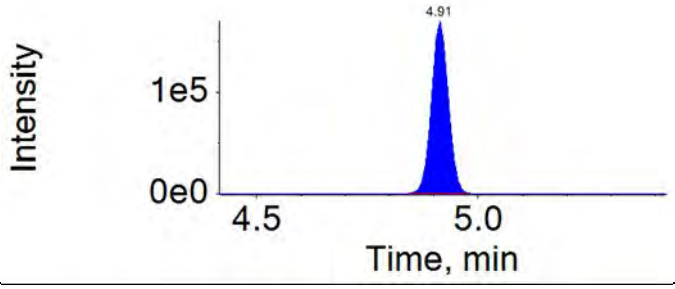
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

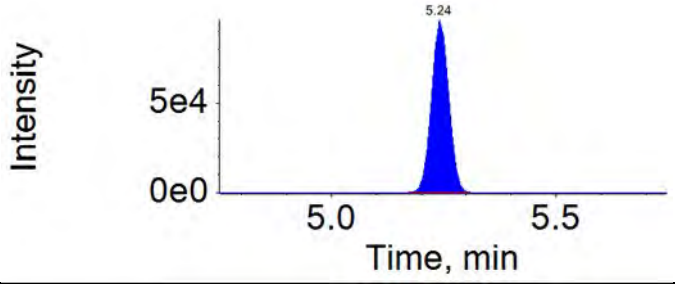
Injection Standard: 13C3-PFBA
216.0 / 172.0



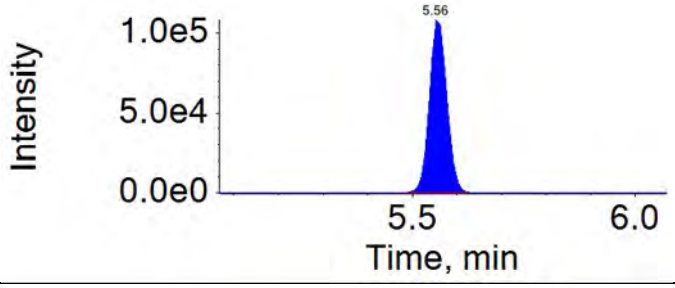

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



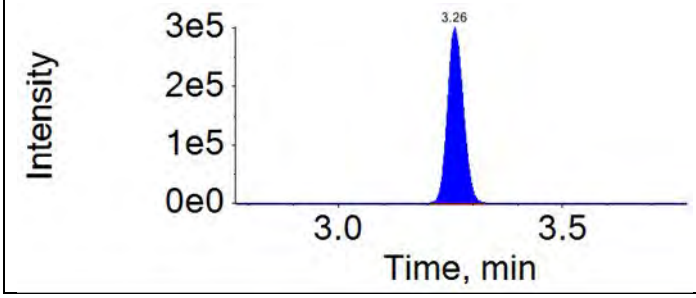

APPROVED
*By MCD at 6:34 pm, 11/12/18*

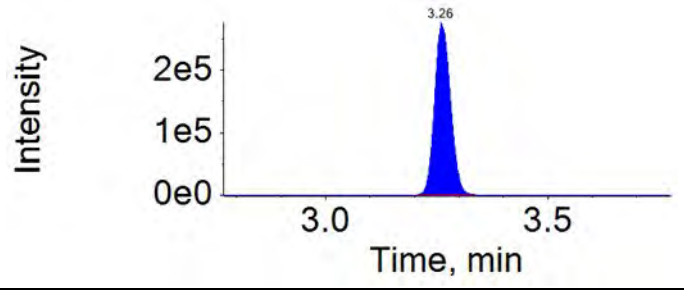


REVIEWED
*By HMK at 10:53 am, 11/13/18*

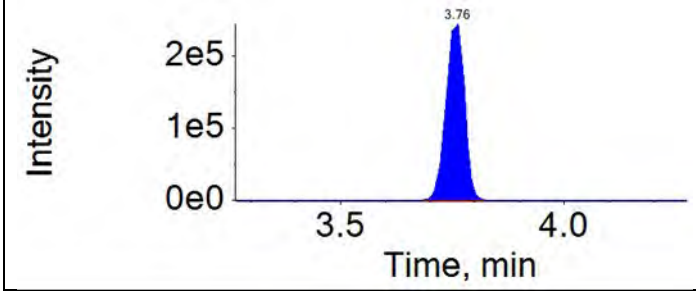
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

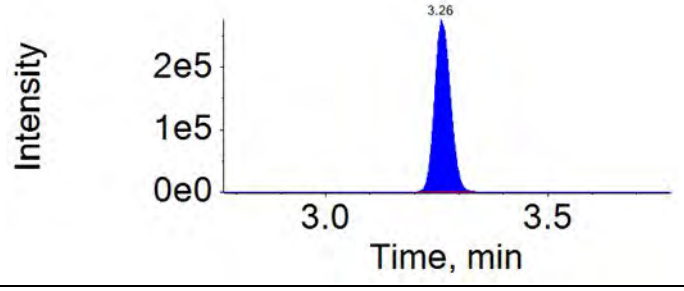
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



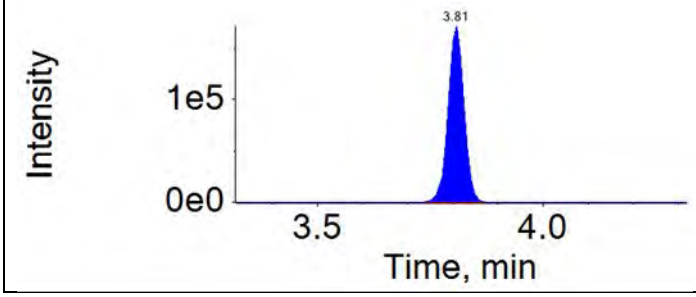



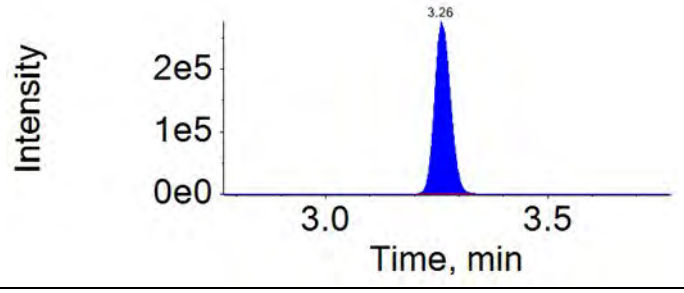

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



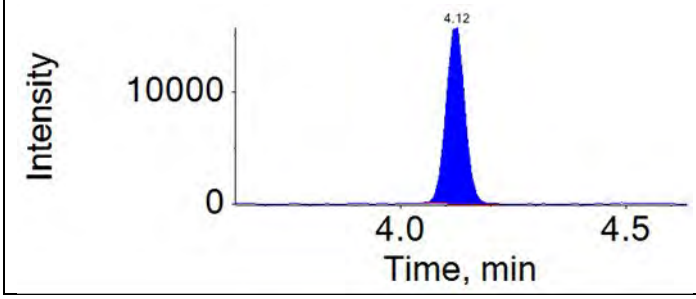



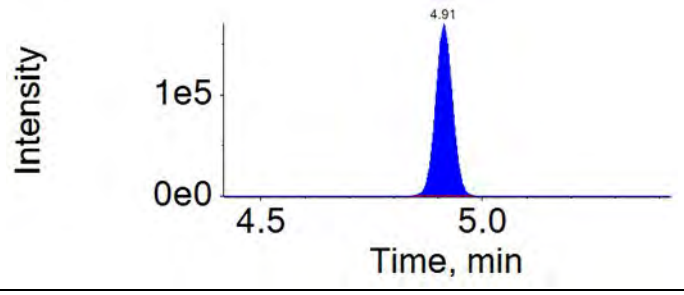

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |



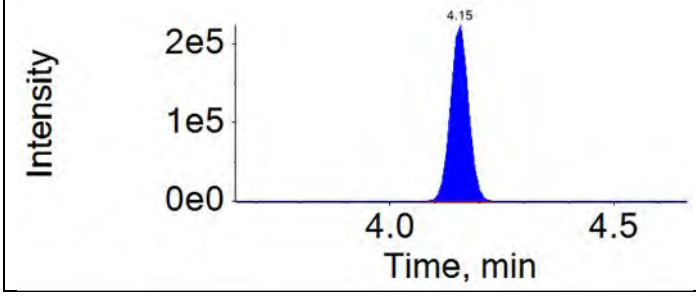

| Extraction Standard: E13C2-4:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 329.0 / 81.0 | 415.0 / 370.0 |

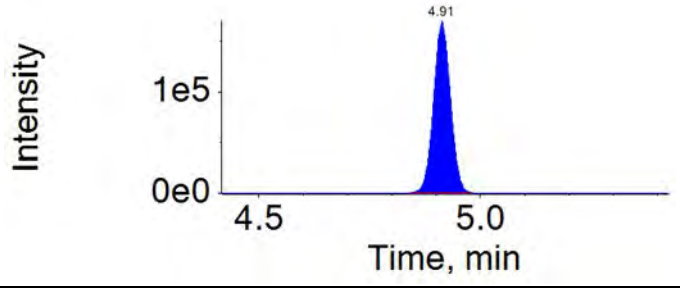


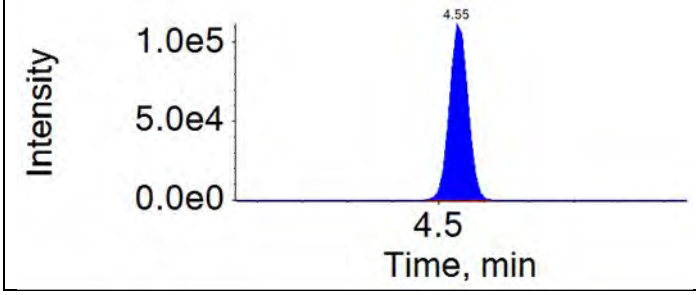
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

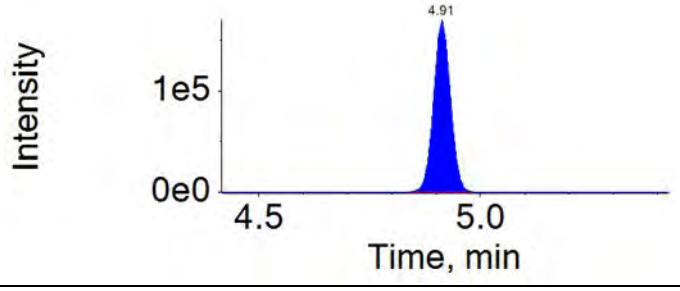
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



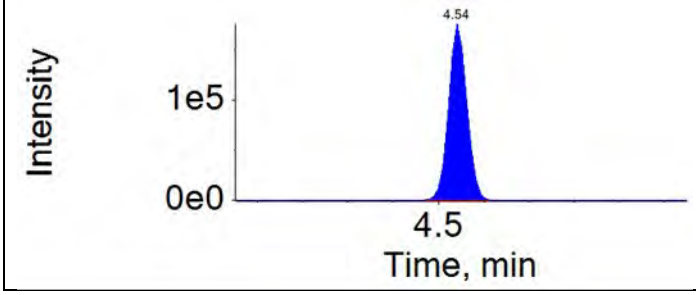



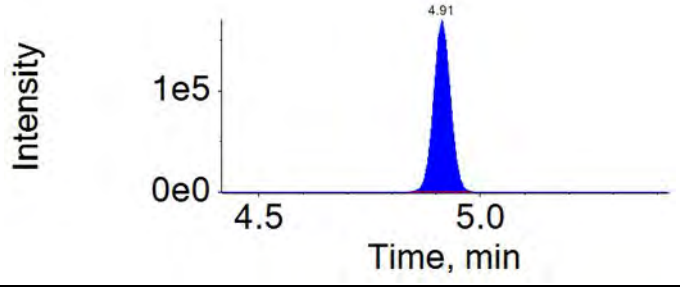

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



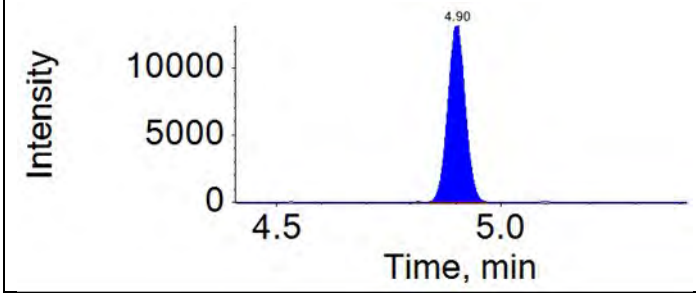



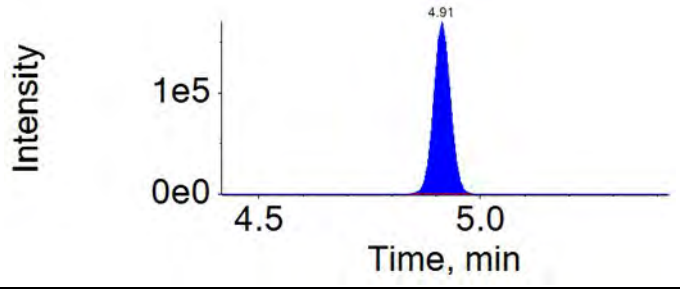

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



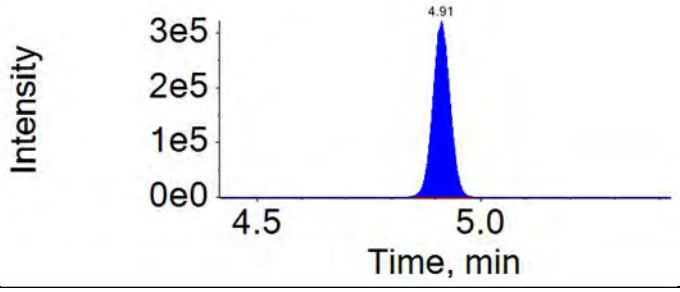
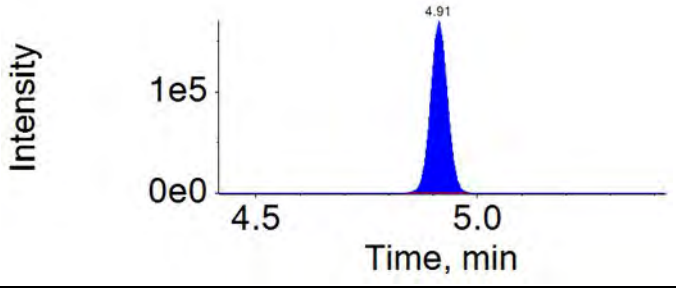




APPROVED
*By MCD at 6:34 pm, 11/12/18*



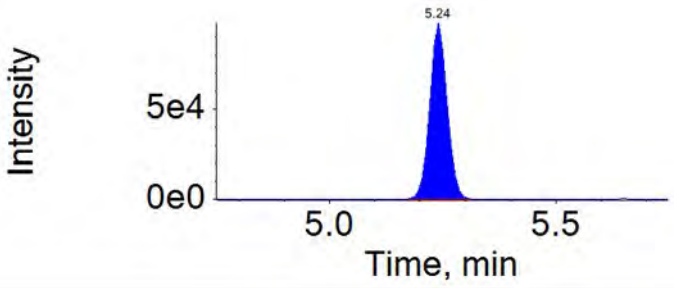
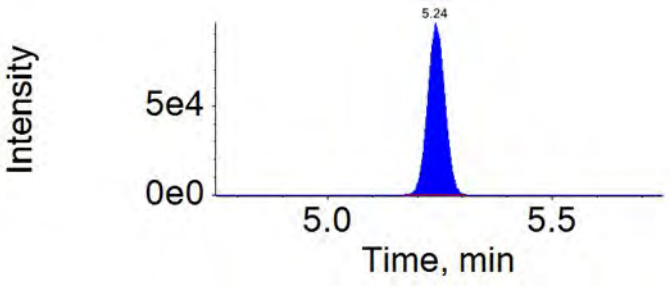
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

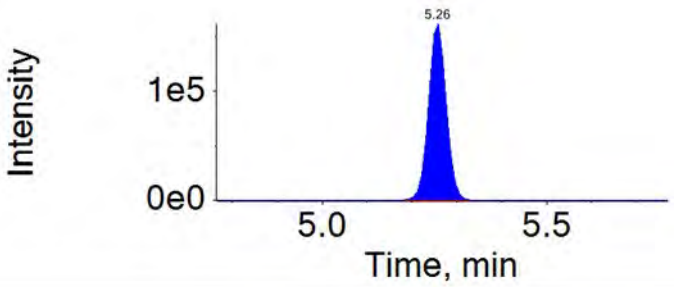
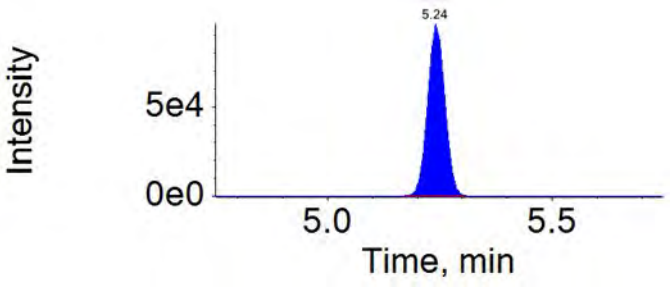




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

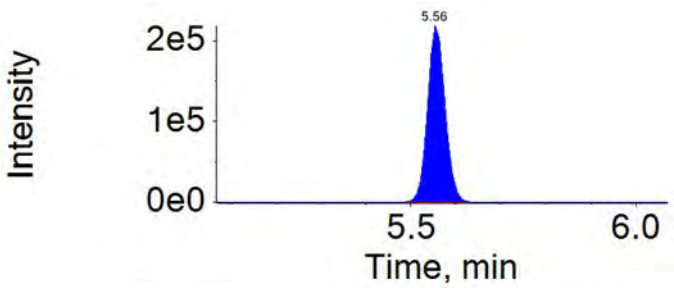
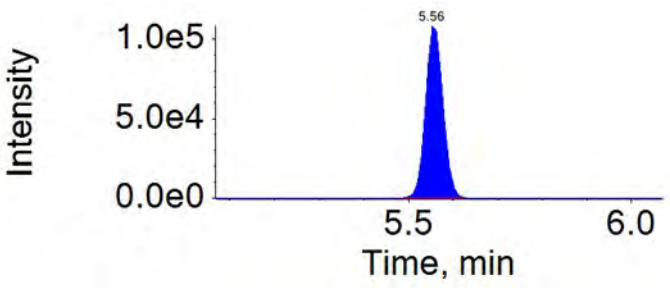




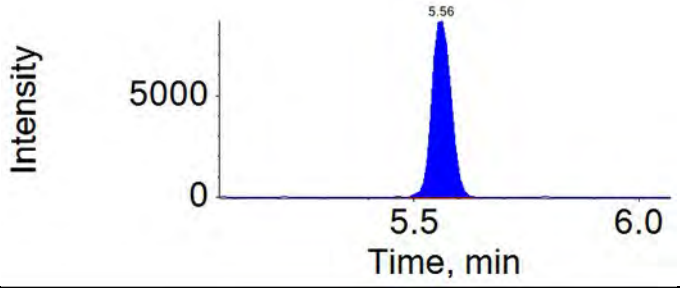
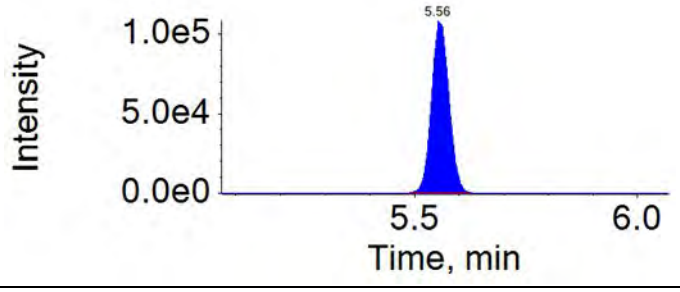
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|---|---|
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|  |  |





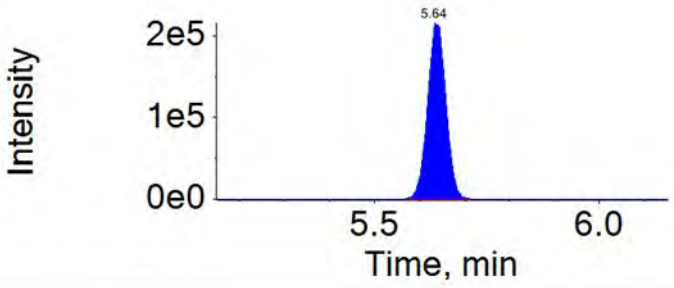
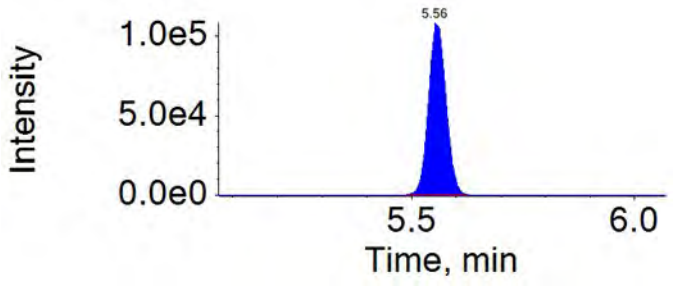
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|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

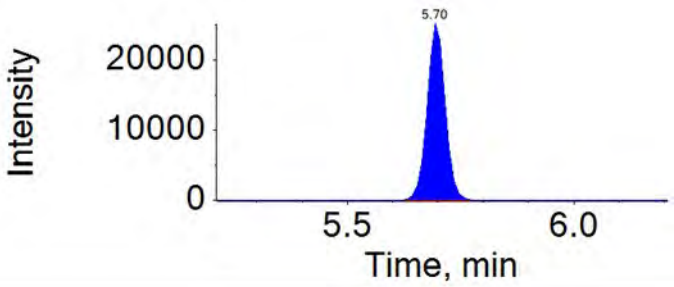
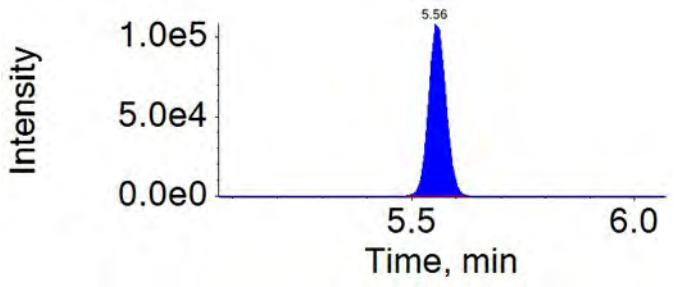




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

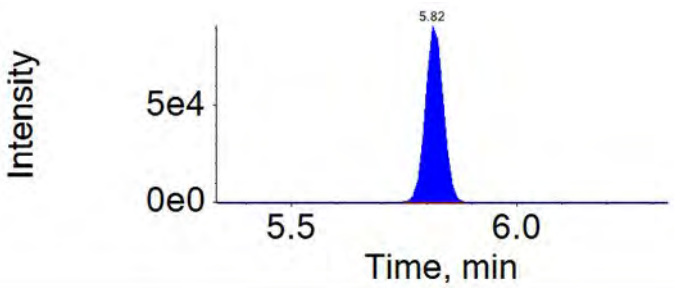
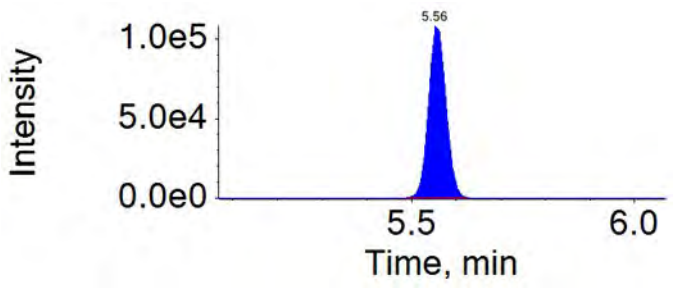




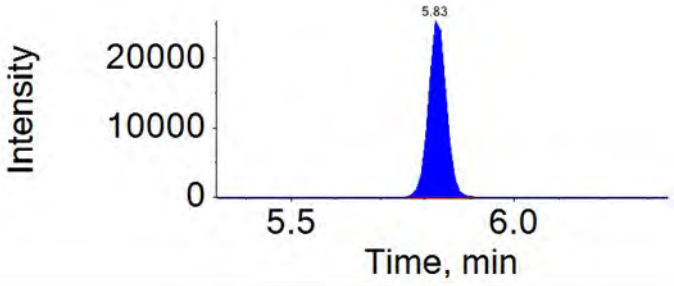
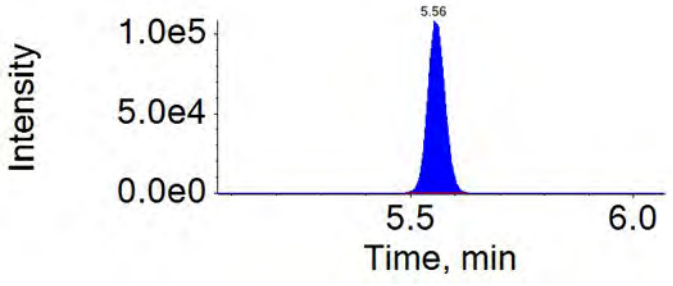
| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





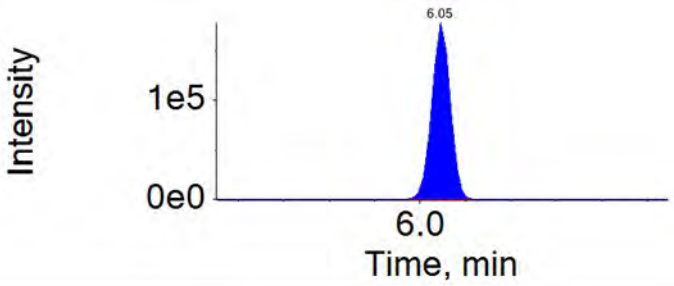
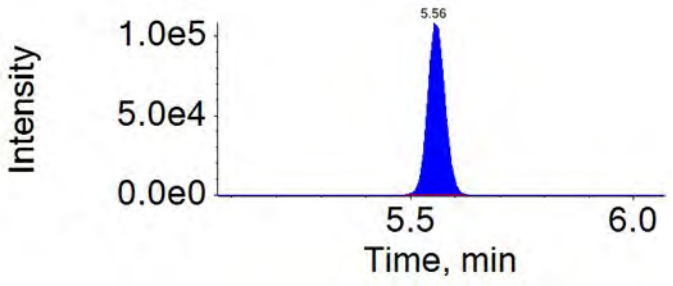
| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

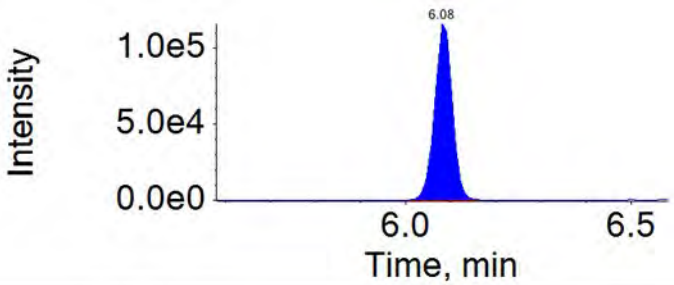
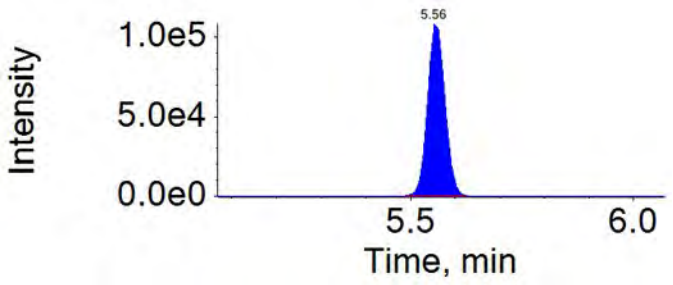




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

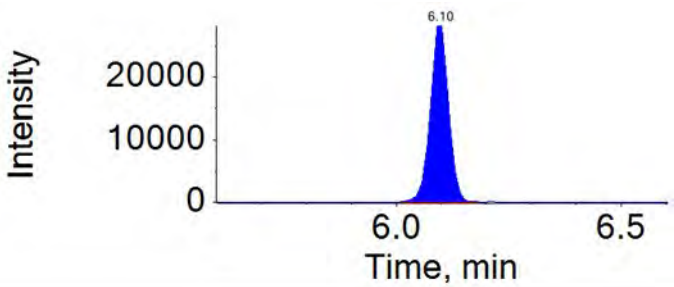
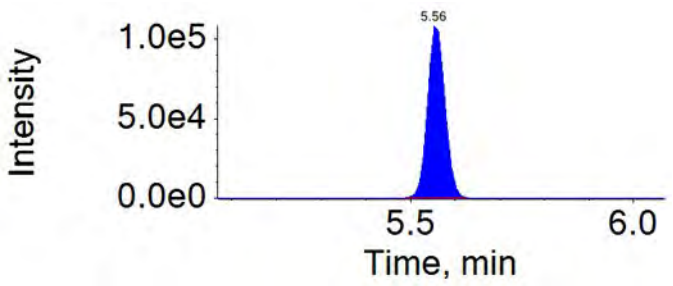




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |

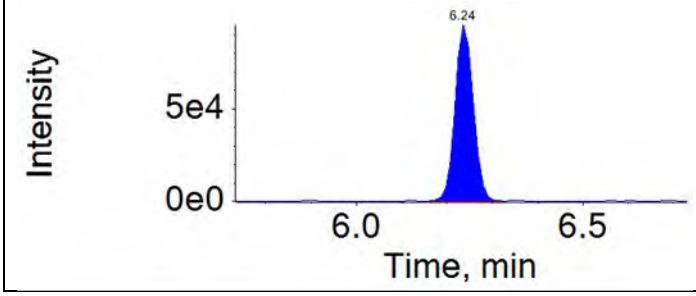


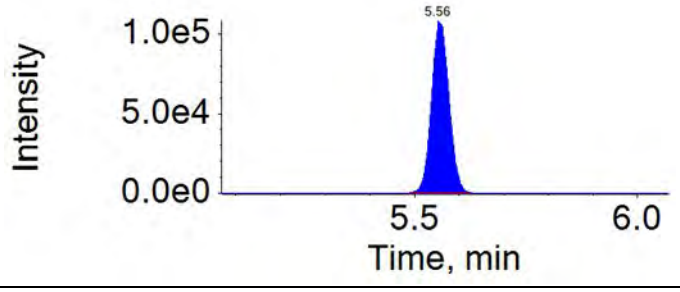


| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |
|  |  |

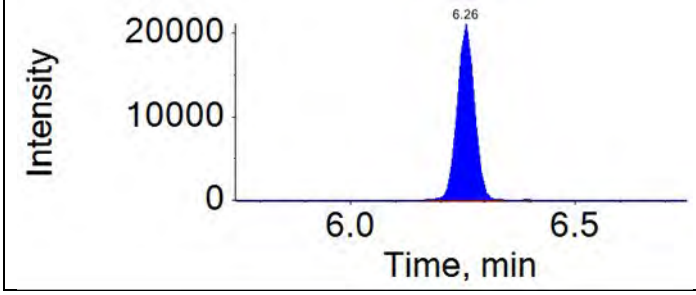
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

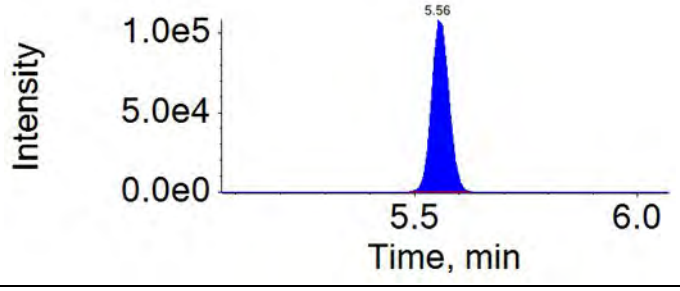
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



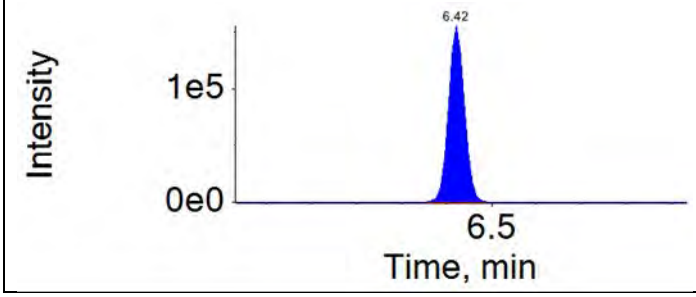



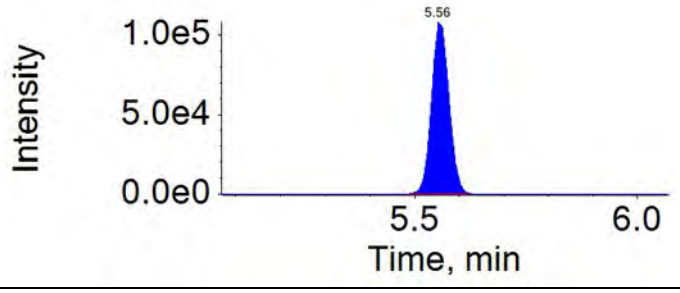

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



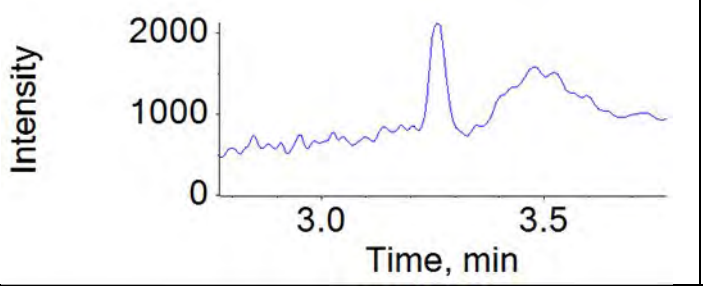

APPROVED
*By MCD at 6:34 pm, 11/12/18*

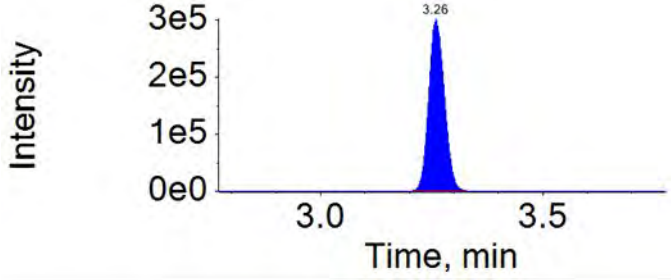


REVIEWED
*By HMK at 10:53 am, 11/13/18*

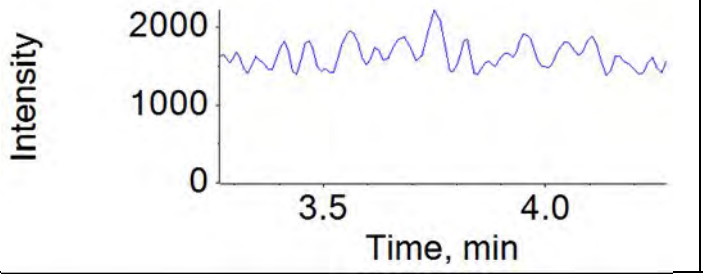
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

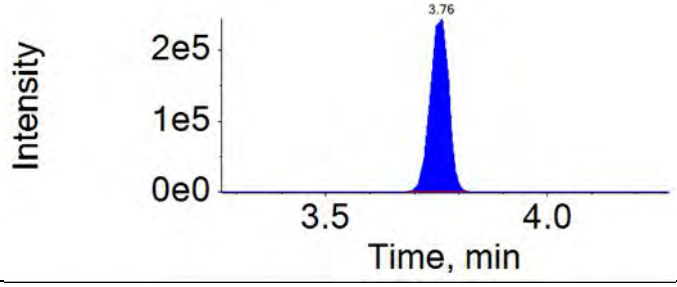
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



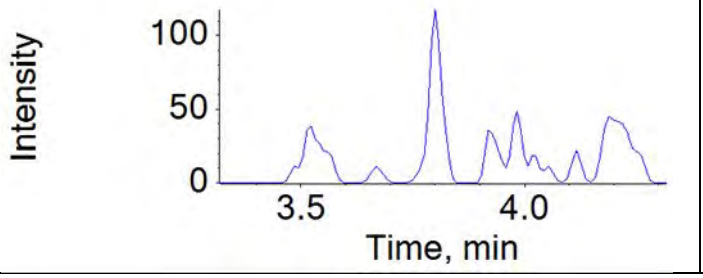



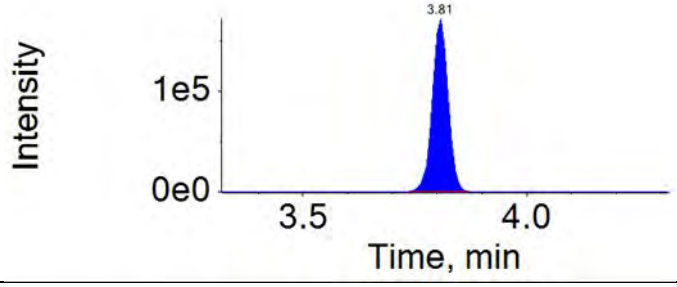

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



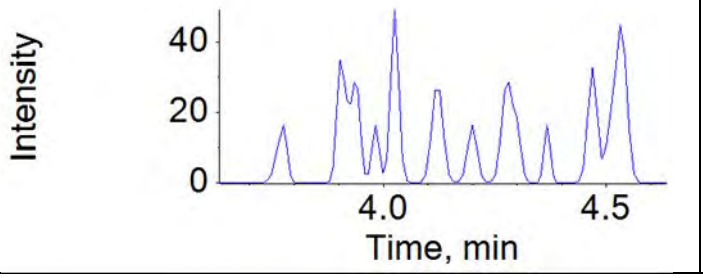



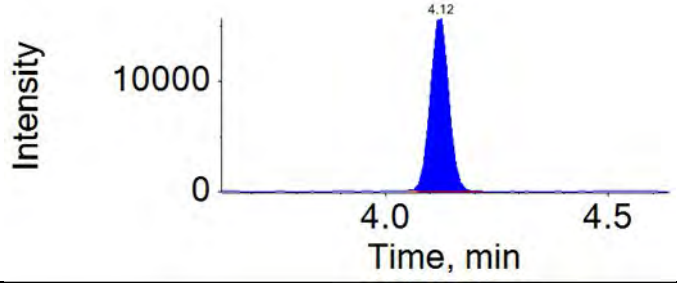

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



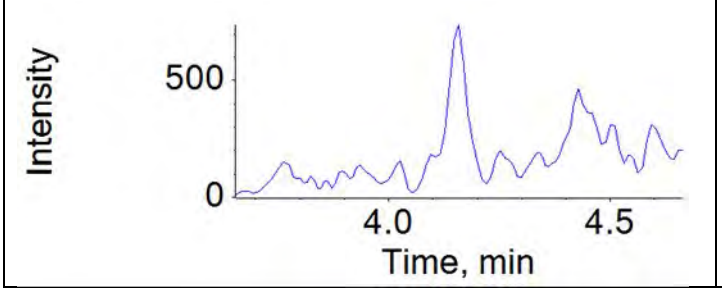

APPROVED
*By MCD at 6:34 pm, 11/12/18*

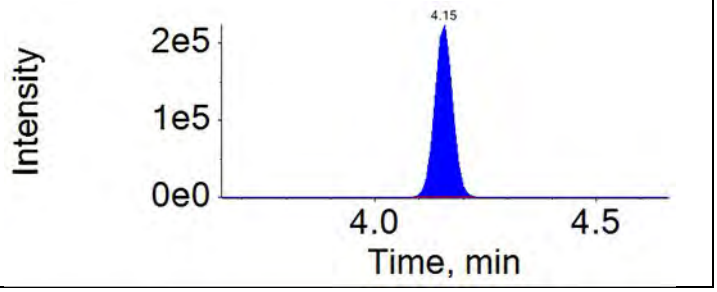


REVIEWED
*By HMK at 10:53 am, 11/13/18*

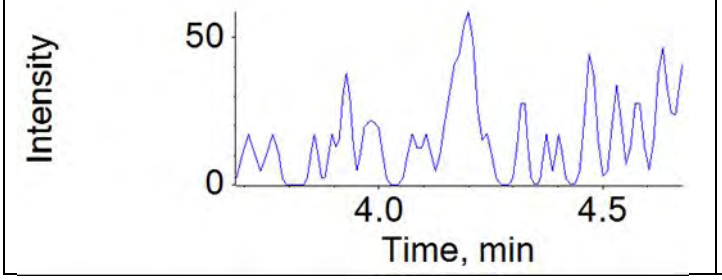
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

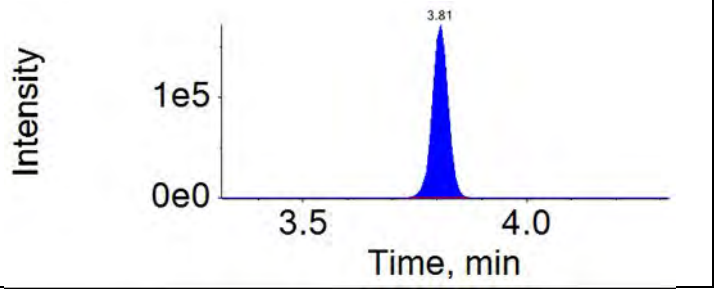
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



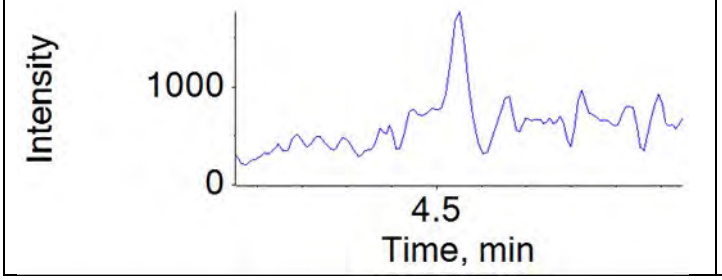



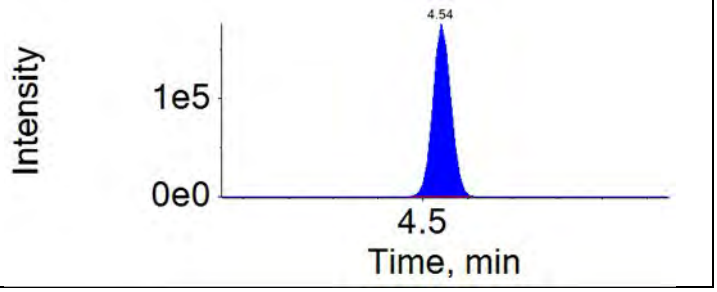

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



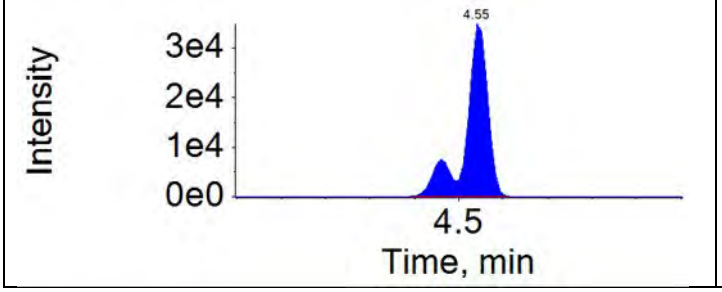



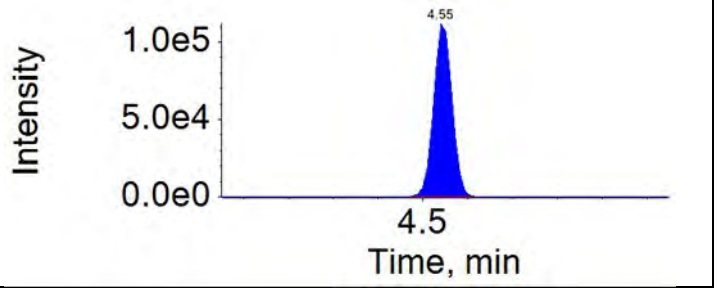

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |



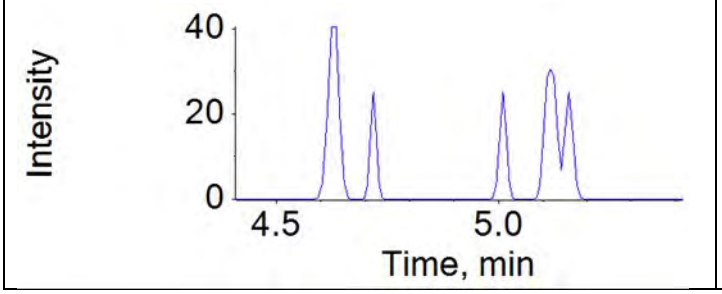

| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |

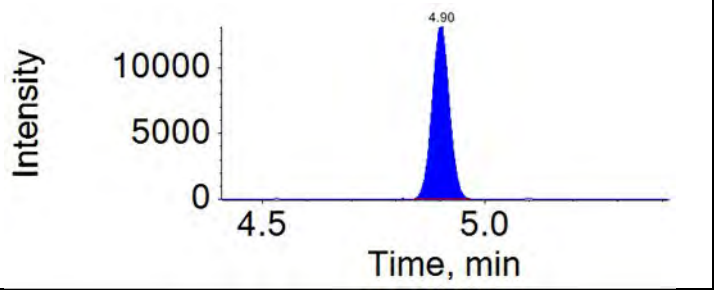


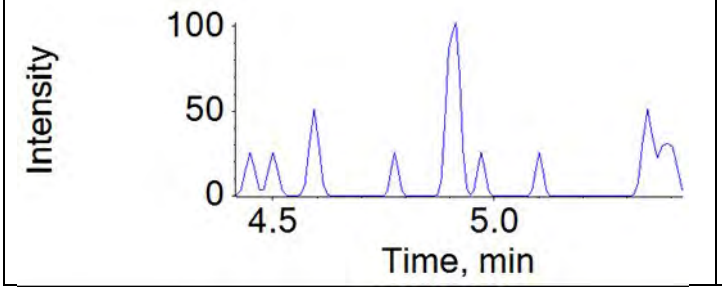
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

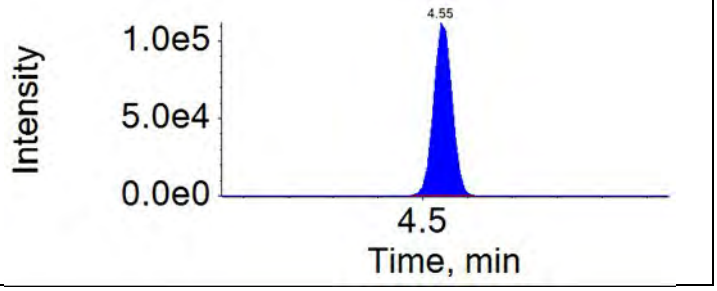
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



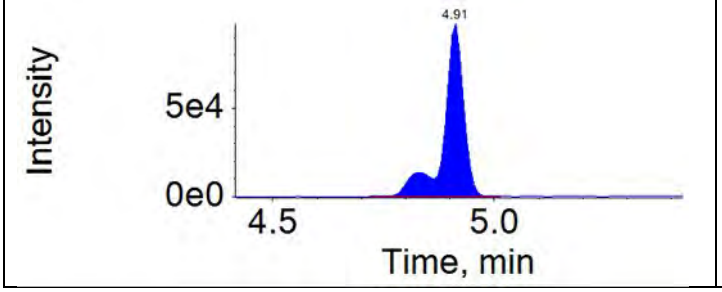



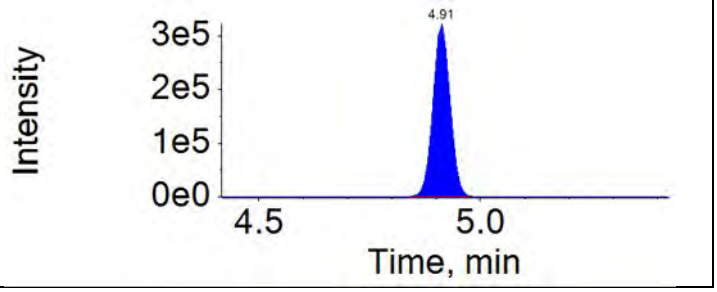

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



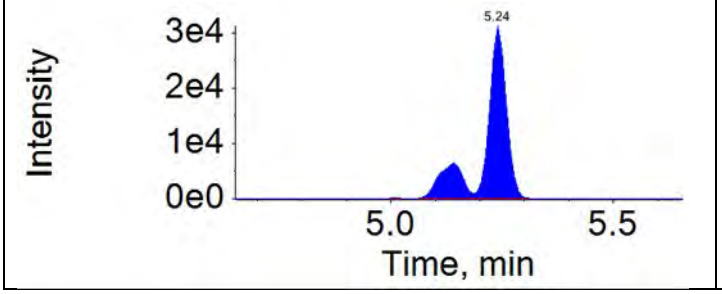



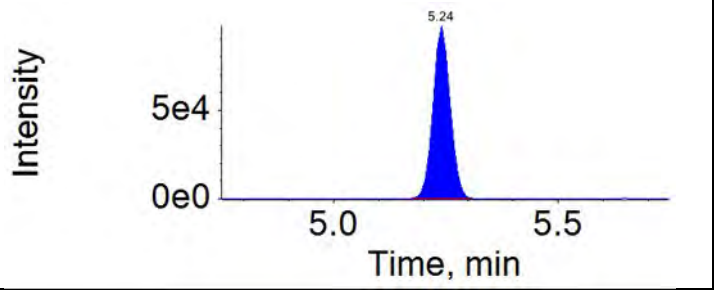

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



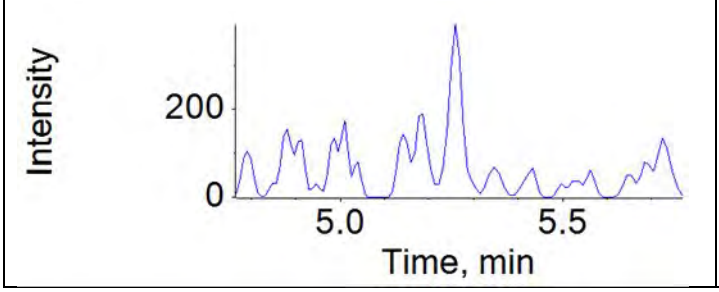

APPROVED
*By MCD at 6:34 pm, 11/12/18*

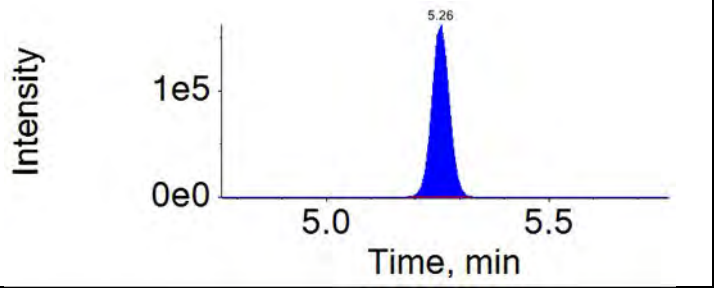


REVIEWED
*By HMK at 10:53 am, 11/13/18*

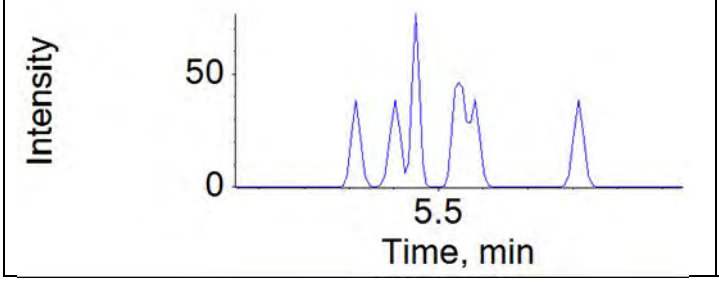
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

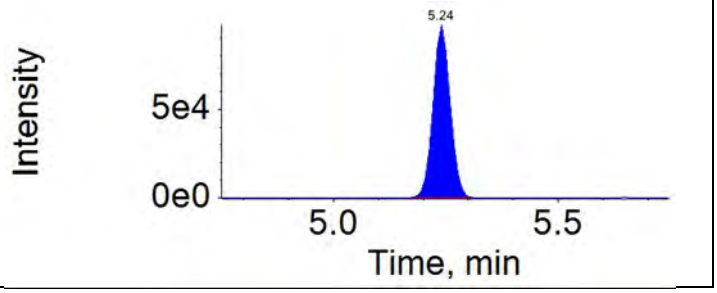
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



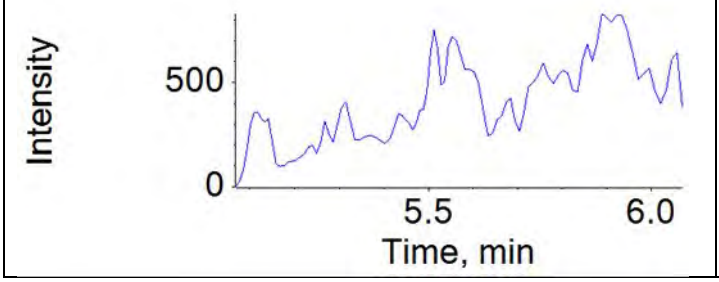



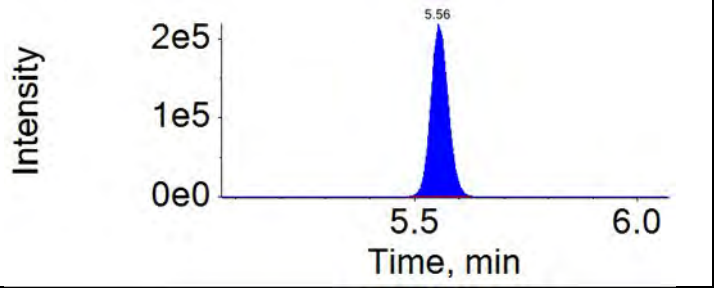

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



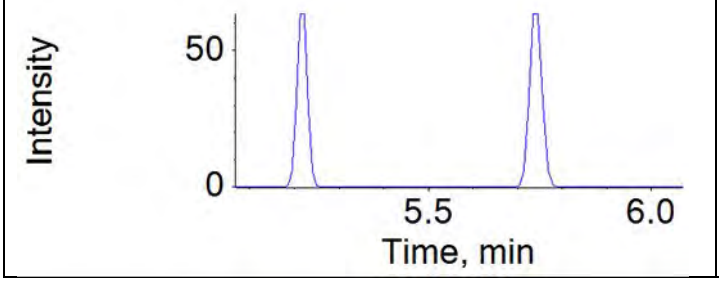



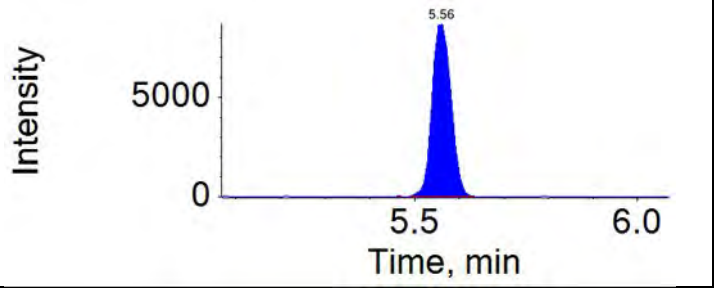

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



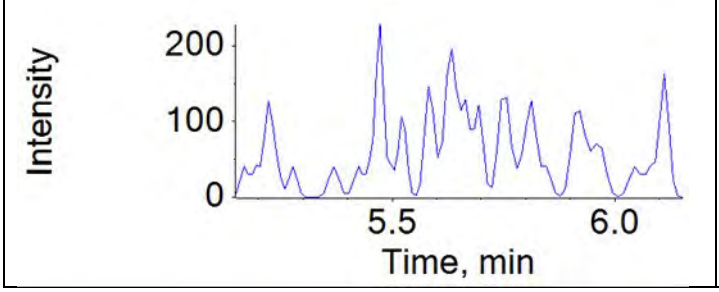

APPROVED
*By MCD at 6:34 pm, 11/12/18*

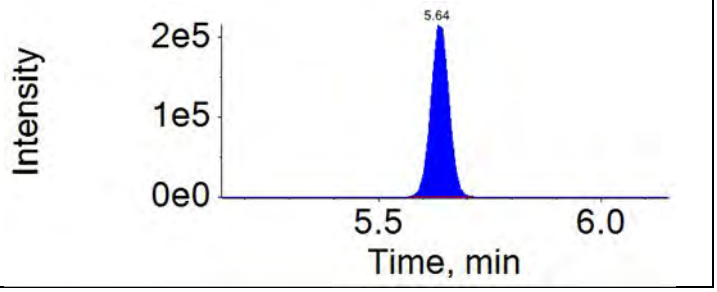


REVIEWED
*By HMK at 10:53 am, 11/13/18*

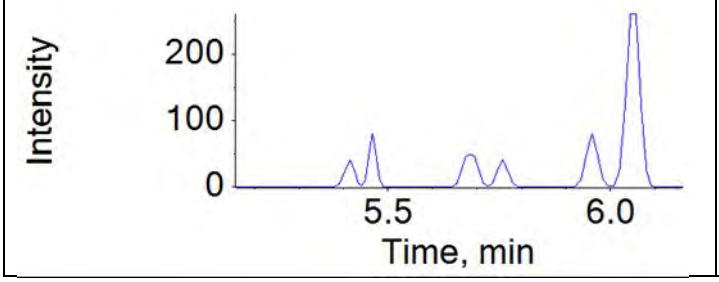
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

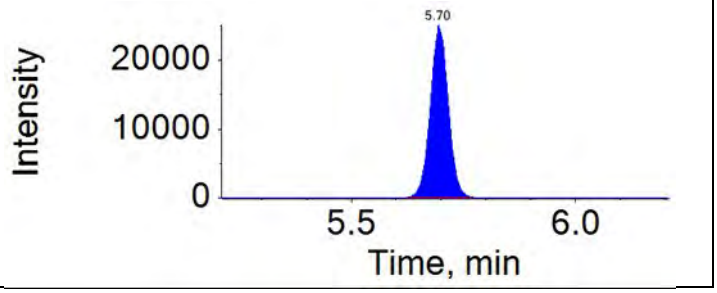
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



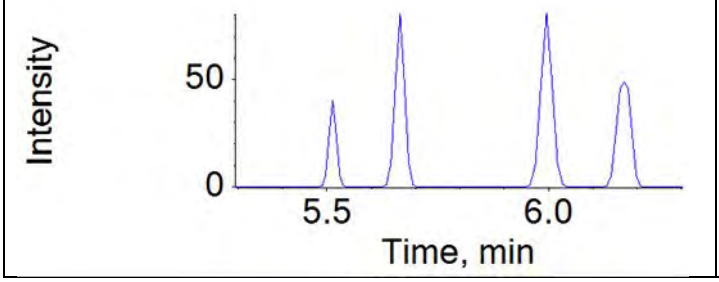



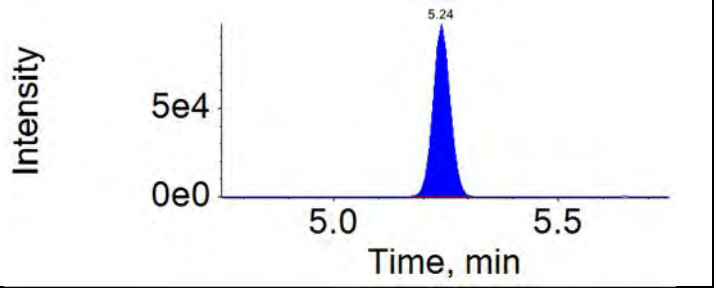

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



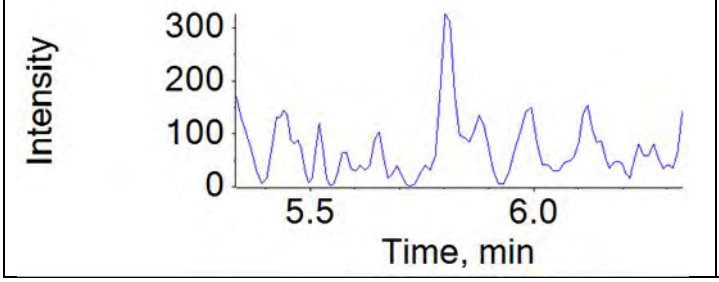



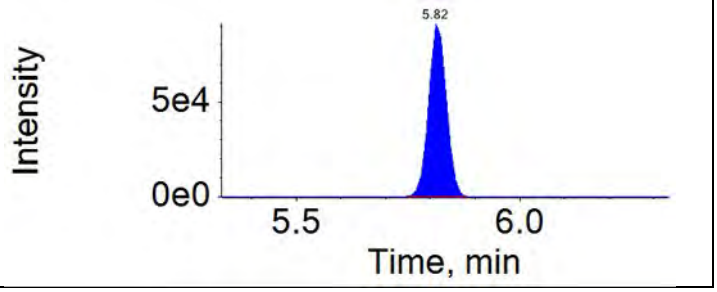

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



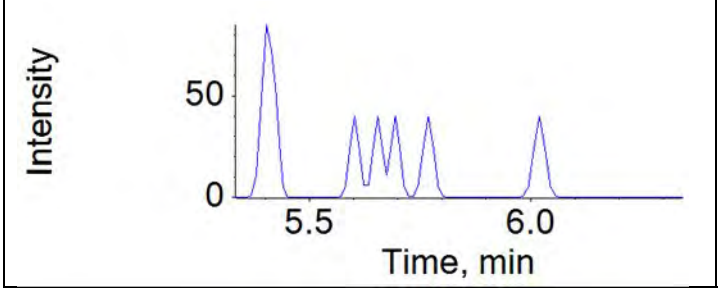

APPROVED
*By MCD at 6:34 pm, 11/12/18*

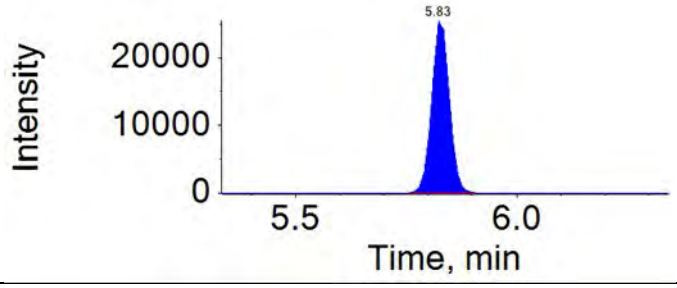


REVIEWED
*By HMK at 10:53 am, 11/13/18*

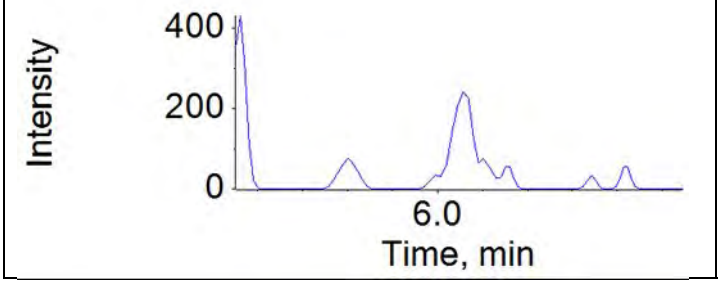
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

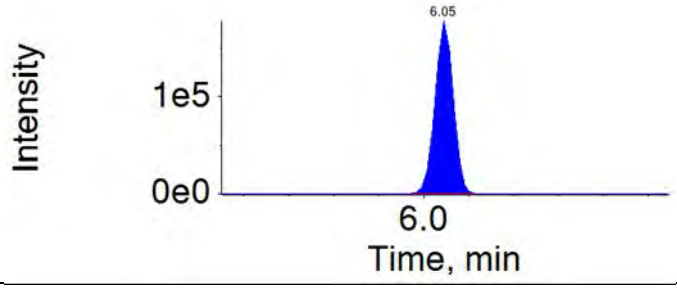
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



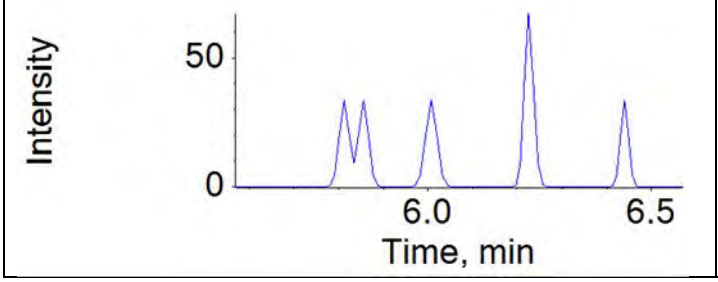



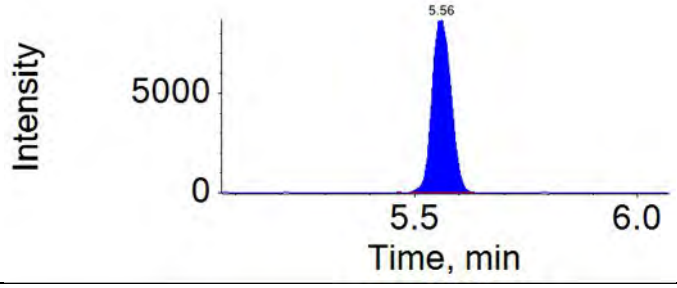

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



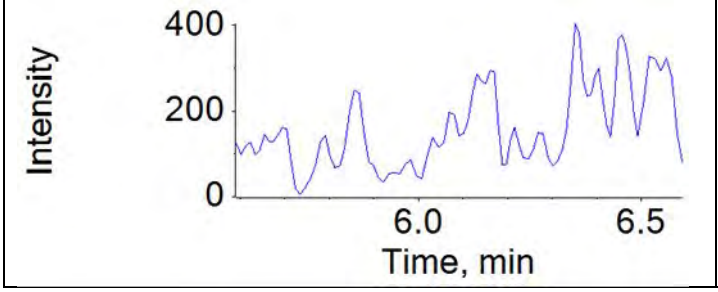



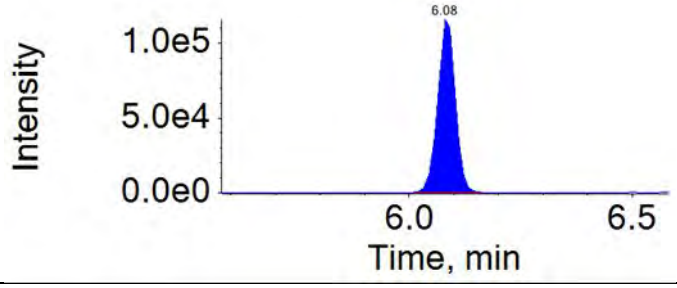

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



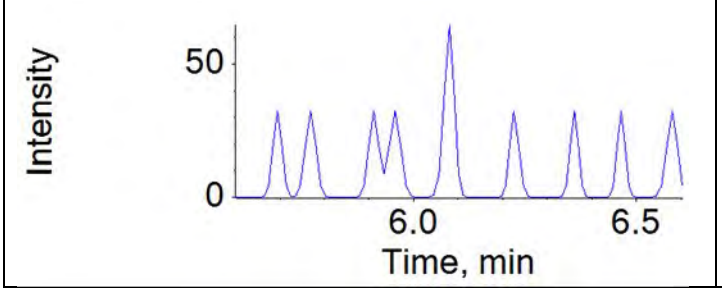

APPROVED
*By MCD at 6:34 pm, 11/12/18*

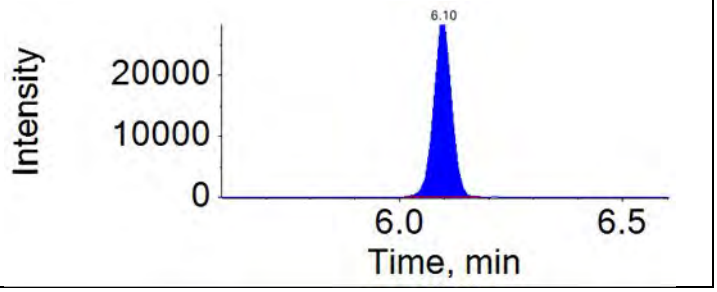


REVIEWED
*By HMK at 10:53 am, 11/13/18*

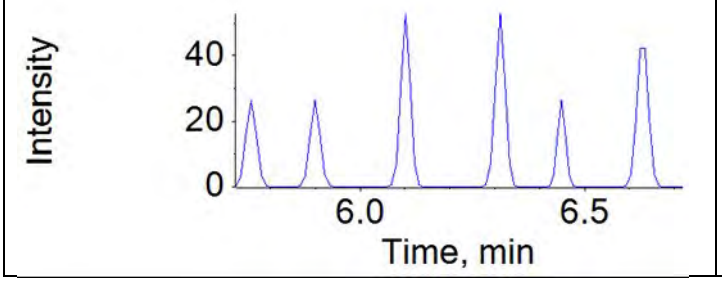
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

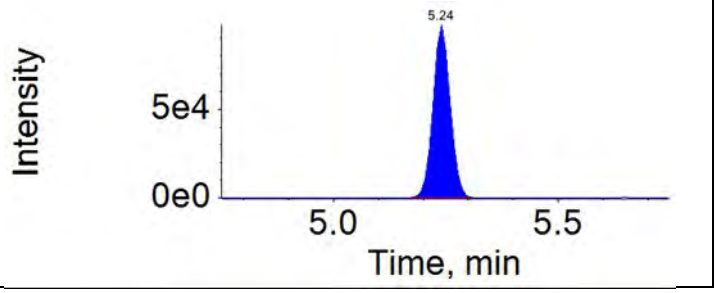
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



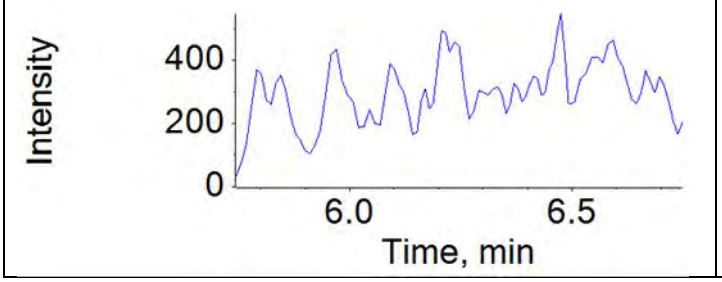



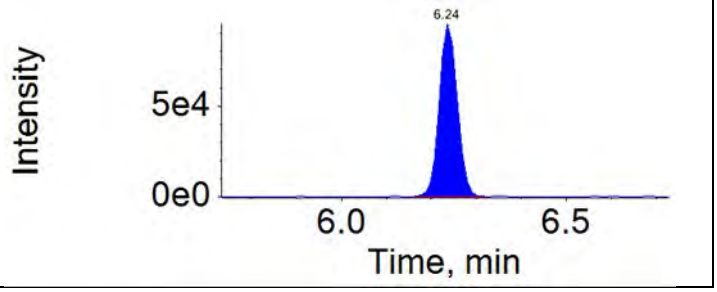

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



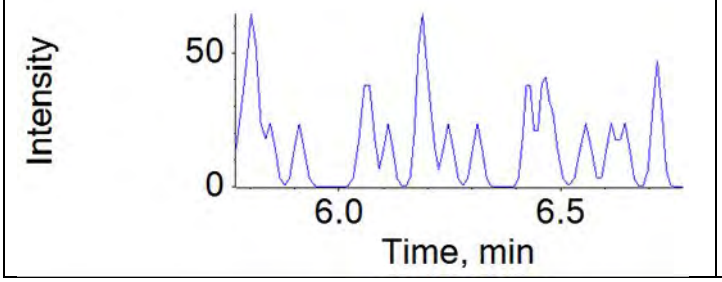



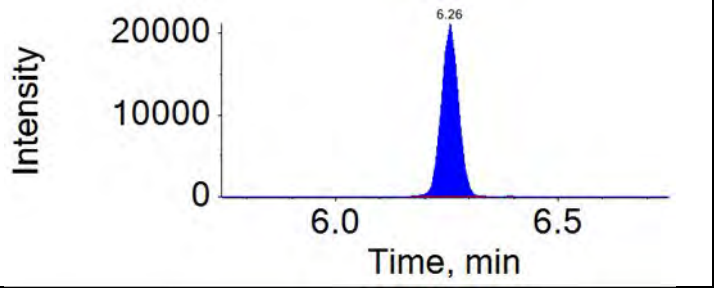

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



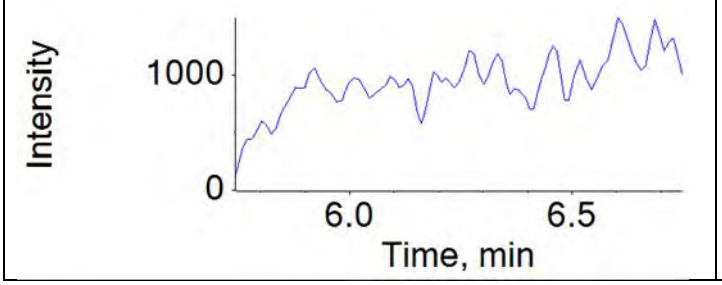

APPROVED
*By MCD at 6:34 pm, 11/12/18*

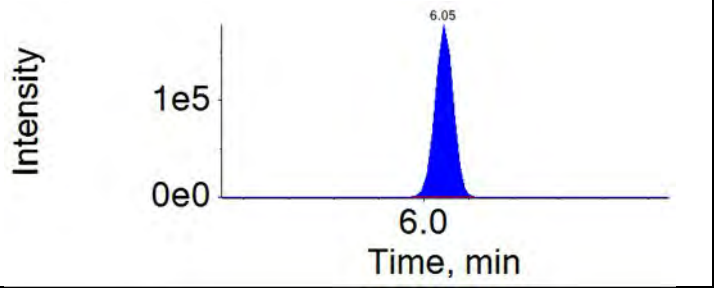


REVIEWED
*By HMK at 10:53 am, 11/13/18*

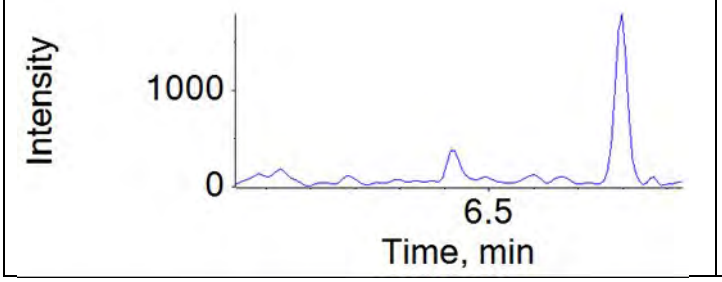
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

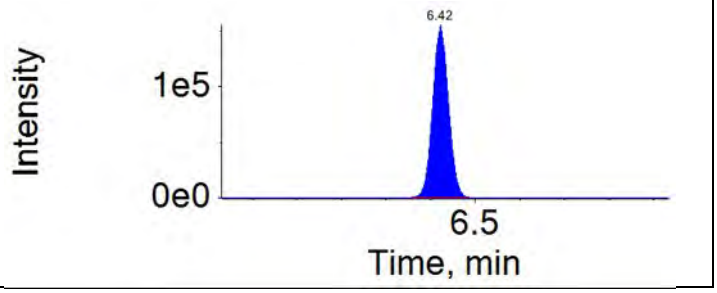
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



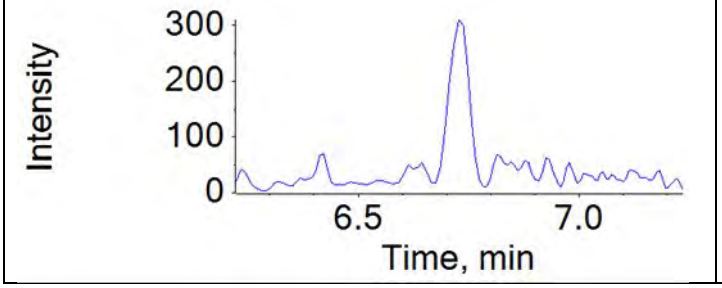



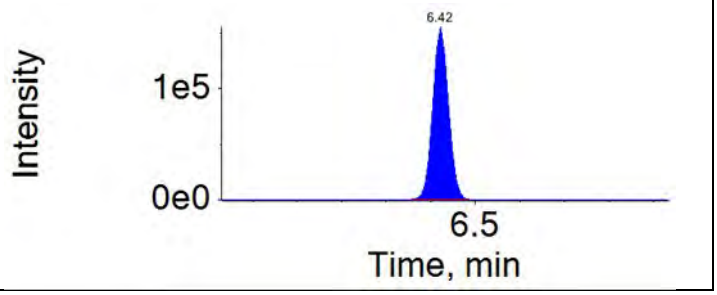

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



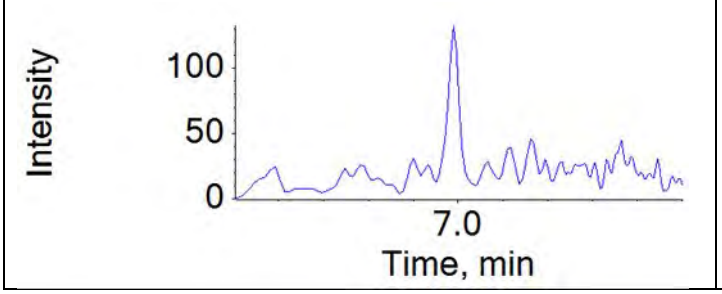



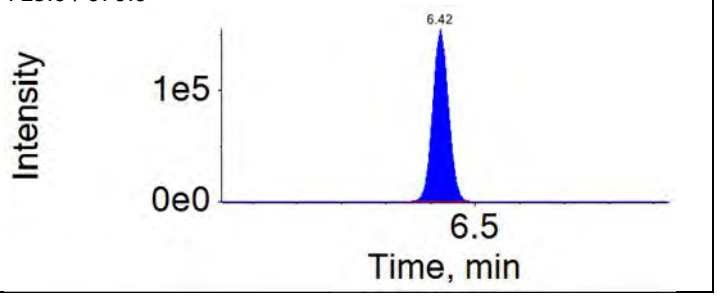

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




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



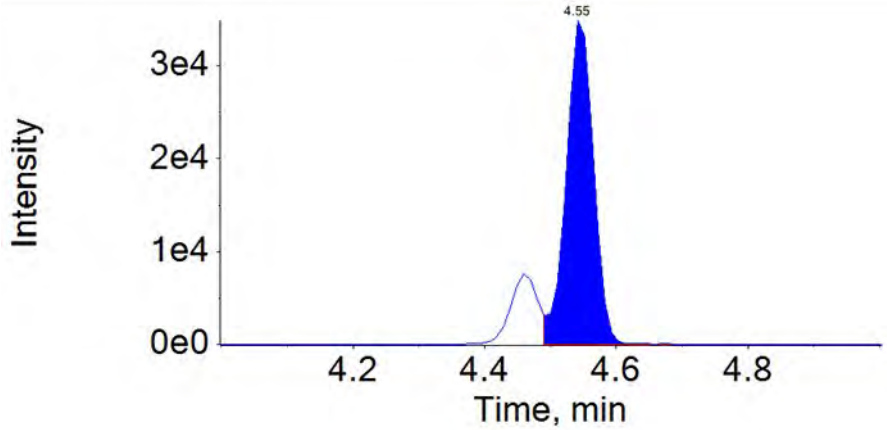

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

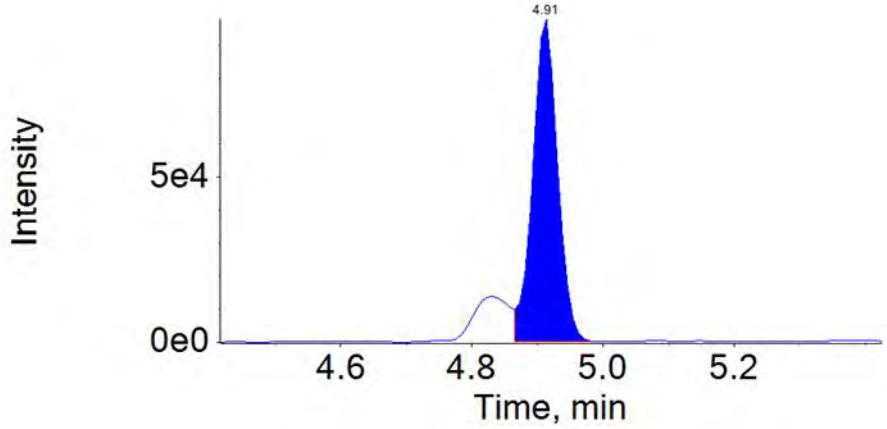
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS
**RT (min.):**
4.55
**Peak Area:**
101341.11
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV12DCAL-51.wiff
**Sample Name:**
L+B CAL3



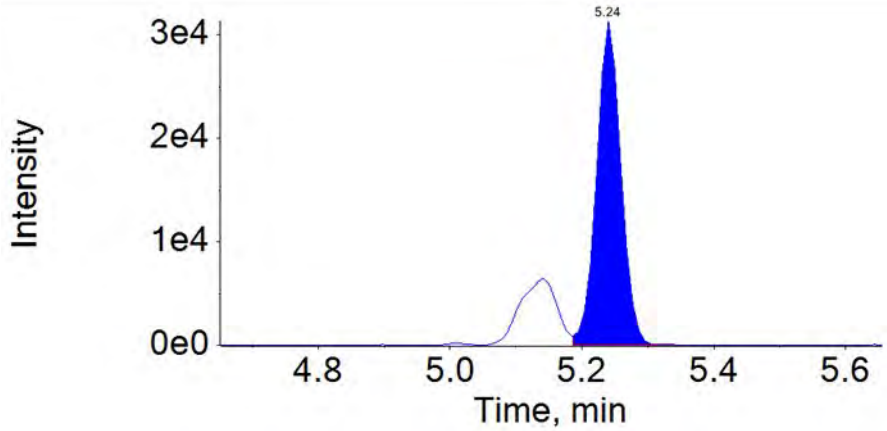

**Integration Comment:** incorrect integration

**Component Name:**
PFOA
**RT (min.):**
4.91
**Peak Area:**
258567.11
**Mass Range:**
413.0 / 369.0
**File Name:**
18NOV12DCAL-51.wiff
**Sample Name:**
L+B CAL3




**Integration Comment:** incorrect integration

**Component Name:**
PFOS
**RT (min.):**
5.24
**Peak Area:**
80546.10
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV12DCAL-51.wiff
**Sample Name:**
L+B CAL3




**Integration Comment:** incorrect integration

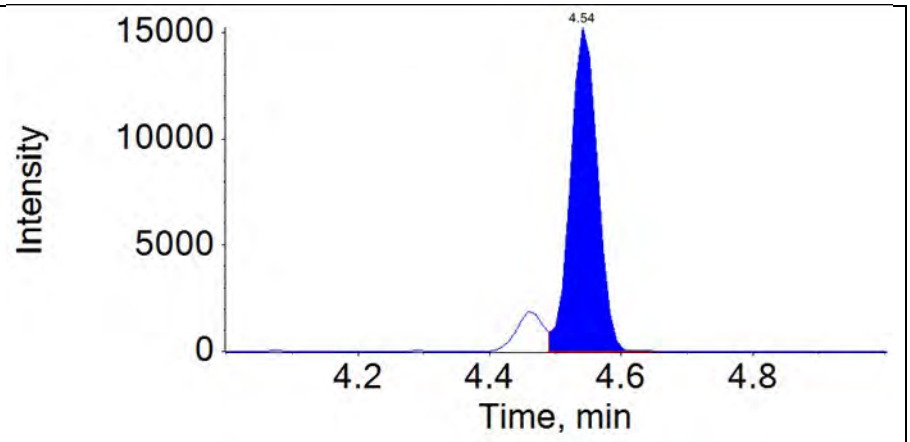
APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

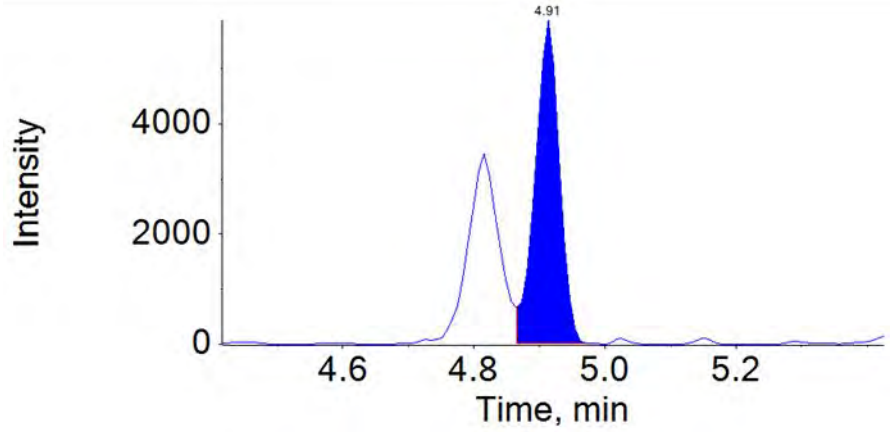
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFHxS_2
**RT (min.):**
4.54
**Peak Area:**
43554.75
**Mass Range:**
399.0 / 99.0
**File Name:**
18NOV12DCAL-51.wiff
**Sample Name:**
L+B CAL3



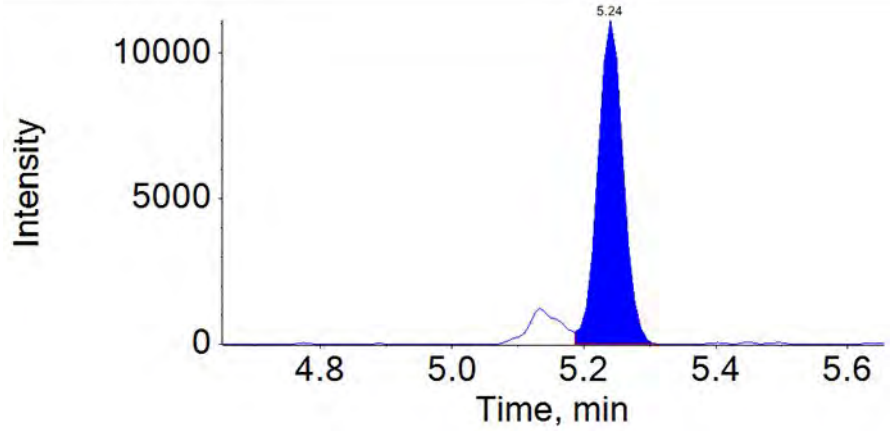

**Integration Comment:** incorrect integration

**Component Name:**
PFOA_2
**RT (min.):**
4.91
**Peak Area:**
15059.21
**Mass Range:**
413.0 / 169.0
**File Name:**
18NOV12DCAL-51.wiff
**Sample Name:**
L+B CAL3




**Integration Comment:** incorrect integration

**Component Name:**
PFOS_2
**RT (min.):**
5.24
**Peak Area:**
29829.42
**Mass Range:**
499.0 / 99.0
**File Name:**
18NOV12DCAL-51.wiff
**Sample Name:**
L+B CAL3




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

# Ion Ratio Report

**Sample Name:** L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-51.wiff

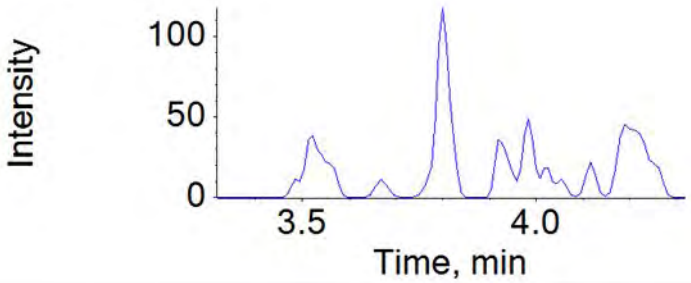
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | 0.3619 | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | 0.3619 | N/A | | 50 | |
| 4:2-FTS | N/A | N/A | N/A | A | 0.6730 | N/A | | | |
| 4:2 FTS_2 | N/A | N/A | N/A | A | 0.6730 | N/A | | #NA! | |
| PFHxA | N/A | N/A | N/A | A | 0.0117 | N/A | | | |
| PFHxA_2 | N/A | N/A | N/A | A | 0.0117 | N/A | | 50 | |
| PFPeS | N/A | N/A | N/A | A | 0.5191 | N/A | | | |
| PFPeS_2 | N/A | N/A | N/A | A | 0.5191 | N/A | | 50 | |
| PFHpA | N/A | N/A | N/A | A | 0.0563 | N/A | | | |
| PFHpA_2 | N/A | N/A | N/A | A | 0.0563 | N/A | | 50 | |
| PFHxS | 4.55 | 1.00 | 122359.84 | M | 0.3428 | 0.3979 | | | |
| PFHxS_2 | 4.54 | 1.00 | 48686.07 | M | 0.3428 | 0.3979 | 16 | 50 | |
| 6:2-FTS | N/A | N/A | N/A | A | 0.6604 | N/A | | | |
| 6:2 FTS_2 | N/A | N/A | N/A | A | 0.6604 | N/A | | #NA! | |
| PFHpS | N/A | N/A | N/A | A | 0.4066 | N/A | | | |
| PFHpS_2 | N/A | N/A | N/A | A | 0.4066 | N/A | | 50 | |
| PFOA | 4.91 | 1.00 | 312625.40 | M | 0.0562 | 0.0855 | | | |
| PFOA_2 | 4.90 | 1.00 | 26736.79 | M | 0.0562 | 0.0855 | 52 | 50 | OOS |
| PFOS | 5.24 | 1.00 | 105809.81 | M | 0.2968 | 0.3212 | | | |
| PFOS_2 | 5.24 | 1.00 | 33989.74 | M | 0.2968 | 0.3212 | 8 | 50 | |
| PFNA | N/A | N/A | N/A | A | 0.0229 | N/A | | | |
| PFNA_2 | N/A | N/A | N/A | A | 0.0229 | N/A | | 50 | |
| PFNS | N/A | N/A | N/A | A | 0.4828 | N/A | | | |
| PFNS_2 | N/A | N/A | N/A | A | 0.4828 | N/A | | 50 | |
| PFDA | N/A | N/A | N/A | A | 0.0081 | N/A | | | |
| PFDA_2 | N/A | N/A | N/A | A | 0.0081 | N/A | | 50 | |
| 8:2-FTS | N/A | N/A | N/A | A | 0.6814 | N/A | | | |
| 8:2 FTS_2 | N/A | N/A | N/A | A | 0.6814 | N/A | | #NA! | |
| NMeFOSAA | N/A | N/A | N/A | A | 0.2569 | N/A | | | |
| NMeFOSAA_2 | N/A | N/A | N/A | A | 0.2569 | N/A | | 50 | |
| PFDS | N/A | N/A | N/A | A | 0.5144 | N/A | | | |
| PFDS_2 | N/A | N/A | N/A | A | 0.5144 | N/A | | 50 | |
| PFUnDA | N/A | N/A | N/A | A | 0.0058 | N/A | | | |
| PFUnDA_2 | N/A | N/A | N/A | A | 0.0058 | N/A | | 50 | |
| NEtFOSAA | N/A | N/A | N/A | A | 0.7253 | N/A | | | |
| NEtFOSAA_2 | N/A | N/A | N/A | A | 0.7253 | N/A | | 50 | |
| PFDoDA | N/A | N/A | N/A | A | 0.0157 | N/A | | | |
| PFDoDA_2 | N/A | N/A | N/A | A | 0.0157 | N/A | | 50 | |
| 10:2-FTS | N/A | N/A | N/A | A | 0.6356 | N/A | | | |
| 10:2 FTS_2 | N/A | N/A | N/A | A | 0.6356 | N/A | | #NA! | |
| PFTrDA | N/A | N/A | N/A | A | 0.0086 | N/A | | | |
| PFTrDA_2 | N/A | N/A | N/A | A | 0.0086 | N/A | | 50 | |
| PFTeDA | N/A | N/A | N/A | A | 0.0062 | N/A | | | |
| PFTeDA_2 | N/A | N/A | N/A | A | 0.0062 | N/A | | 50 | |
| PFHxDA | N/A | N/A | N/A | A | 0.0683 | N/A | | | |
| PFHxDA_2 | N/A | N/A | N/A | A | 0.0683 | N/A | | 50 | |
| PFODA | N/A | N/A | N/A | A | 0.0277 | N/A | | | |
| PFODA_2 | N/A | N/A | N/A | A | 0.0277 | N/A | | 50 | |

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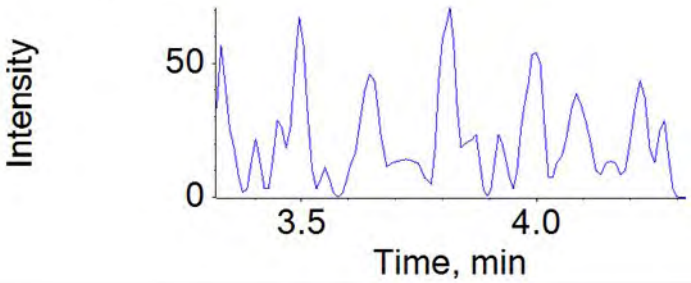


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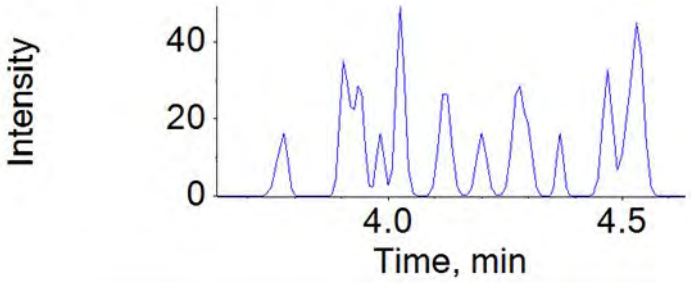
Component: PFBS
Primary Mass: 299.0 / 80.0



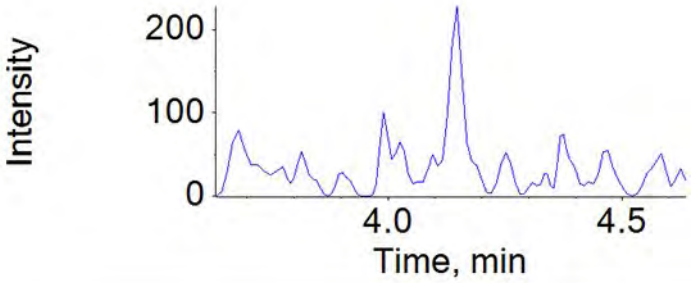

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



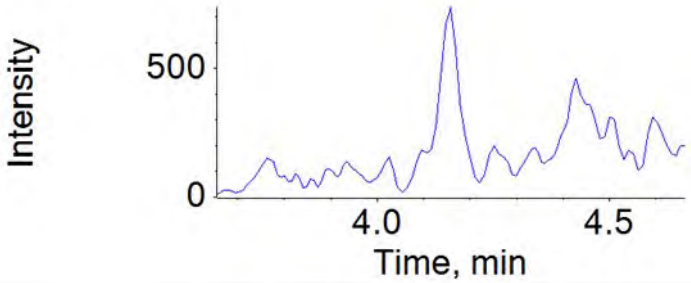

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



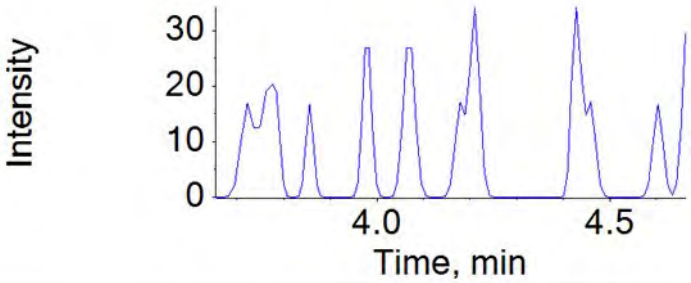

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



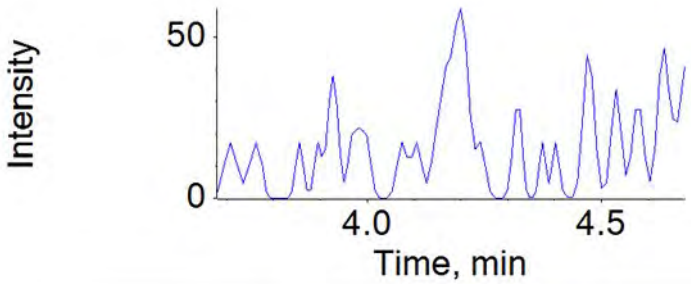

Component: PFHxA
Primary Mass: 313.0 / 269.0



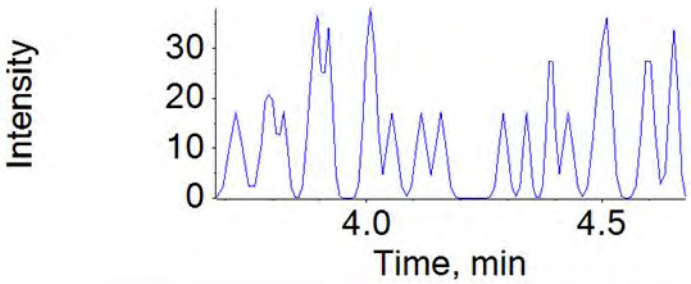

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

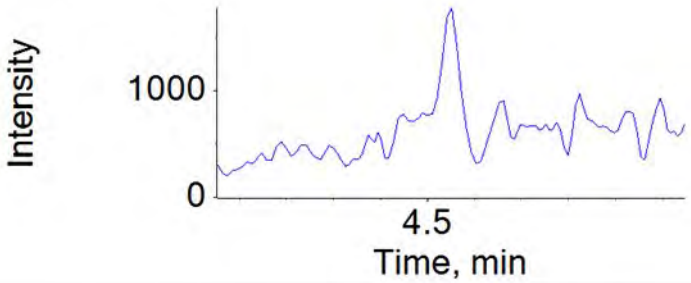



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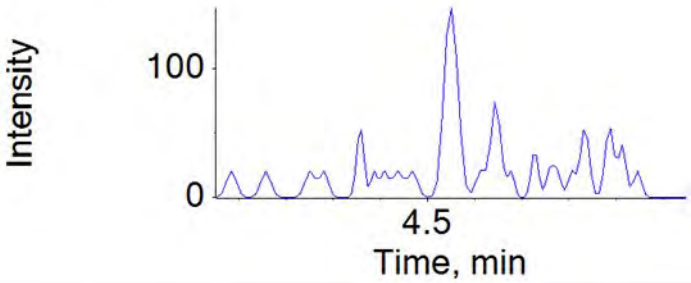


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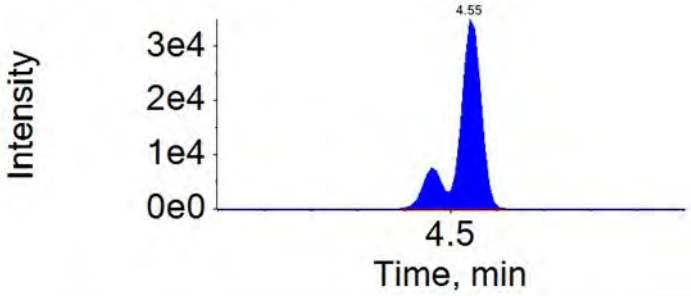
Component: PFHpA
Primary Mass: 363.0 / 319.0



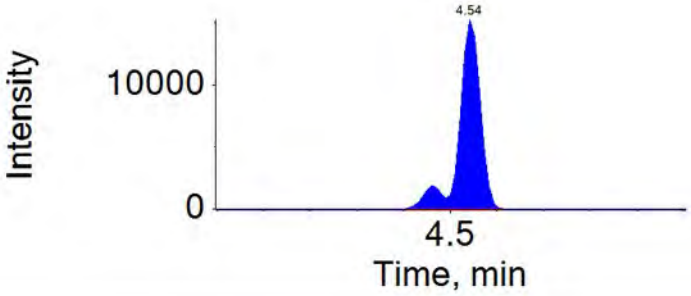

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



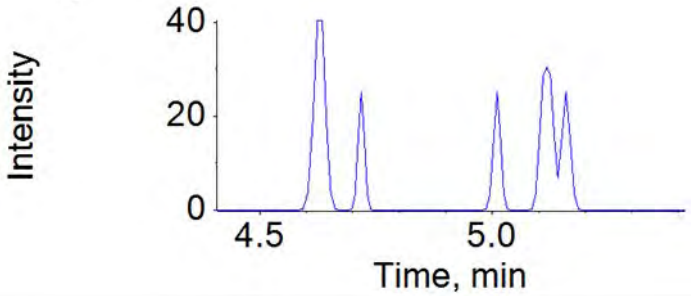

Component: PFHxS
Primary Mass: 399.0 / 80.0



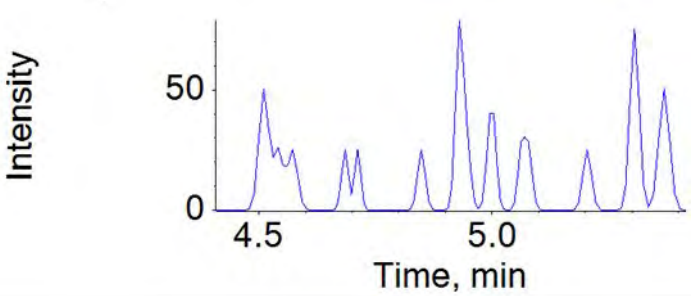

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



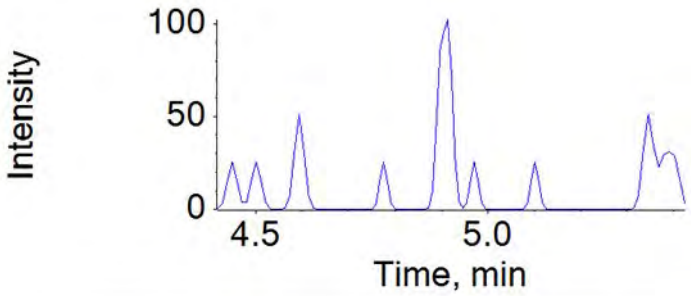

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



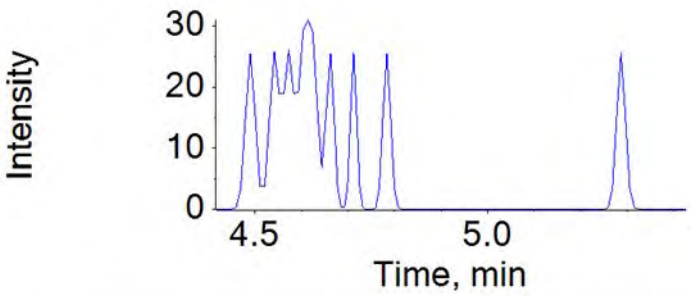

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

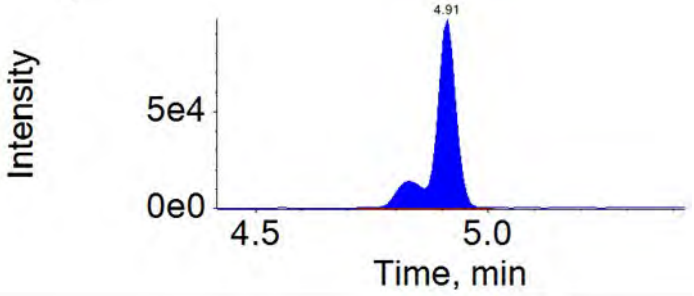



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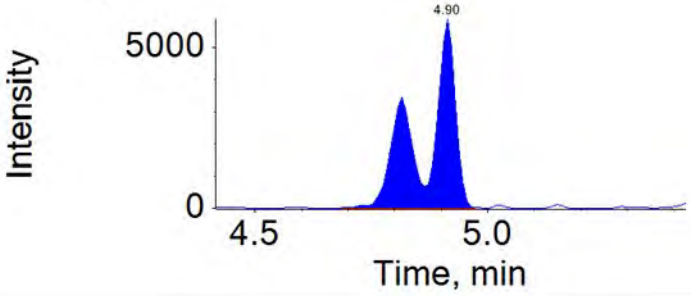


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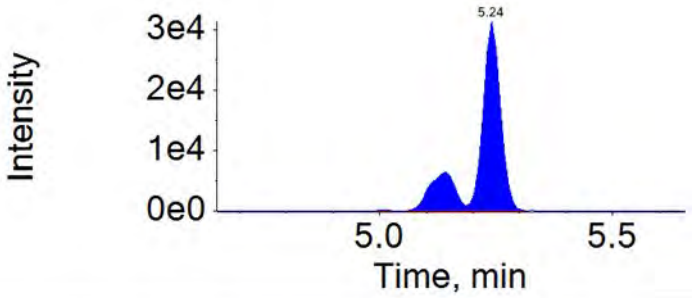
Component: PFOA
Primary Mass: 413.0 / 369.0



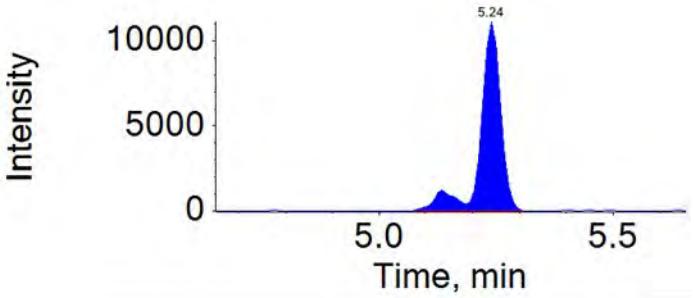

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



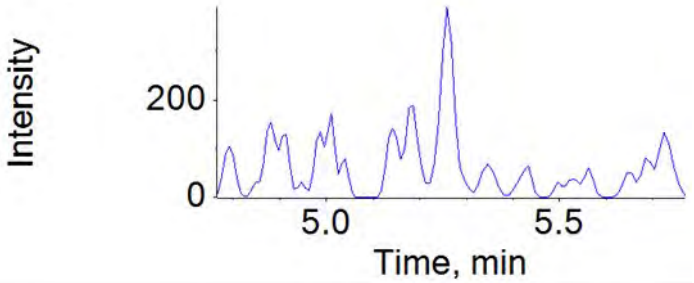

Component: PFOS
Primary Mass: 499.0 / 80.0



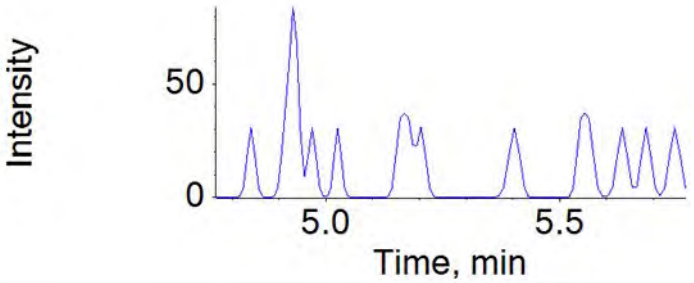

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



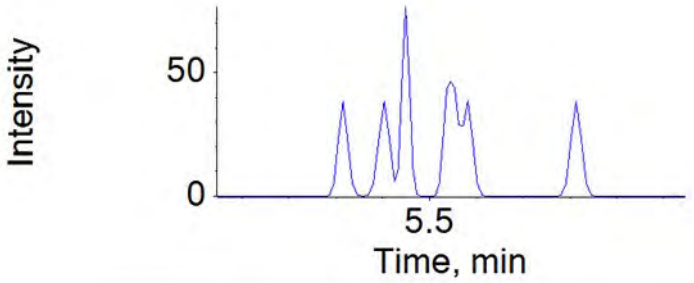

Component: PFNA
Primary Mass: 463.0 / 419.0



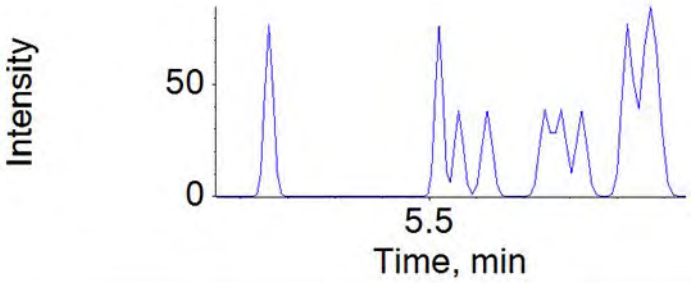

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

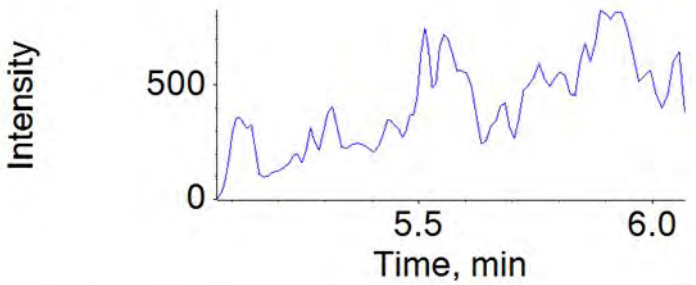



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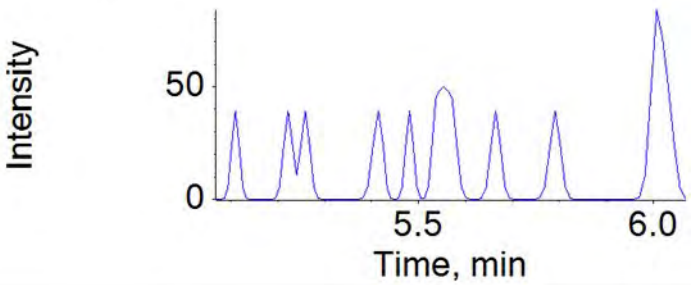


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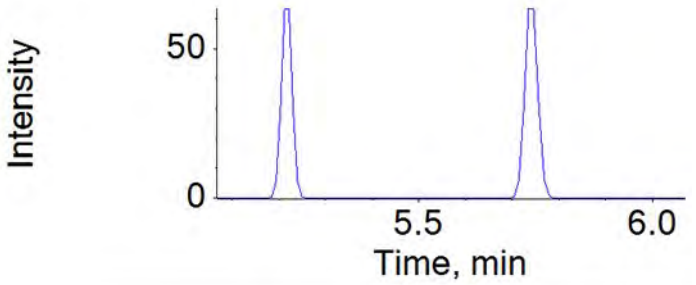
Component: PFDA
Primary Mass: 513.0 / 469.0



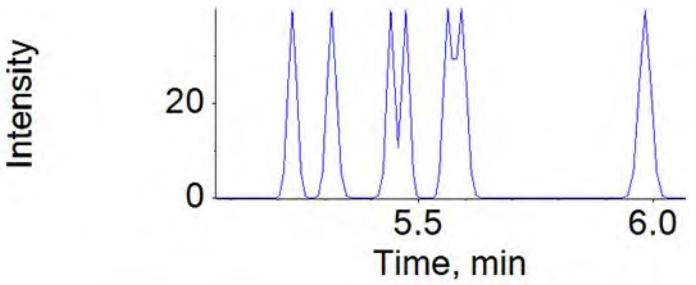

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



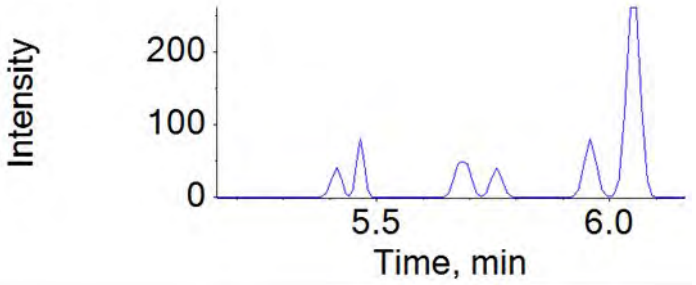

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



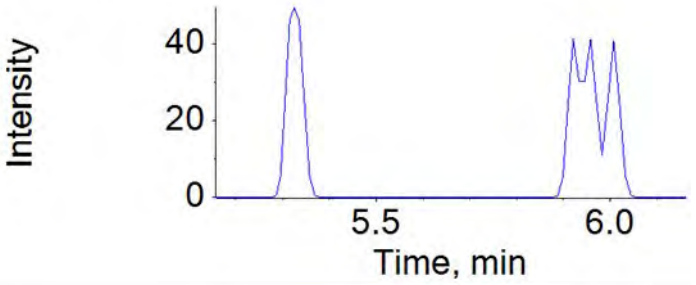

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



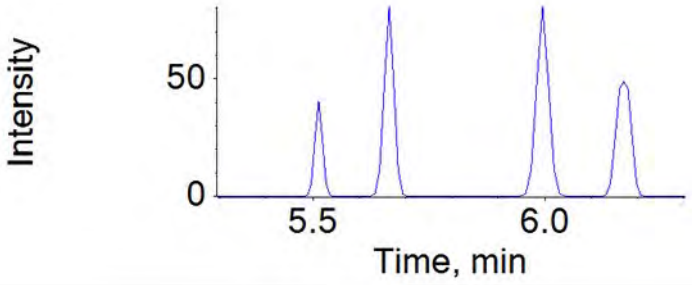

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



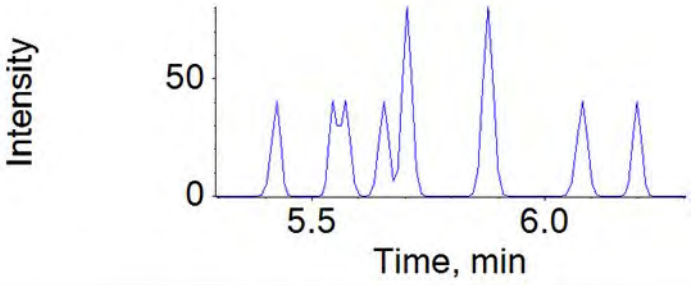

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

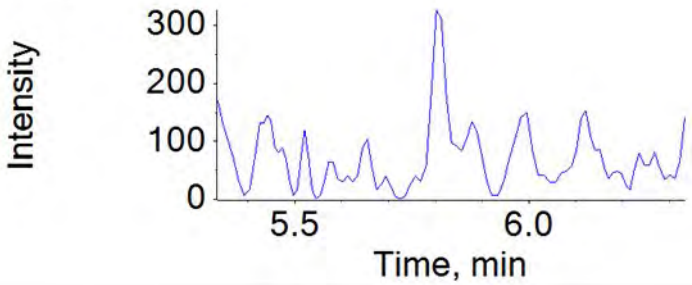



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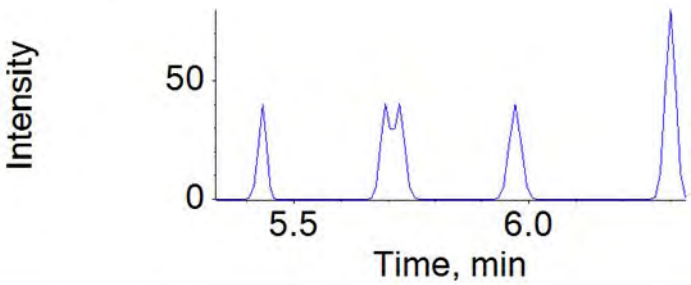


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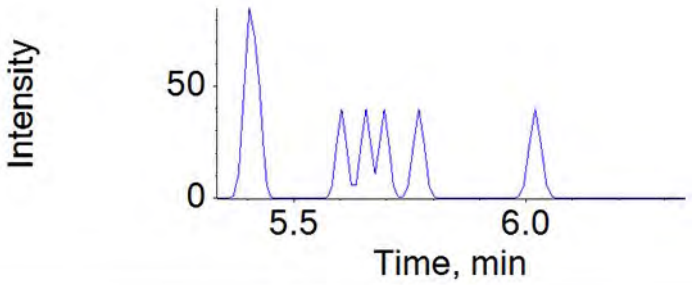
Component: PFUnDA
Primary Mass: 563.0 / 519.0



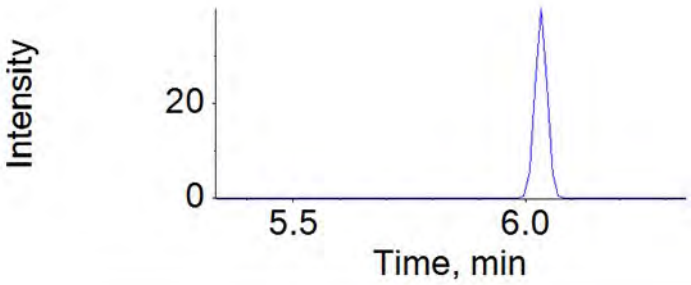

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



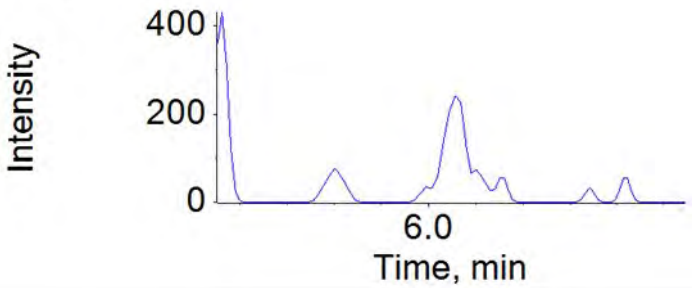

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



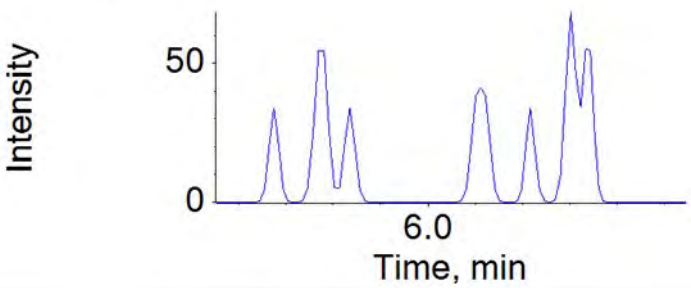

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



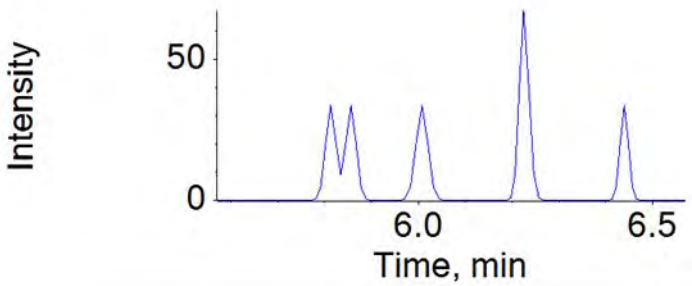

Component: PFDoDA
Primary Mass: 613.0 / 569.0



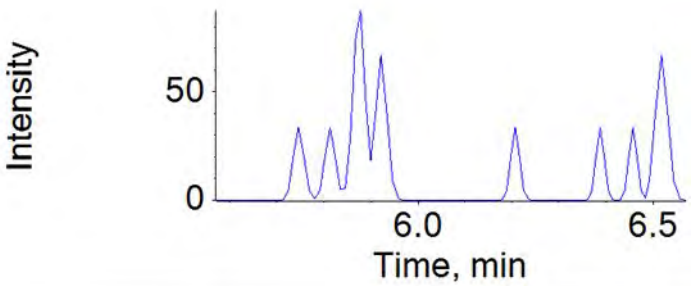

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

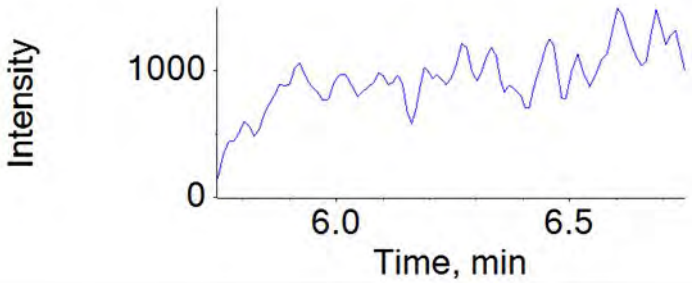



APPROVED
*By MCD at 6:34 pm, 11/12/18*

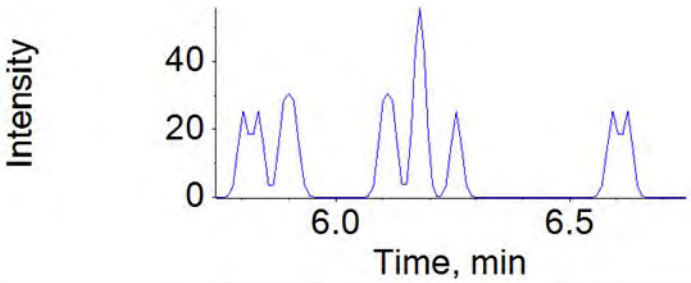


REVIEWED
*By HMK at 10:53 am, 11/13/18*

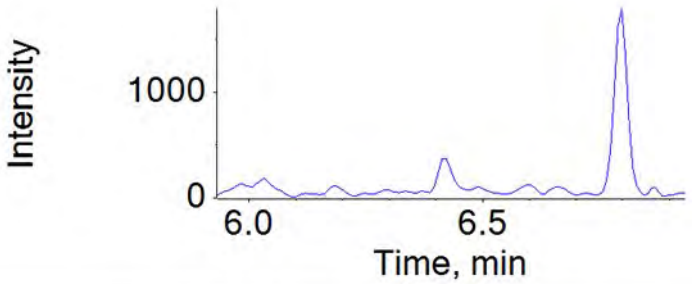
Component: PFTrDA
Primary Mass: 663.0 / 619.0



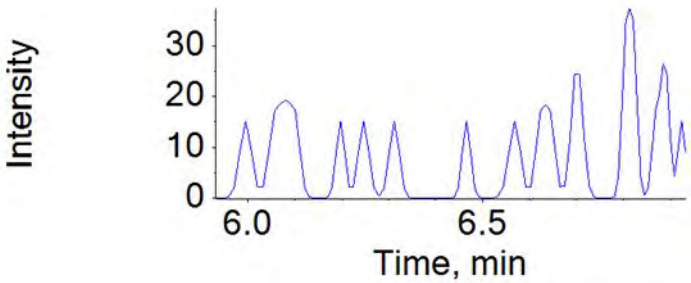

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



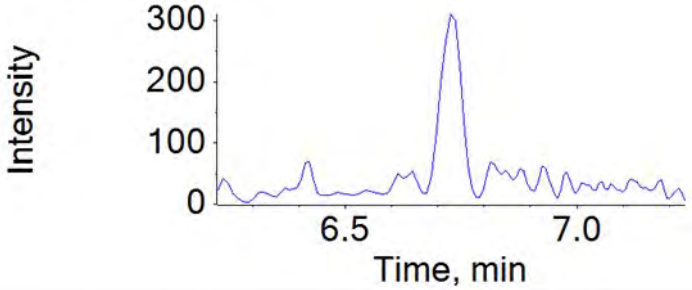

Component: PFTeDA
Primary Mass: 713.0 / 669.0



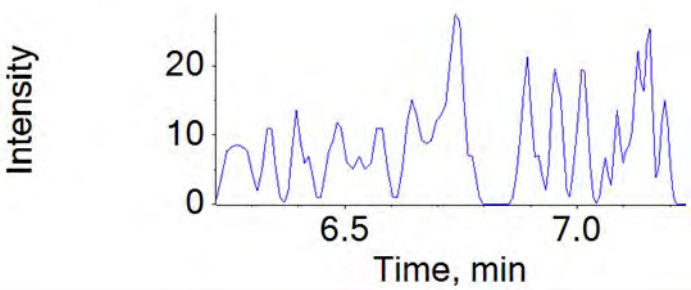

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



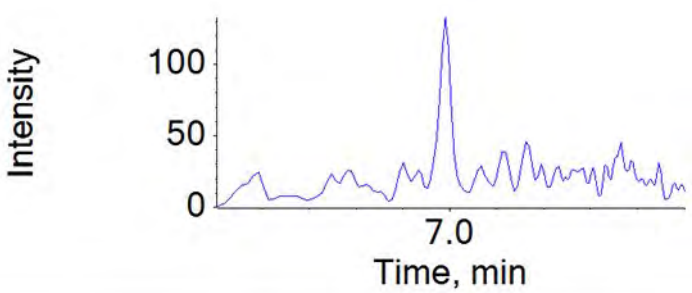

Component: PFHxDA
Primary Mass: 813.0 / 769.0



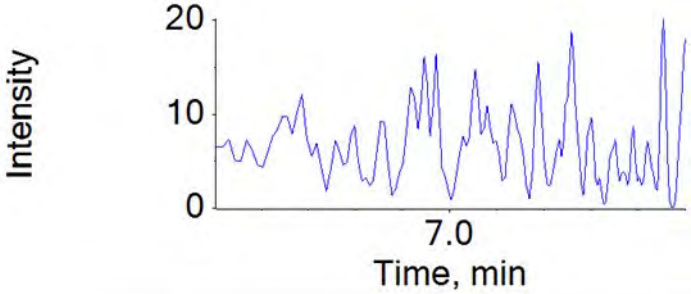

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:34 pm, 11/12/18*

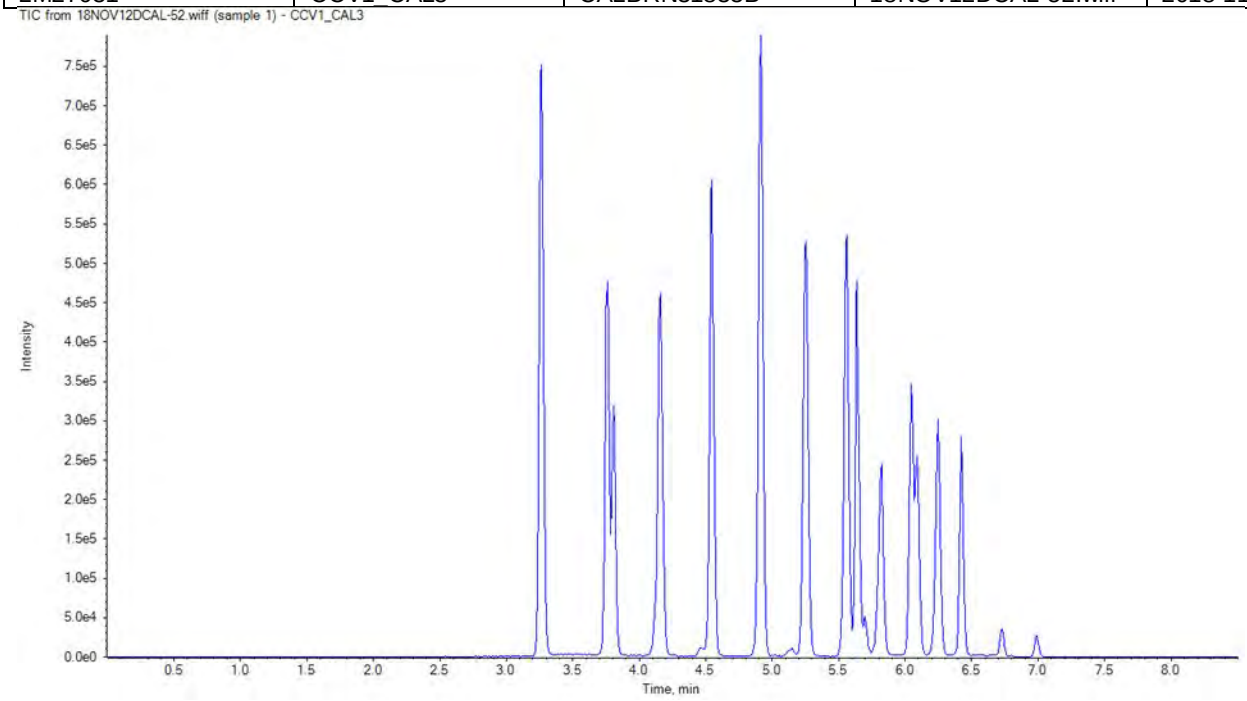


REVIEWED
*By HMK at 10:53 am, 11/13/18*

## Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV1_CAL3 | CALBRN31833B | 18NOV12DCAL-52.wiff | 2018-11-12T16:36:17 |




Injection Standard Area Reference File: 18NOV12DCAL-44

| 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 | 664284.7 | 659926.2 | 1 | 50 | |
| 13C2-PFOA | 5.0 | 438739.4 | 450219.7 | -3 | 50 | |
| 13C4-PFOS | 4.8 | 248122.9 | 249205.8 | 0 | 50 | |
| 13C2-PFDA | 5.0 | 280671.6 | 278743.9 | 1 | 50 | |

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

## Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV1_CAL3 | CALBRN31833B | 18NOV12DCAL-52.wiff | 2018-11-12T16:36:17 |

| 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 | 303662.2 | 10 | 13C4-PFBA | 735275.5 | 5.0 | 0.413 | 3.26 | 1.000 | 2.000 | 2.288 | 14 | 30 | |
| PFPeA | 301109.0 | 11 | 13C5-PFPeA | 741612.6 | 5.0 | 0.406 | 3.76 | 1.000 | 2.000 | 2.350 | 18 | 30 | |
| PFBS | 166889.6 | 10 | 13C3-PFBS | 428368.4 | 4.7 | 0.390 | 3.81 | 1.000 | 1.770 | 1.853 | 5 | 30 | |
| 4:2-FTS | 33008.9 | 12 | 13C2-4:2-FTS | 45542.8 | 4.7 | 0.725 | 4.12 | 1.000 | 1.870 | 1.968 | 5 | 30 | |
| PFHxA | 362326.0 | 12 | 13C5-PFHxA | 638944.4 | 5.0 | 0.567 | 4.16 | 1.000 | 2.000 | 2.368 | 18 | 30 | |
| PFPeS | 87834.9 | 11 | 13C3-PFBS | 428368.4 | 4.7 | 0.205 | 4.18 | 1.100 | 1.880 | 1.991 | 6 | 30 | |
| PFHpA | 361271.6 | 11 | 13C4-PFHpA | 513535.0 | 5.0 | 0.703 | 4.54 | 1.000 | 2.000 | 2.332 | 17 | 30 | |
| PFHxS | 128396.1 | 18 | 13C3-PFHxS | 315408.2 | 4.7 | 0.407 | 4.55 | 1.000 | 1.820 | 1.974 | 8 | 30 | |
| 6:2-FTS | 30500.7 | 11 | 13C2-6:2-FTS | 31026.1 | 4.8 | 0.983 | 4.90 | 1.000 | 1.900 | 2.379 | 25 | 30 | |
| PFHpS | 122801.7 | 11 | 13C3-PFHxS | 315408.2 | 4.7 | 0.389 | 4.91 | 1.080 | 1.900 | 2.050 | 8 | 30 | |
| PFOA | 370358.7 | 11 | 13C8-PFOA | 845332.9 | 5.0 | 0.438 | 4.91 | 1.000 | 2.000 | 2.340 | 17 | 30 | |
| PFOS | 122332.0 | 21 | 13C8-PFOS | 260810.5 | 4.8 | 0.469 | 5.24 | 1.000 | 1.850 | 2.051 | 11 | 30 | |
| PFNA | 292557.2 | 11 | 13C9-PFNA | 468762.7 | 5.0 | 0.624 | 5.26 | 1.000 | 2.000 | 2.250 | 13 | 30 | |
| PFNS | 76021.2 | 11 | 13C8-PFOS | 260810.5 | 4.8 | 0.291 | 5.54 | 1.060 | 1.920 | 2.039 | 6 | 30 | |
| PFDA | 253956.7 | 11 | 13C6-PFDA | 610394.1 | 5.0 | 0.416 | 5.56 | 1.000 | 2.000 | 2.206 | 10 | 30 | |
| 8:2-FTS | 22335.5 | 11 | 13C2-8:2-FTS | 28002.9 | 4.8 | 0.798 | 5.56 | 1.000 | 1.920 | 1.860 | -3 | 30 | |
| PFOSA | 236734.8 | 12 | 13C8-PFOSA | 697263.3 | 5.0 | 0.340 | 5.64 | 1.000 | 2.000 | 1.658 | -17 | 30 | |
| NMeFOSAA | 28733.4 | 18 | d3-NMeFOSAA | 73784.5 | 5.0 | 0.389 | 5.70 | 1.000 | 2.000 | 2.201 | 10 | 30 | |
| PFDS | 62507.8 | 11 | 13C8-PFOS | 260810.5 | 4.8 | 0.240 | 5.79 | 1.110 | 1.930 | 2.172 | 13 | 30 | |
| PFUnDA | 199322.4 | 12 | 13C7-PFUnDA | 244775.8 | 5.0 | 0.814 | 5.82 | 1.000 | 2.000 | 2.129 | 6 | 30 | |
| NEtFOSAA | 24531.9 | 20 | d5-NEtFOSAA | 70158.9 | 5.0 | 0.350 | 5.83 | 1.000 | 2.000 | 1.833 | -8 | 30 | |
| PFDoDA | 228792.9 | 12 | 13C2-PFDoDA | 497113.0 | 5.0 | 0.460 | 6.05 | 1.000 | 2.000 | 2.344 | 17 | 30 | |
| 10:2-FTS | 14411.1 | 11 | 13C2-8:2-FTS | 28002.9 | 4.8 | 0.515 | 6.06 | 1.090 | 1.930 | 1.714 | -11 | 30 | |
| NMePFOSAE | 172466.5 | 11 | d7-NMePFOSAE | 300873.2 | 5.0 | 0.573 | 6.09 | 1.000 | 2.000 | 2.386 | 19 | 30 | |
| NMePFOSA | 31464.1 | 12 | d3-NMePFOSA | 75068.4 | 5.0 | 0.419 | 6.10 | 1.000 | 2.000 | 2.068 | 3 | 30 | |
| PFDoS | 33762.2 | 11 | 13C8-PFOS | 260810.5 | 4.8 | 0.129 | 6.22 | 1.190 | 1.940 | 2.267 | 17 | 30 | |
| NEtPFOSAE | 180928.5 | 11 | d9-NEtPFOSAE | 250299.2 | 5.0 | 0.723 | 6.25 | 1.000 | 2.000 | 2.319 | 16 | 30 | |
| NEtPFOSA | 26529.3 | 11 | d5-NEtPFOSA | 59631.6 | 5.0 | 0.445 | 6.26 | 1.000 | 2.000 | 2.043 | 2 | 30 | |
| PFTrDA | 185154.6 | 11 | 13C2-PFDoDA | 497113.0 | 5.0 | 0.372 | 6.25 | 1.030 | 2.000 | 2.351 | 18 | 30 | |
| PFTeDA | 159904.6 | 10 | 13C2-PFTeDA | 379642.6 | 5.0 | 0.421 | 6.42 | 1.000 | 2.000 | 2.361 | 18 | 30 | |
| PFHxDA | 68393.8 | 11 | 13C2-PFTeDA | 379642.6 | 5.0 | 0.180 | 6.73 | 1.050 | 2.000 | 2.146 | 7 | 30 | |
| PFODA | 58092.4 | 10 | 13C2-PFTeDA | 379642.6 | 5.0 | 0.153 | 6.99 | 1.090 | 2.000 | 2.131 | 7 | 30 | |

APPROVED
By MCD at 6:34 pm, 11/12/18



REVIEWED
By HMK at 10:53 am, 11/13/18

## Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**Acquisition Method:** 18AUG13_3uL.dam

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CCV1_CAL3 | | | **Data File:** | | 18NOV12DCAL-52.wiff |
| **Sample ID:** | CALBRN31833B | | | **Acquis Date:** | | 2018-11-12T16:36:17 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 5 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV12DCAL |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 664284.7 | 659926.2 | 1 | 50 | |
| 13C2-PFOA | 5.0 | 438739.4 | 450219.7 | -3 | 50 | |
| 13C4-PFOS | 4.8 | 248122.9 | 249205.8 | 0 | 50 | |
| 13C2-PFDA | 5.0 | 280671.6 | 278743.9 | 1 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 735275.5 | 13C3-PFBA | 664284.7 | 1.107 | 5.000 | 4.962 | 99 | 70-130 | |
| E13C5-PFPeA | 741612.6 | 13C3-PFBA | 664284.7 | 1.116 | 5.000 | 5.007 | 100 | 70-130 | |
| E13C3-PFBS | 428368.4 | 13C3-PFBA | 664284.7 | 0.645 | 4.650 | 4.552 | 98 | 70-130 | |
| E13C2-4:2-FTS | 45542.8 | 13C2-PFOA | 438739.4 | 0.104 | 4.670 | 4.623 | 99 | 70-130 | |
| E13C5-PFHxA | 638944.4 | 13C2-PFOA | 438739.4 | 1.456 | 5.000 | 5.261 | 105 | 70-130 | |
| E13C3-PFHxS | 315408.2 | 13C2-PFOA | 438739.4 | 0.719 | 4.730 | 4.933 | 104 | 70-130 | |
| E13C4-PFHpA | 513535.0 | 13C2-PFOA | 438739.4 | 1.170 | 5.000 | 5.273 | 105 | 70-130 | |
| E13C2-6:2-FTS | 31026.1 | 13C2-PFOA | 438739.4 | 0.071 | 4.750 | 4.731 | 100 | 70-130 | |
| E13C8-PFOA | 845332.9 | 13C2-PFOA | 438739.4 | 1.927 | 5.000 | 5.308 | 106 | 70-130 | |
| E13C8-PFOS | 260810.5 | 13C4-PFOS | 248122.9 | 1.051 | 4.780 | 4.657 | 97 | 70-130 | |
| E13C9-PFNA | 468762.7 | 13C4-PFOS | 248122.9 | 1.889 | 5.000 | 5.267 | 105 | 70-130 | |
| E13C6-PFDA | 610394.1 | 13C2-PFDA | 280671.6 | 2.175 | 5.000 | 5.075 | 102 | 70-130 | |
| E13C2-8:2-FTS | 28002.9 | 13C2-PFDA | 280671.6 | 0.100 | 4.790 | 4.976 | 104 | 70-130 | |
| E13C8-PFOSA | 697263.3 | 13C2-PFDA | 280671.6 | 2.484 | 5.000 | 5.508 | 110 | 70-130 | |
| Ed3-NMeFOSAA | 73784.5 | 13C2-PFDA | 280671.6 | 0.263 | 5.000 | 4.745 | 95 | 70-130 | |
| E13C7-PFUnDA | 244775.8 | 13C2-PFDA | 280671.6 | 0.872 | 5.000 | 5.063 | 101 | 70-130 | |
| Ed5-NEtFOSAA | 70158.9 | 13C2-PFDA | 280671.6 | 0.250 | 5.000 | 5.288 | 106 | 70-130 | |
| E13C2-PFDoDA | 497113.0 | 13C2-PFDA | 280671.6 | 1.771 | 5.000 | 4.599 | 92 | 70-130 | |
| Ed7-NMePFOSAE | 300873.2 | 13C2-PFDA | 280671.6 | 1.072 | 5.000 | 4.639 | 93 | 70-130 | |
| Ed3-NMePFOSA | 75068.4 | 13C2-PFDA | 280671.6 | 0.267 | 5.000 | 4.859 | 97 | 70-130 | |
| Ed9-NEtPFOSAE | 250299.2 | 13C2-PFDA | 280671.6 | 0.892 | 5.000 | 4.638 | 93 | 70-130 | |
| Ed5-NEtPFOSA | 59631.6 | 13C2-PFDA | 280671.6 | 0.212 | 5.000 | 4.984 | 100 | 70-130 | |
| E13C2-PFTeDA | 379642.6 | 13C2-PFDA | 280671.6 | 1.353 | 5.000 | 4.749 | 95 | 70-130 | |

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

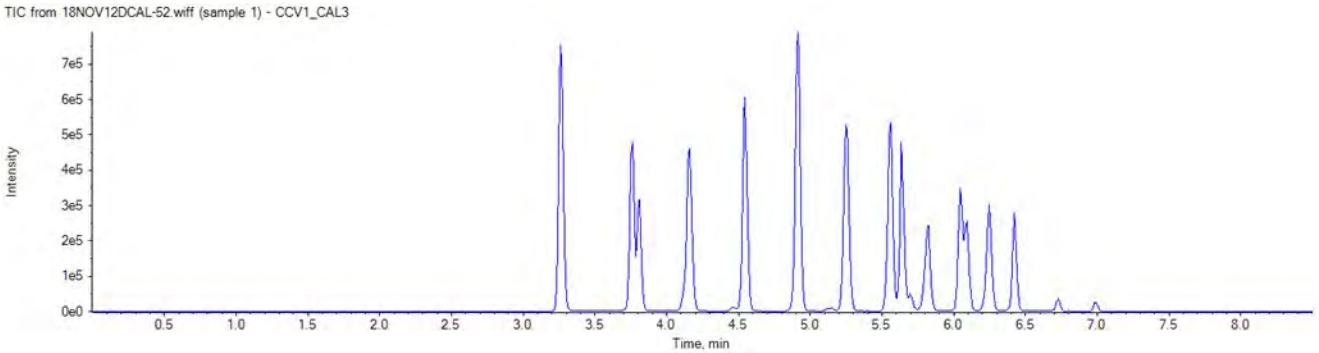
## Analyte Quantitation Peak Table

**Sample Name:** CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-52.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 | 303662.2 | | A | 13C4-PFBA | 3.26 | 735275.5 | 0.413 | 2.288 |
| PFPeA | 3.76 | 1.000 | 301109.0 | | A | 13C5-PFPeA | 3.76 | 741612.6 | 0.406 | 2.350 |
| PFBS | 3.81 | 1.000 | 166889.6 | | A | 13C3-PFBS | 3.81 | 428368.4 | 0.390 | 1.853 |
| 4:2-FTS | 4.12 | 1.000 | 33008.9 | | A | 13C2-4:2-FTS | 4.12 | 45542.8 | 0.725 | 1.968 |
| PFHxA | 4.16 | 1.000 | 362326.0 | | A | 13C5-PFHxA | 4.16 | 638944.4 | 0.567 | 2.368 |
| PFPeS | 4.18 | 1.100 | 87834.9 | | A | 13C3-PFBS | 3.81 | 428368.4 | 0.205 | 1.991 |
| PFHpA | 4.54 | 1.000 | 361271.6 | | A | 13C4-PFHpA | 4.54 | 513535.0 | 0.703 | 2.332 |
| PFHxS | 4.55 | 1.000 | 128396.1 | | M | 13C3-PFHxS | 4.55 | 315408.2 | 0.407 | 1.974 |
| 6:2-FTS | 4.90 | 1.000 | 30500.7 | | A | 13C2-6:2-FTS | 4.90 | 31026.1 | 0.983 | 2.379 |
| PFHpS | 4.91 | 1.080 | 122801.7 | | A | 13C3-PFHxS | 4.55 | 315408.2 | 0.389 | 2.050 |
| PFOA | 4.91 | 1.000 | 370358.7 | | A | 13C8-PFOA | 4.91 | 845332.9 | 0.438 | 2.340 |
| PFOS | 5.24 | 1.000 | 122332.0 | | M | 13C8-PFOS | 5.24 | 260810.5 | 0.469 | 2.051 |
| PFNA | 5.26 | 1.000 | 292557.2 | | A | 13C9-PFNA | 5.26 | 468762.7 | 0.624 | 2.250 |
| PFNS | 5.54 | 1.060 | 76021.2 | | A | 13C8-PFOS | 5.24 | 260810.5 | 0.291 | 2.039 |
| PFDA | 5.56 | 1.000 | 253956.7 | | A | 13C6-PFDA | 5.56 | 610394.1 | 0.416 | 2.206 |
| 8:2-FTS | 5.56 | 1.000 | 22335.5 | | A | 13C2-8:2-FTS | 5.56 | 28002.9 | 0.798 | 1.860 |
| PFOSA | 5.64 | 1.000 | 236734.8 | | A | 13C8-PFOSA | 5.64 | 697263.3 | 0.340 | 1.658 |
| NMeFOSAA | 5.70 | 1.000 | 28733.4 | | A | d3-NMeFOSAA | 5.70 | 73784.5 | 0.389 | 2.201 |
| PFDS | 5.79 | 1.110 | 62507.8 | | A | 13C8-PFOS | 5.24 | 260810.5 | 0.240 | 2.172 |
| PFUnDA | 5.82 | 1.000 | 199322.4 | | A | 13C7-PFUnDA | 5.82 | 244775.8 | 0.814 | 2.129 |
| NEtFOSAA | 5.83 | 1.000 | 24531.9 | | A | d5-NEtFOSAA | 5.83 | 70158.9 | 0.350 | 1.833 |
| PFDoDA | 6.05 | 1.000 | 228792.9 | | A | 13C2-PFDoDA | 6.05 | 497113.0 | 0.460 | 2.344 |
| 10:2-FTS | 6.06 | 1.090 | 14411.1 | | A | 13C2-8:2-FTS | 5.56 | 28002.9 | 0.515 | 1.714 |
| NMePFOSAE | 6.09 | 1.000 | 172466.5 | | A | d7-NMePFOSAE | 6.09 | 300873.2 | 0.573 | 2.386 |
| NMePFOSA | 6.10 | 1.000 | 31464.1 | | A | d3-NMePFOSA | 6.10 | 75068.4 | 0.419 | 2.068 |
| PFDoS | 6.22 | 1.190 | 33762.2 | | A | 13C8-PFOS | 5.24 | 260810.5 | 0.129 | 2.267 |
| NEtPFOSAE | 6.25 | 1.000 | 180928.5 | | A | d9-NEtPFOSAE | 6.24 | 250299.2 | 0.723 | 2.319 |
| NEtPFOSA | 6.26 | 1.000 | 26529.3 | | A | d5-NEtPFOSA | 6.26 | 59631.6 | 0.445 | 2.043 |
| PFTrDA | 6.25 | 1.030 | 185154.6 | | A | 13C2-PFDoDA | 6.05 | 497113.0 | 0.372 | 2.351 |
| PFTeDA | 6.42 | 1.000 | 159904.6 | | A | 13C2-PFTeDA | 6.42 | 379642.6 | 0.421 | 2.361 |
| PFHxDA | 6.73 | 1.050 | 68393.8 | | A | 13C2-PFTeDA | 6.42 | 379642.6 | 0.180 | 2.146 |
| PFODA | 6.99 | 1.090 | 58092.4 | | A | 13C2-PFTeDA | 6.42 | 379642.6 | 0.153 | 2.131 |

## Total Ion Chromatogram



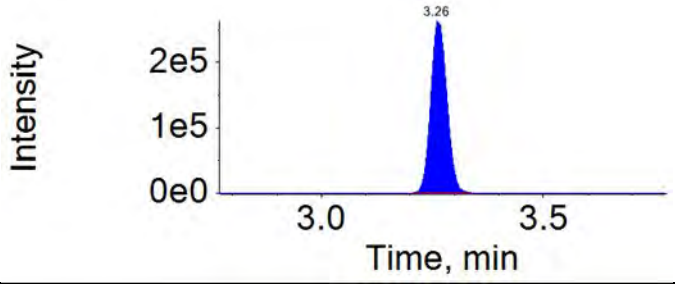

APPROVED
*By MCD at 6:34 pm, 11/12/18*



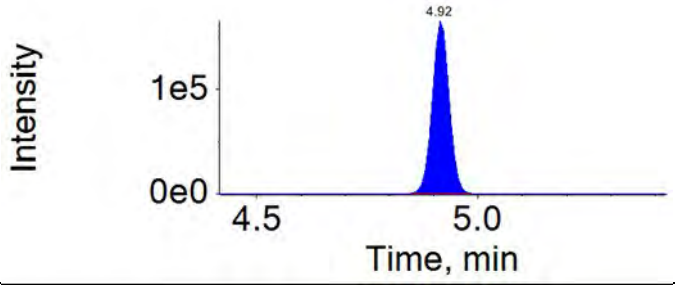
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

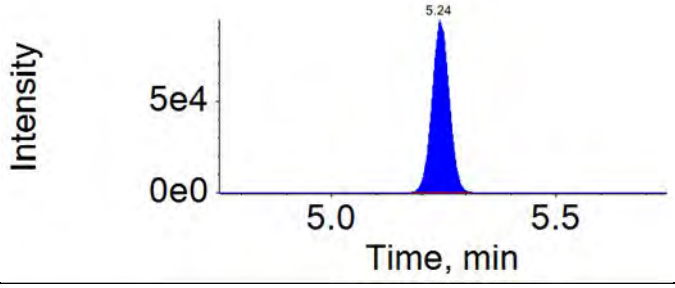
Injection Standard: 13C3-PFBA
216.0 / 172.0



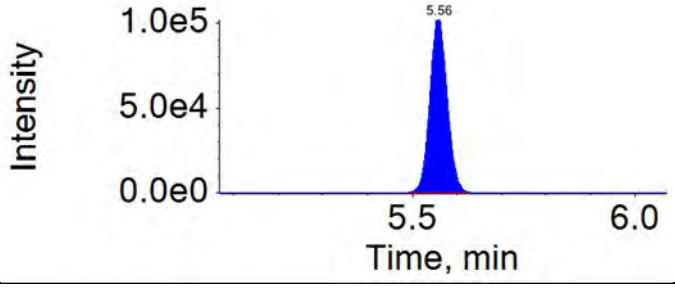

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



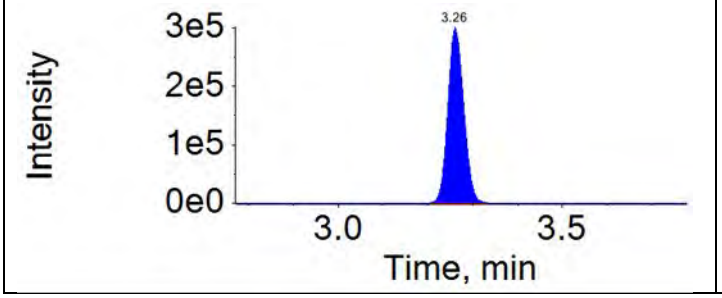

APPROVED
*By MCD at 6:34 pm, 11/12/18*

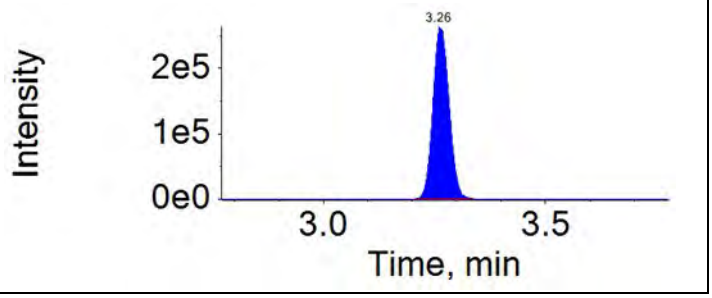


REVIEWED
*By HMK at 10:53 am, 11/13/18*

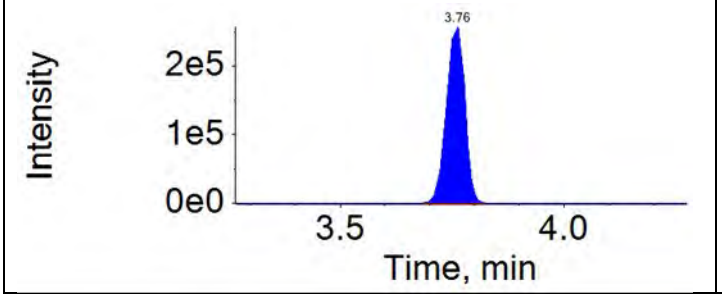
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**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

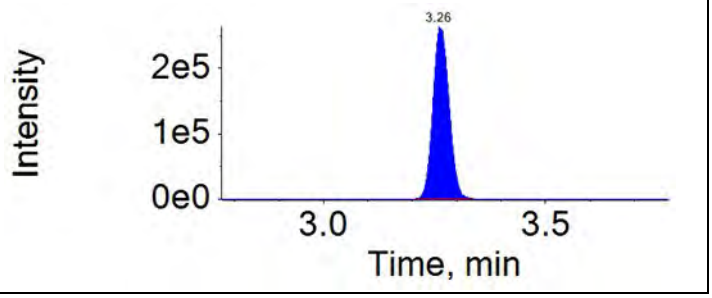
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



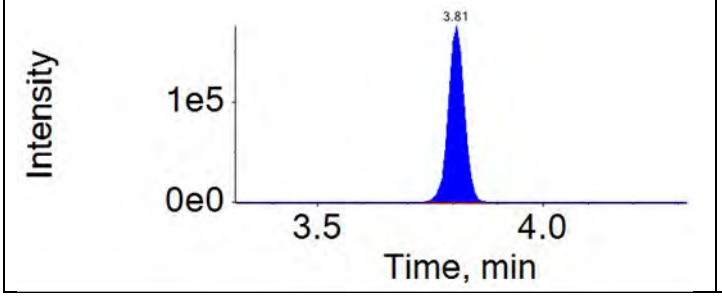



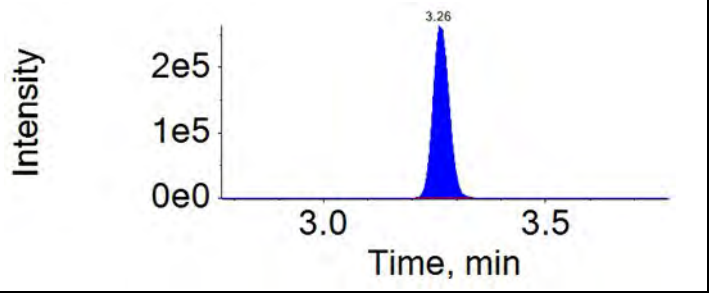

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



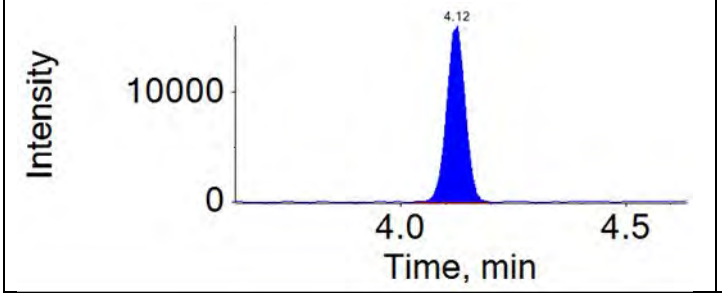



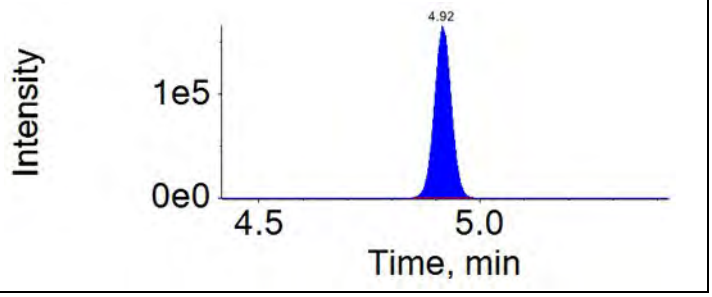

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



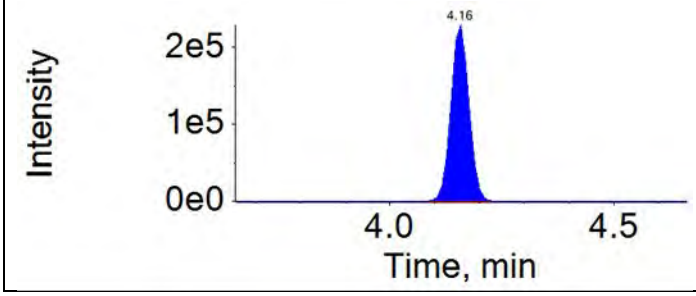

APPROVED
*By MCD at 6:34 pm, 11/12/18*

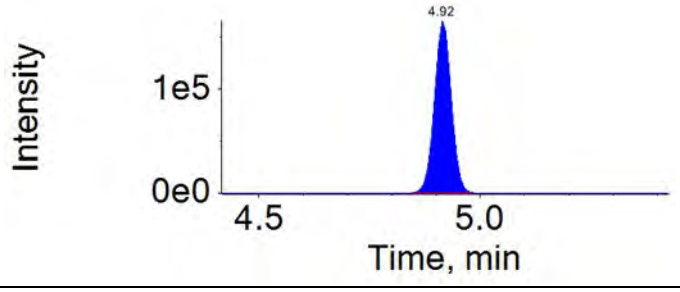


REVIEWED
*By HMK at 10:53 am, 11/13/18*

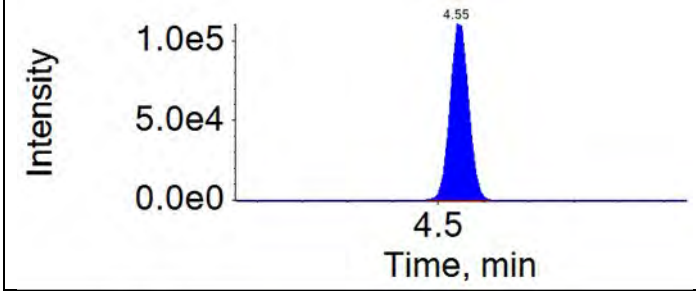
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

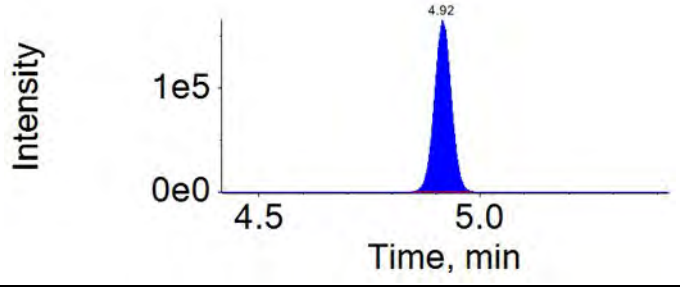
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



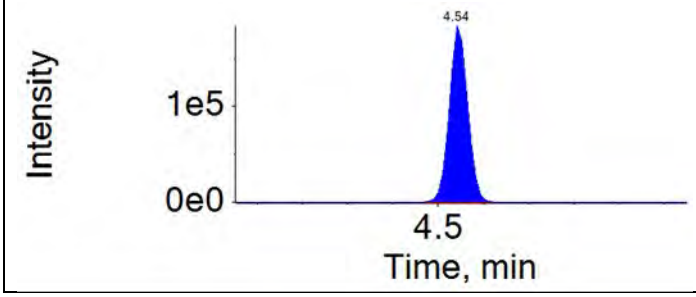



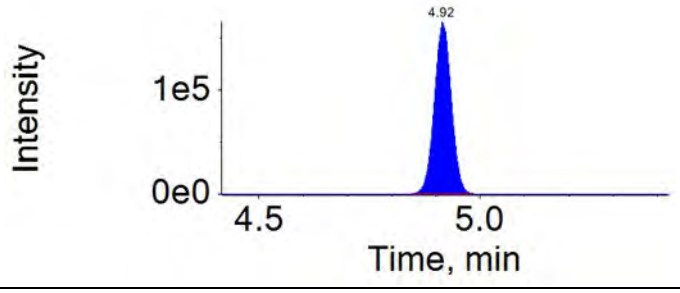

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



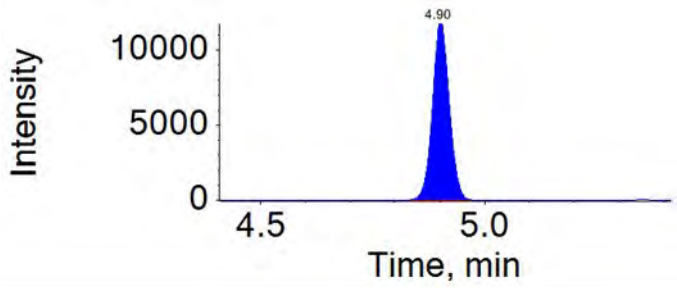



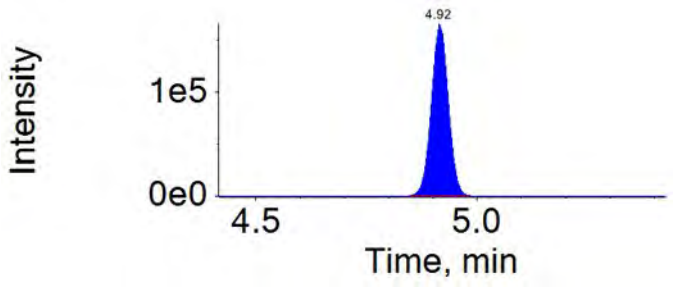

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




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



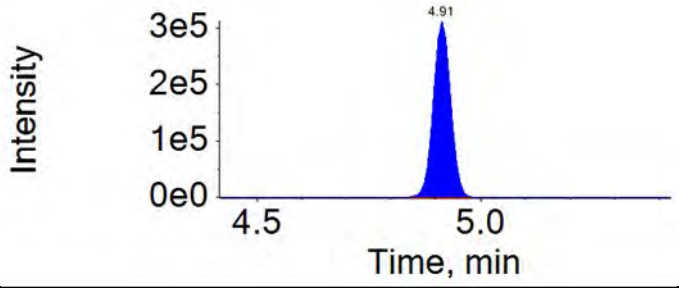
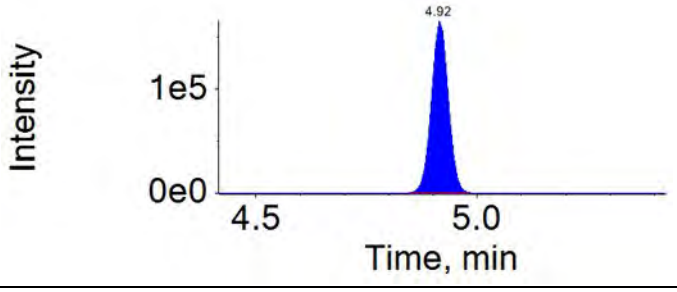




APPROVED
*By MCD at 6:34 pm, 11/12/18*



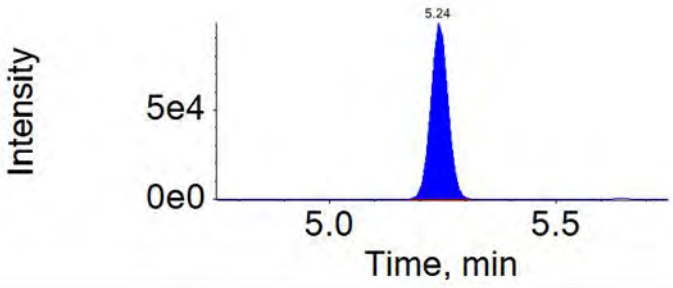
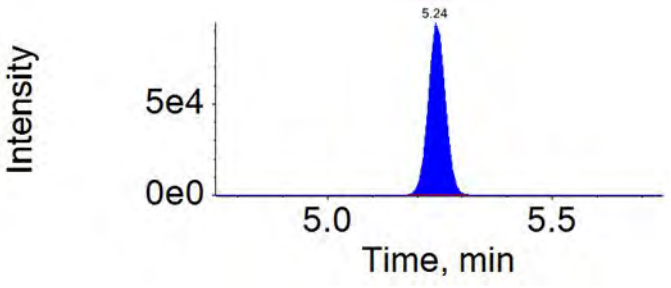
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

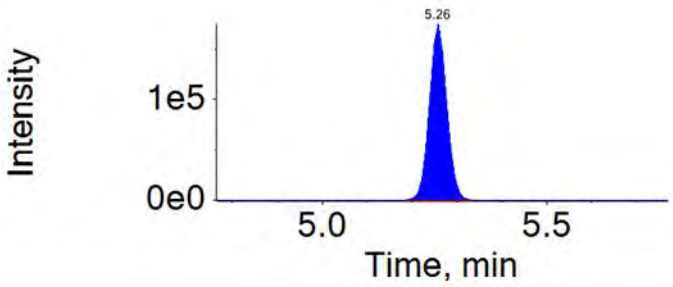
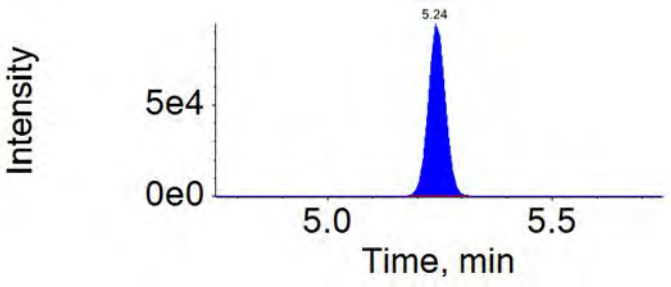




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

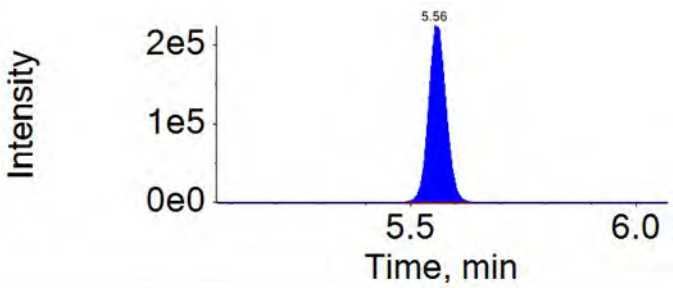
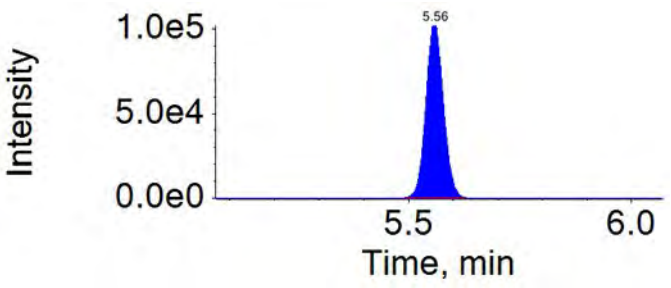




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





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





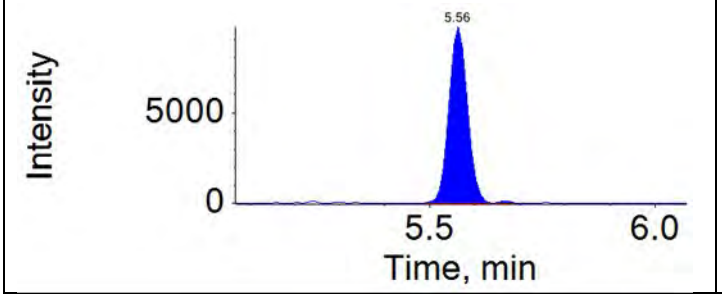
APPROVED
*By MCD at 6:34 pm, 11/12/18*

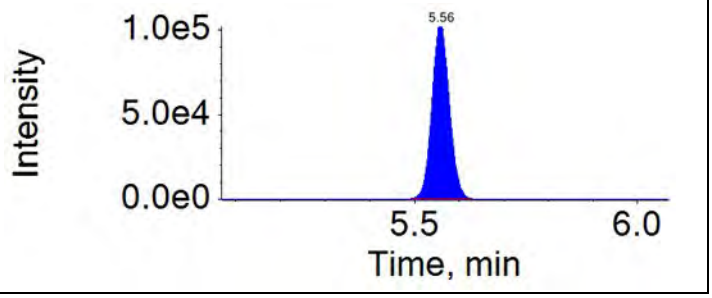


REVIEWED
*By HMK at 10:53 am, 11/13/18*

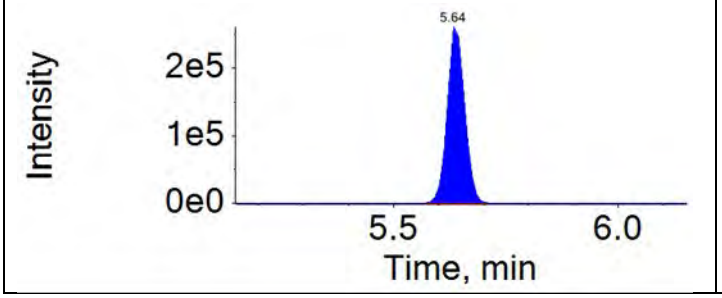
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

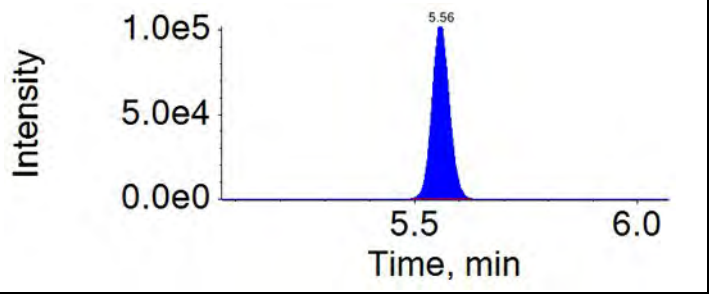
| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |



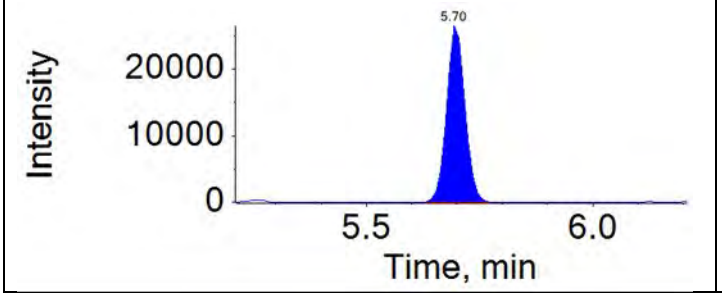



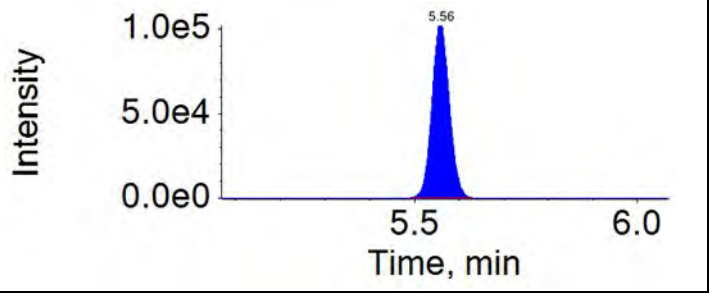

| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |



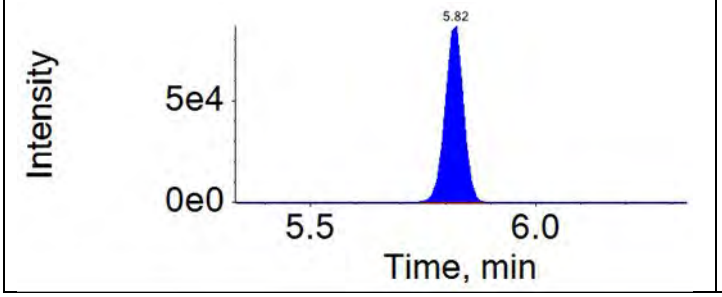



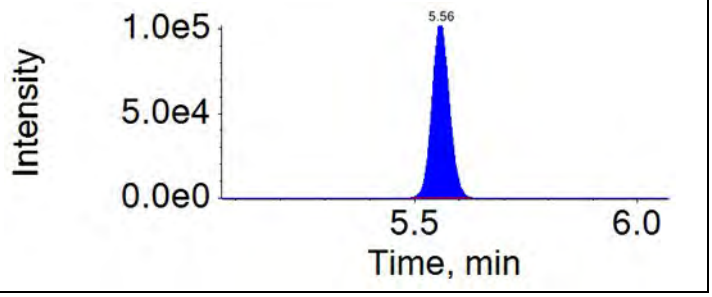

| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |




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



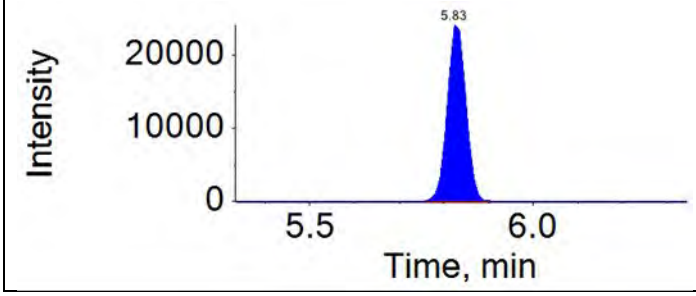
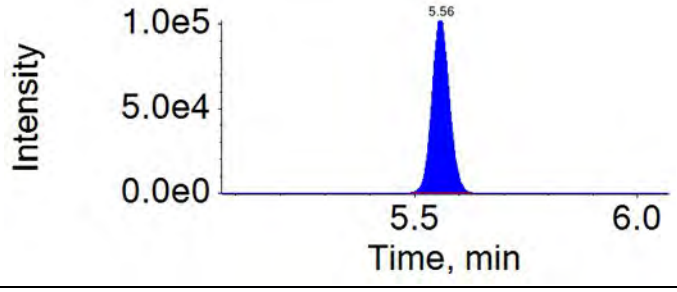




APPROVED
*By MCD at 6:34 pm, 11/12/18*



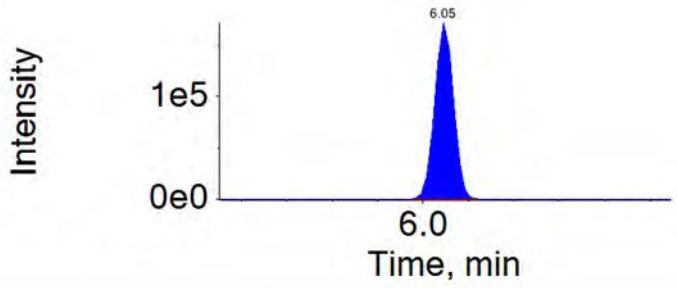
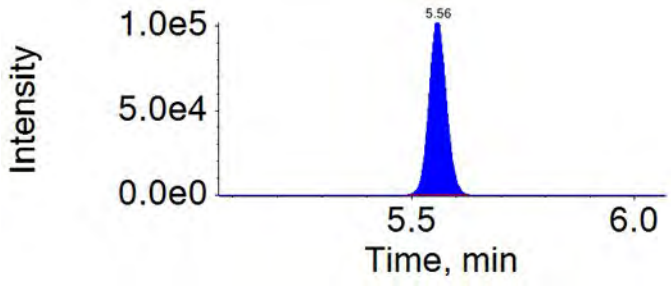
REVIEWED
*By HMK at 10:53 am, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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

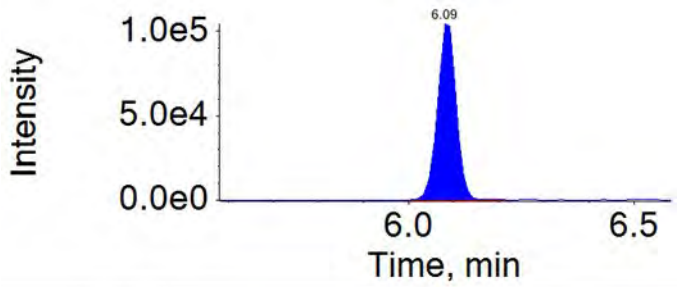
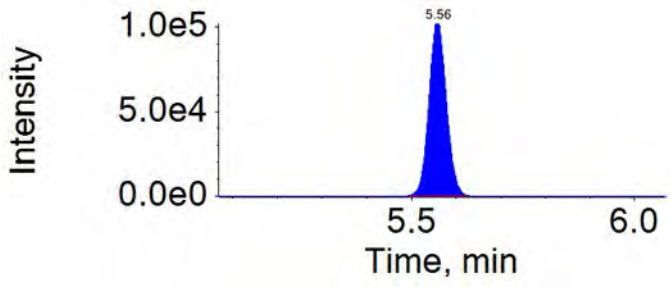




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

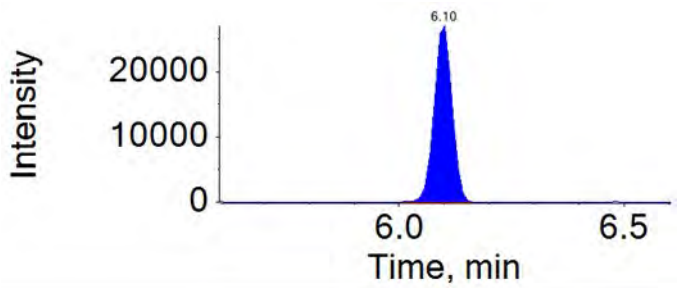
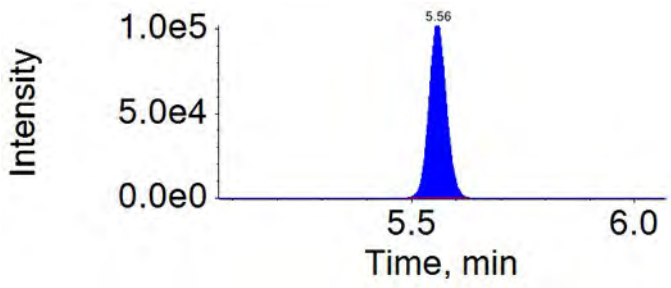




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





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





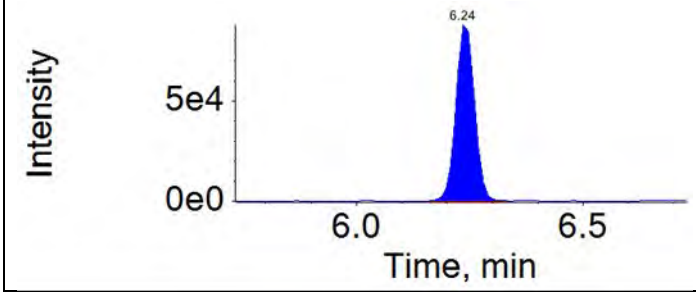
APPROVED
*By MCD at 6:34 pm, 11/12/18*

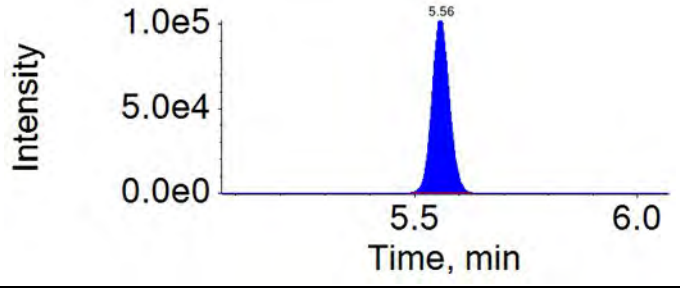


REVIEWED
*By HMK at 10:53 am, 11/13/18*

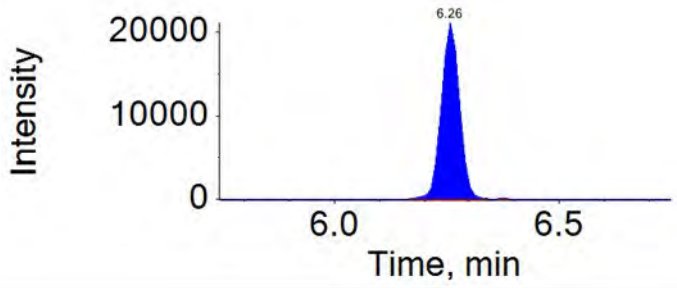
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

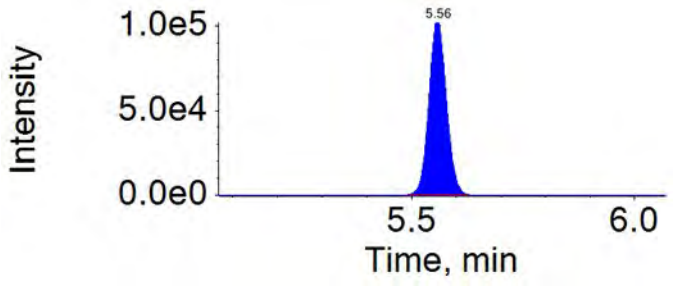
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



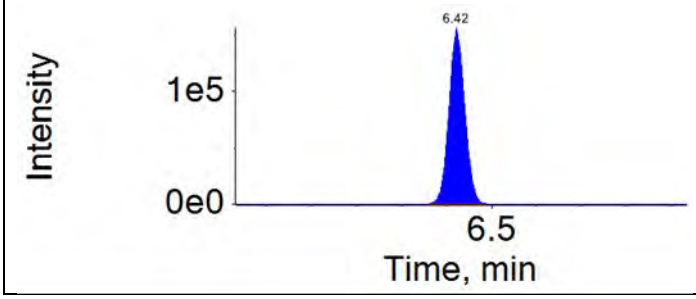



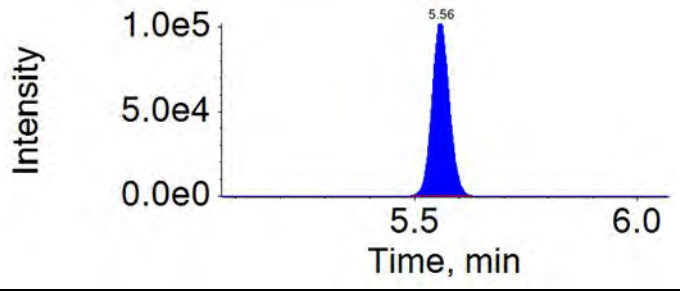

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




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



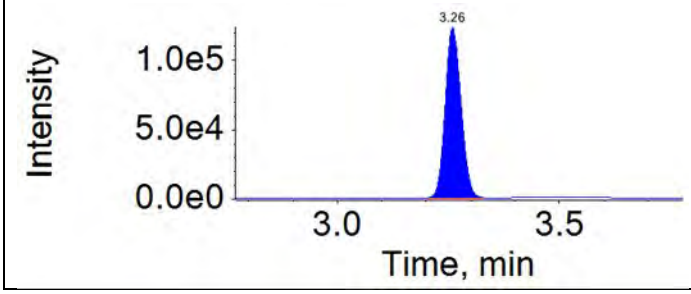

APPROVED
By MCD at 6:34 pm, 11/12/18

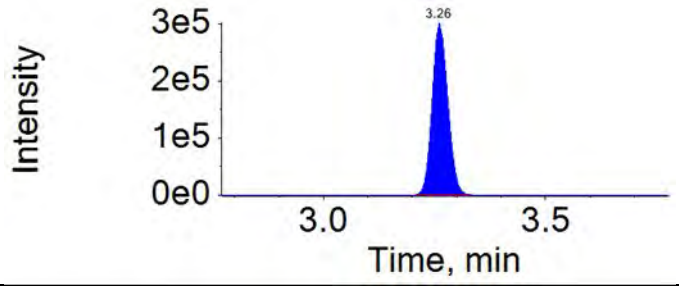


REVIEWED
By HMK at 10:53 am, 11/13/18

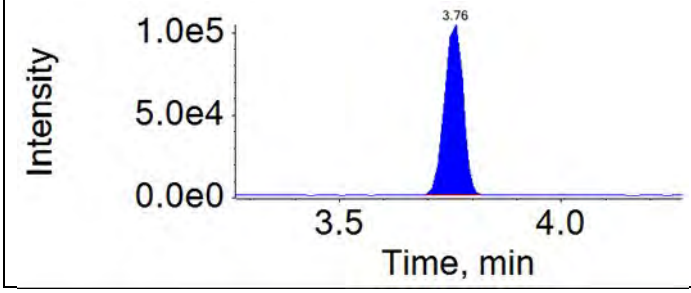
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

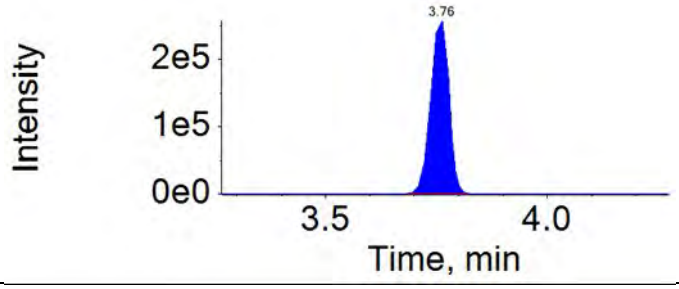
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



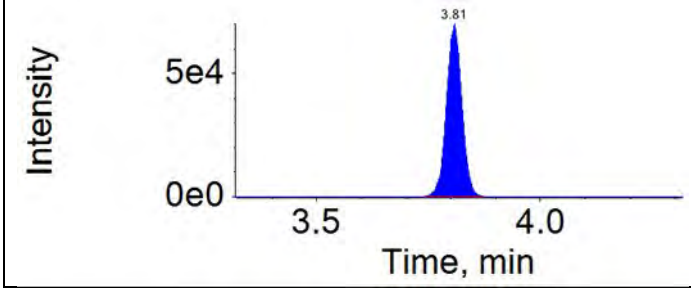



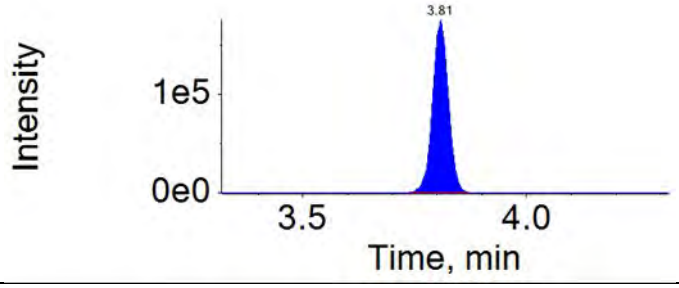

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



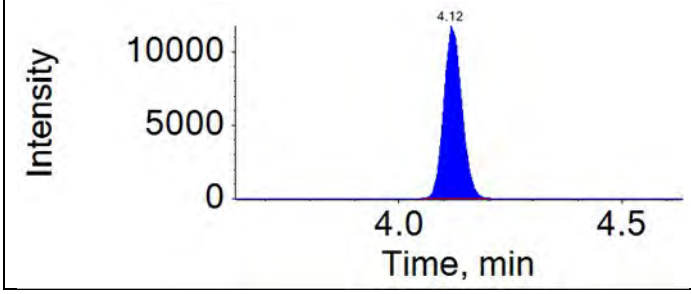



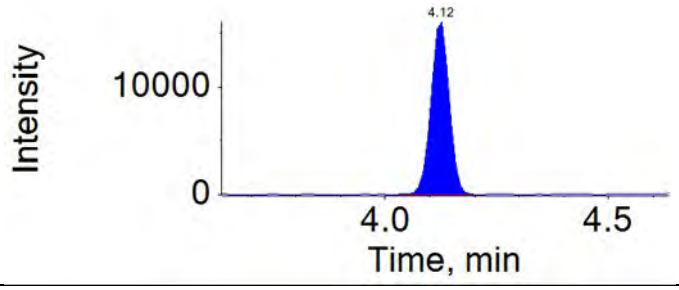

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




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



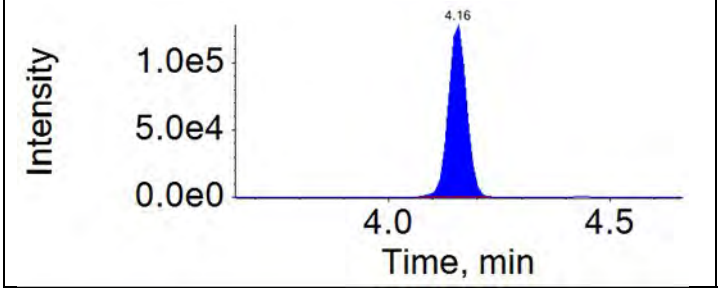

APPROVED
*By MCD at 6:34 pm, 11/12/18*

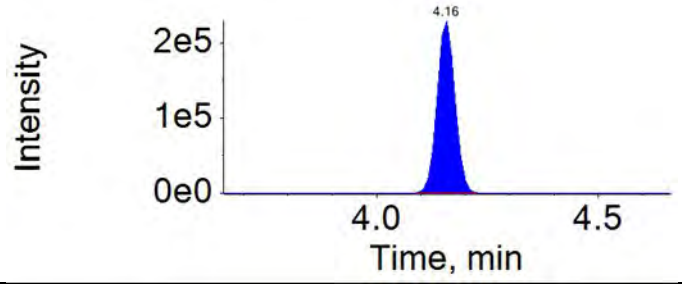


REVIEWED
*By HMK at 10:53 am, 11/13/18*

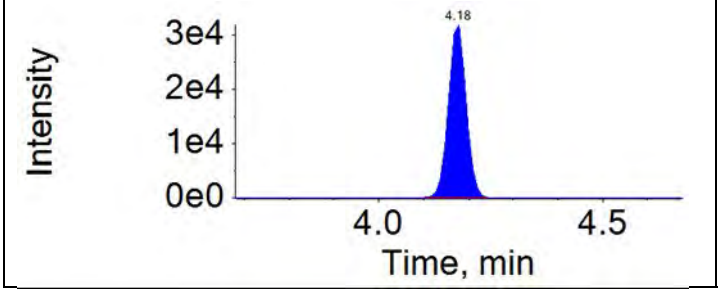
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

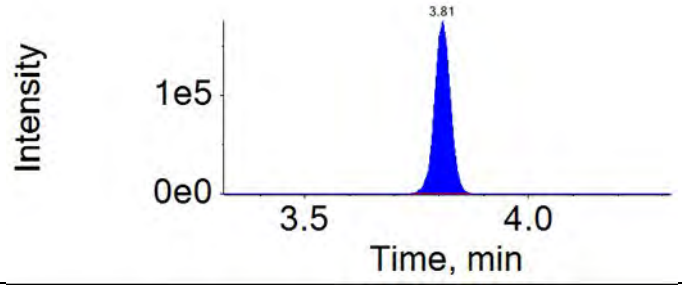
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



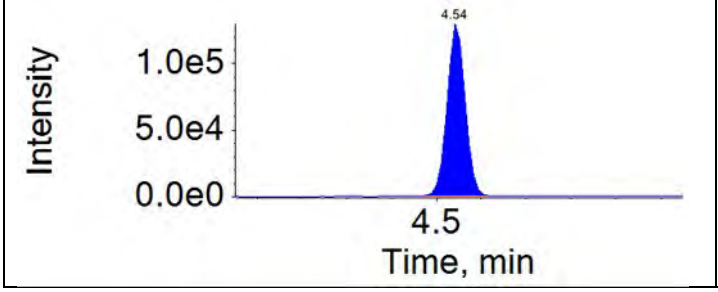



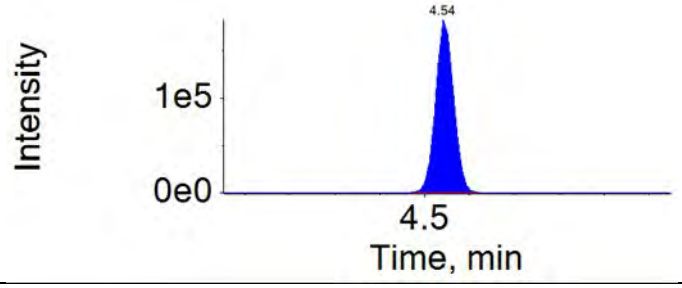

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



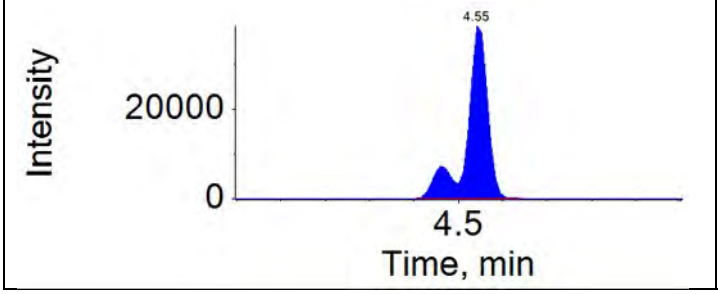



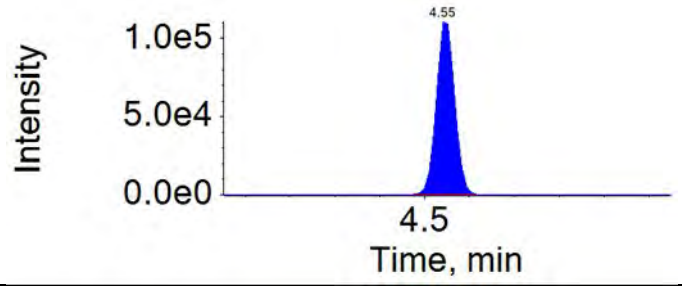

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




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



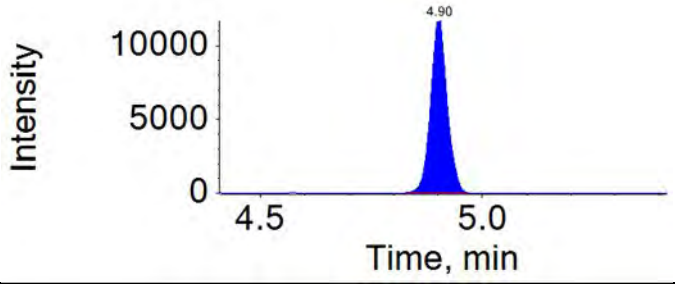

APPROVED
By MCD at 6:34 pm, 11/12/18

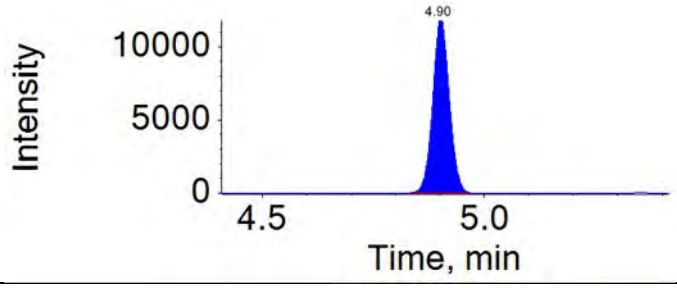


REVIEWED
By HMK at 10:53 am, 11/13/18

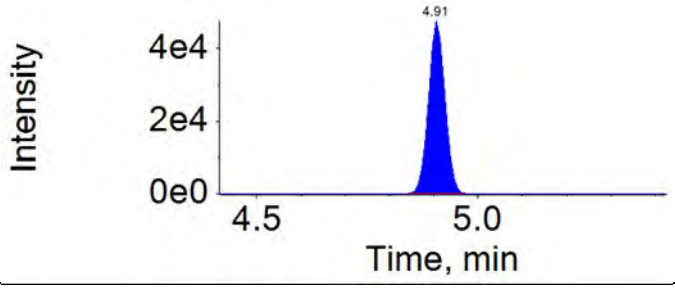
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

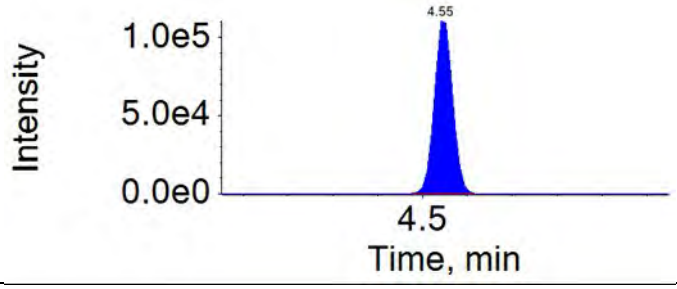
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



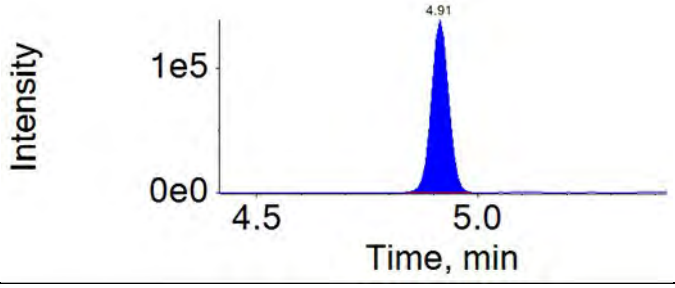



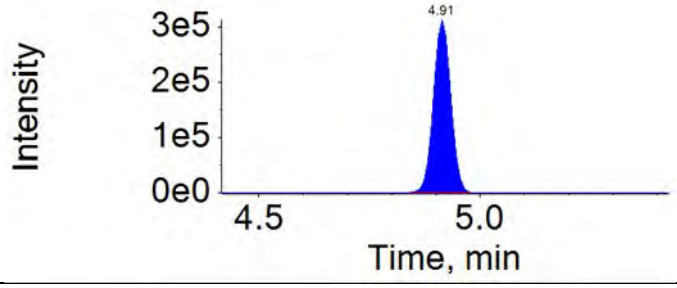

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



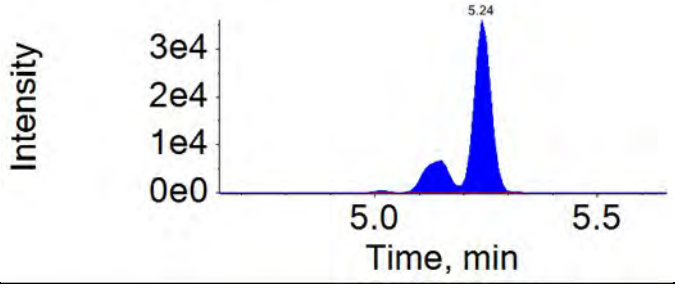



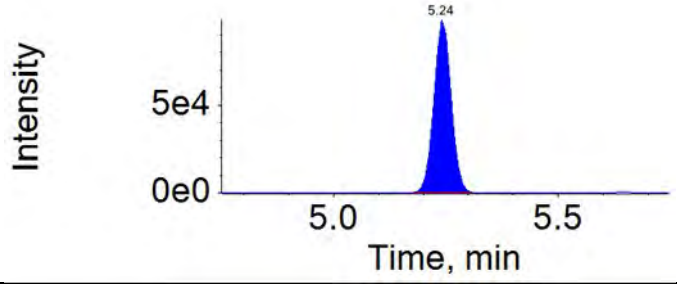

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




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



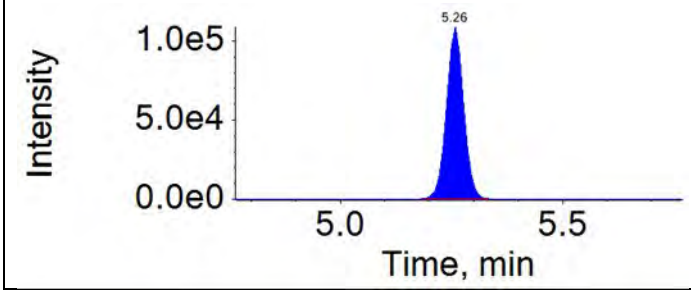

APPROVED
*By MCD at 6:34 pm, 11/12/18*

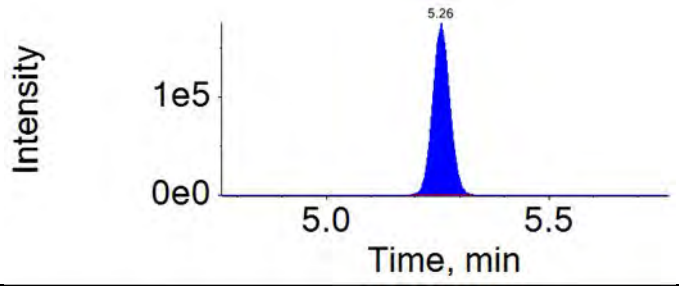


REVIEWED
*By HMK at 10:53 am, 11/13/18*

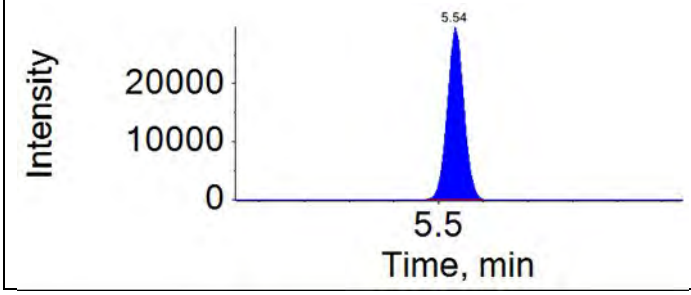
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

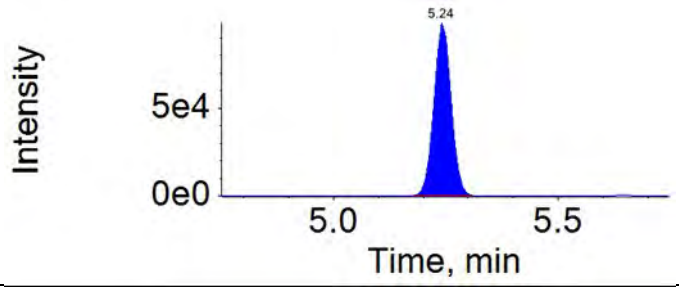
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



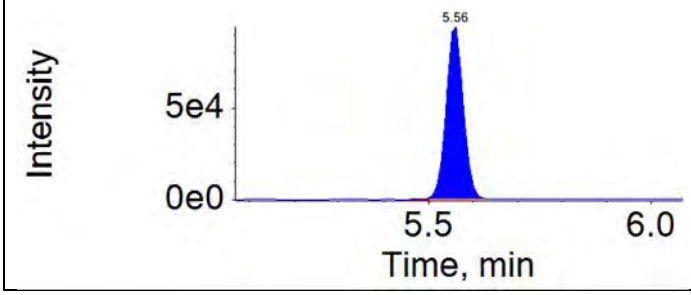



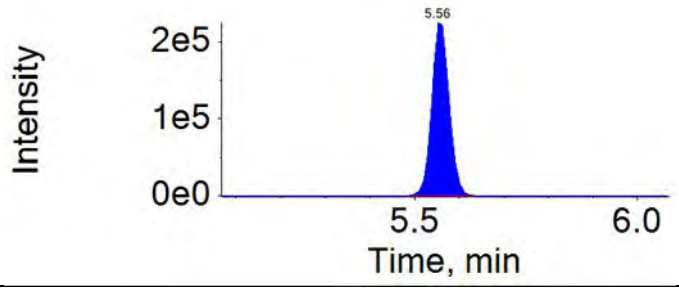

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



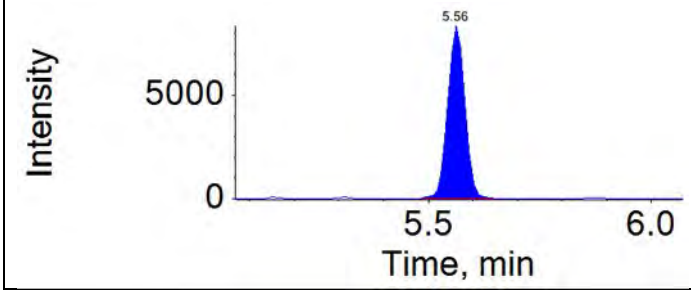



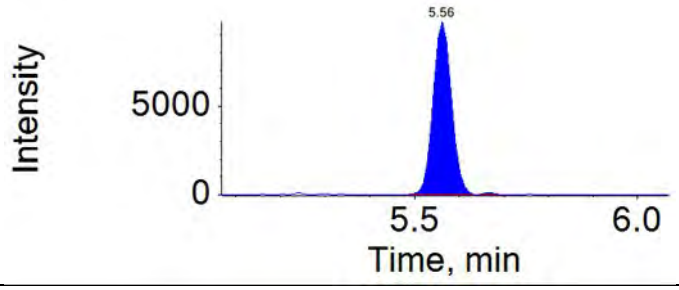

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




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



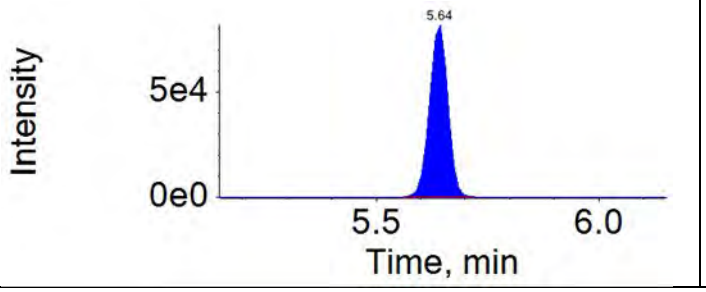

APPROVED
*By MCD at 6:34 pm, 11/12/18*

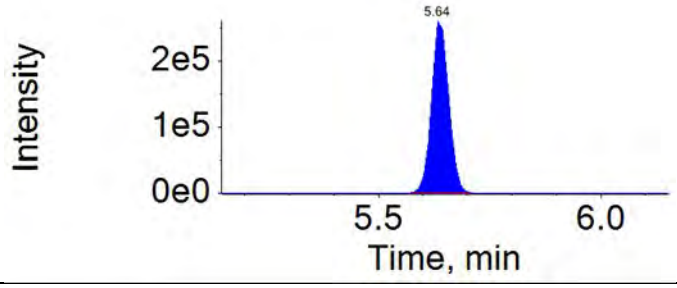


REVIEWED
*By HMK at 10:53 am, 11/13/18*

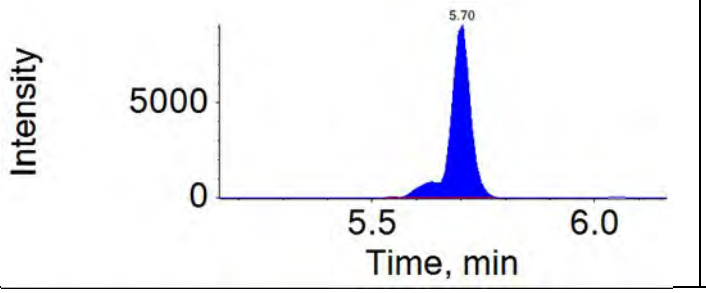
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

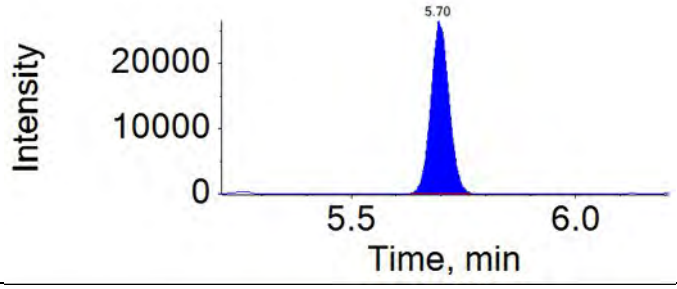
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



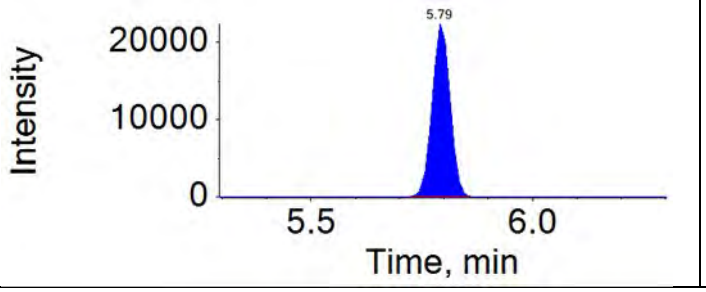



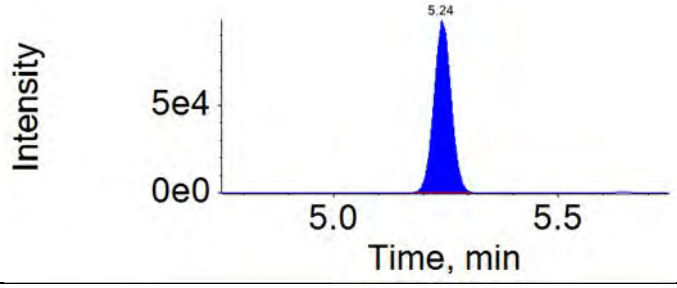

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



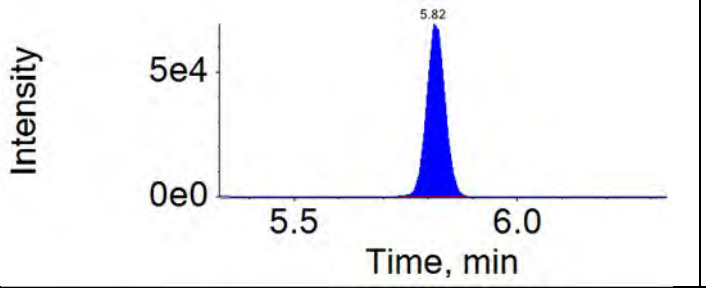



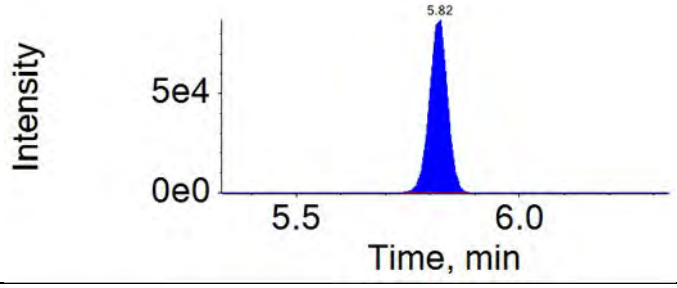

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




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



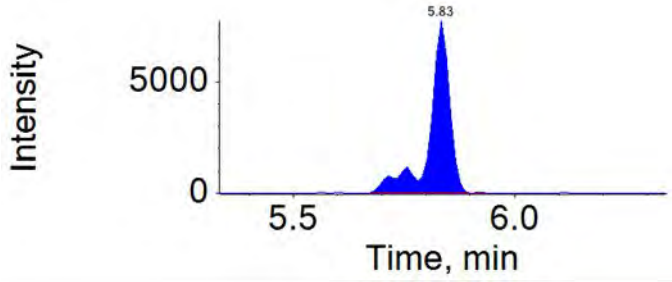

APPROVED
*By MCD at 6:34 pm, 11/12/18*

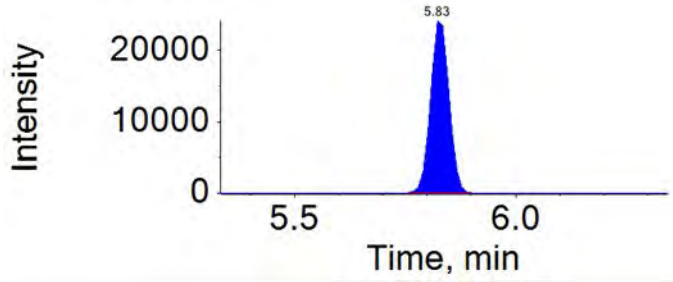


REVIEWED
*By HMK at 10:53 am, 11/13/18*

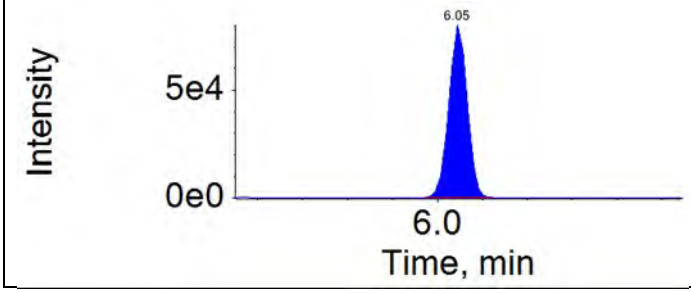
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

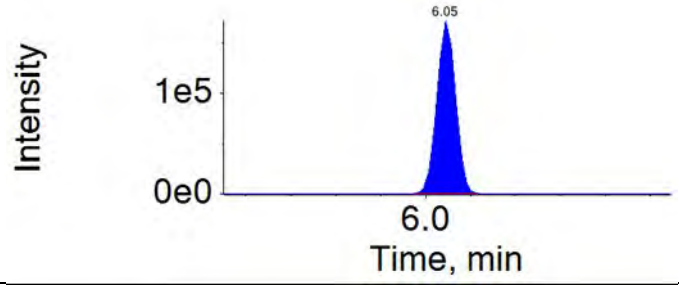
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



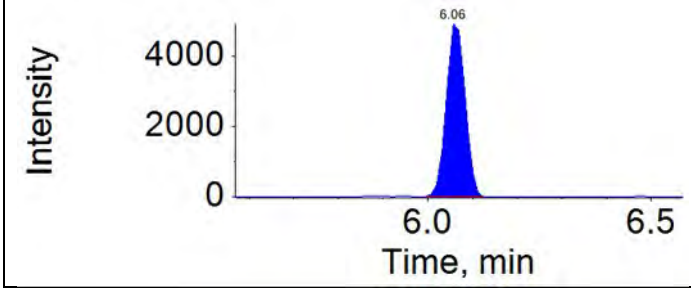



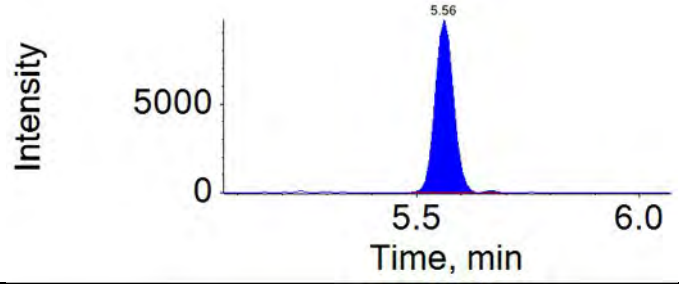

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



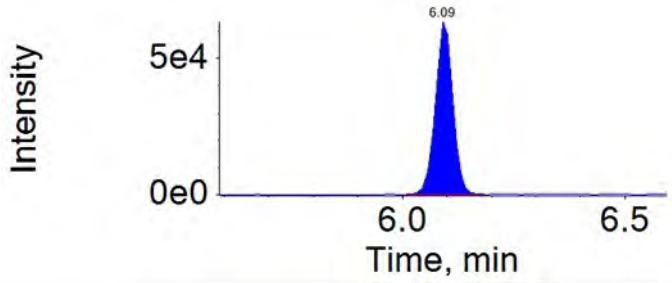



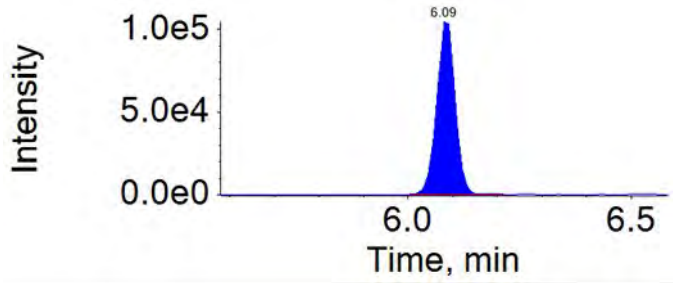

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




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



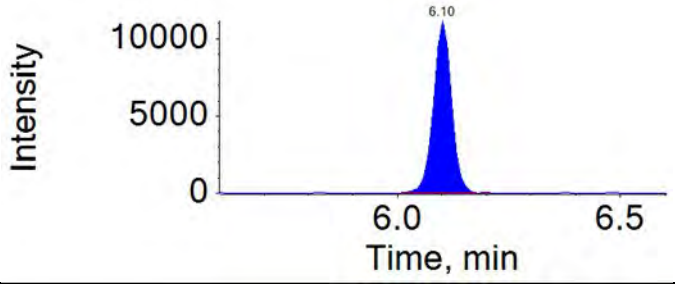

APPROVED
*By MCD at 6:34 pm, 11/12/18*

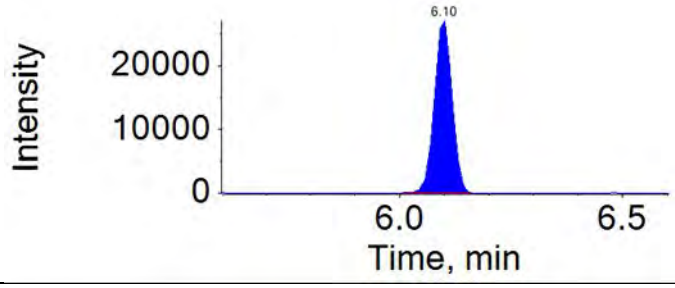


REVIEWED
*By HMK at 10:53 am, 11/13/18*

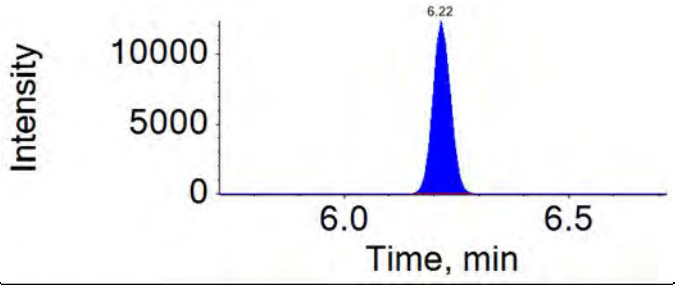
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

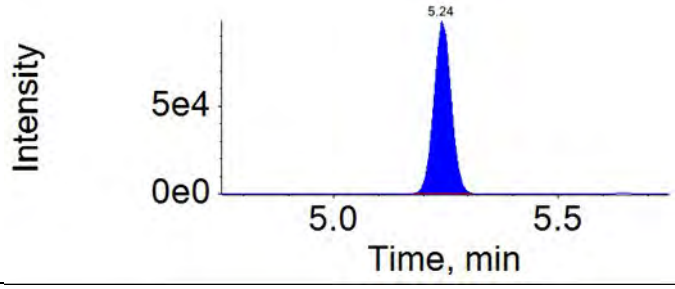
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



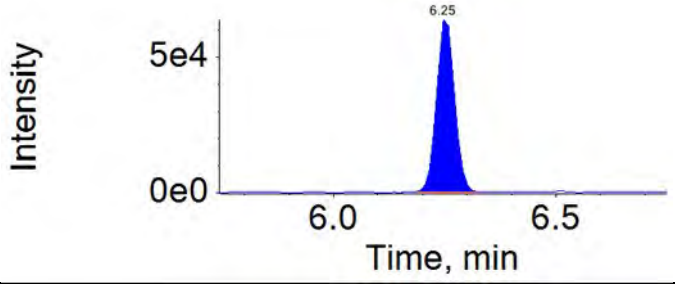



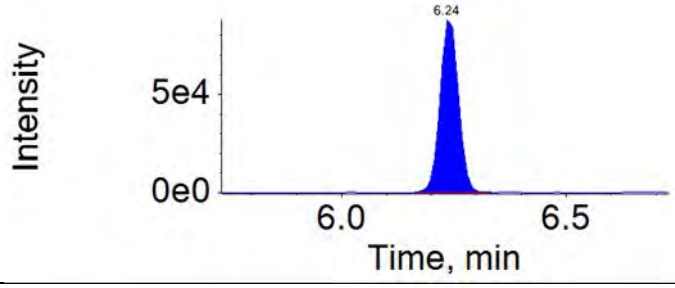

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



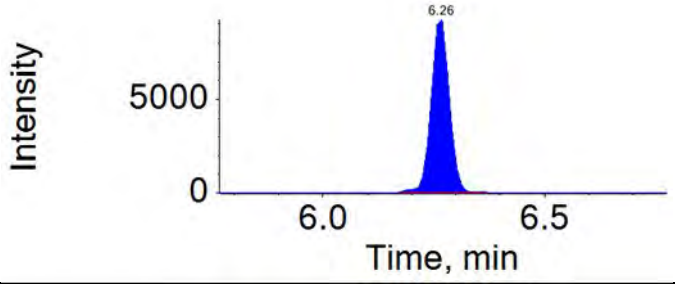



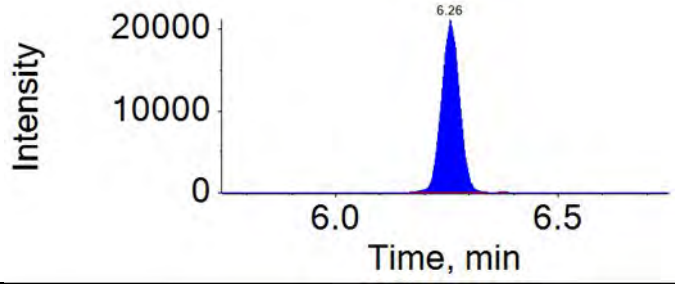

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




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



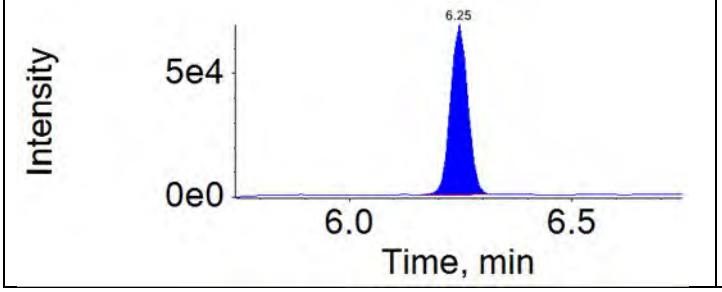

APPROVED
*By MCD at 6:34 pm, 11/12/18*

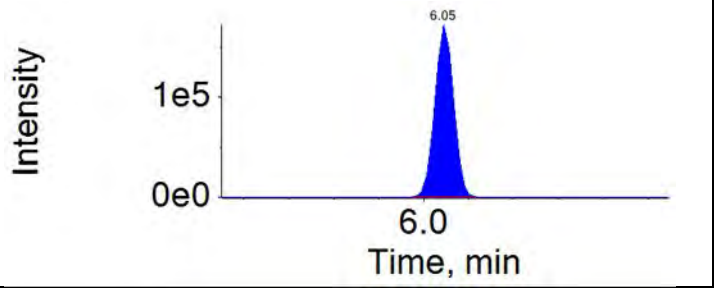


REVIEWED
*By HMK at 10:53 am, 11/13/18*

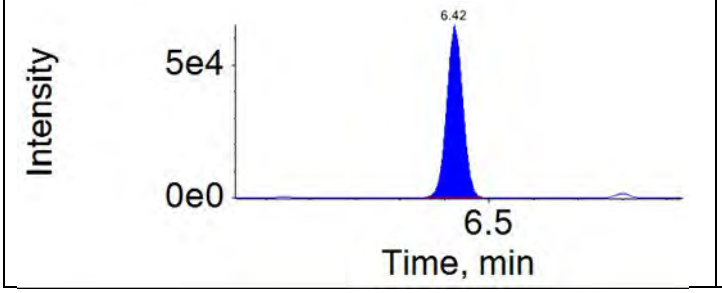
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV12DCAL 11/12/2018 6:14:07 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

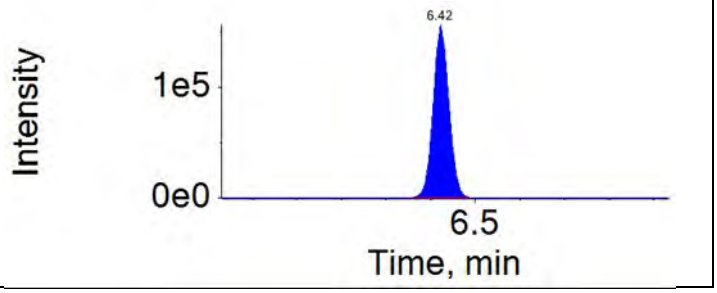
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



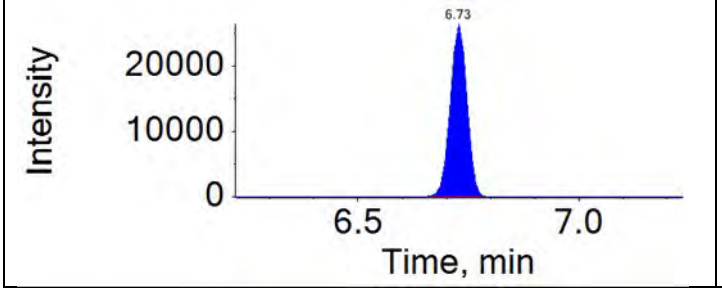



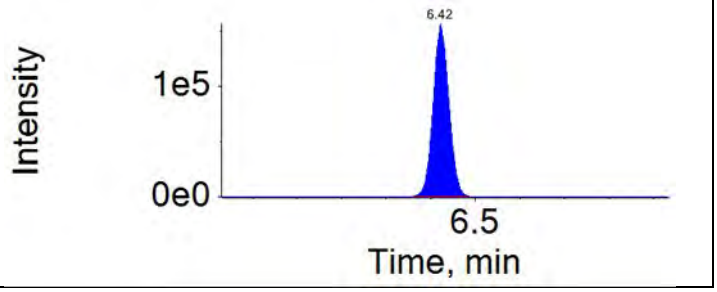

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



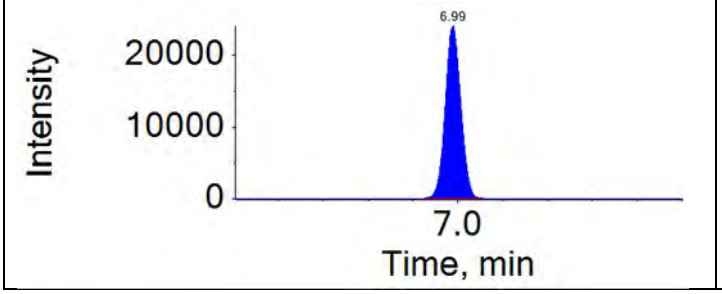



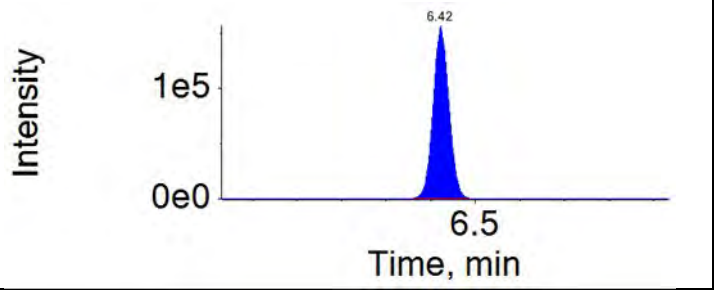

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




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



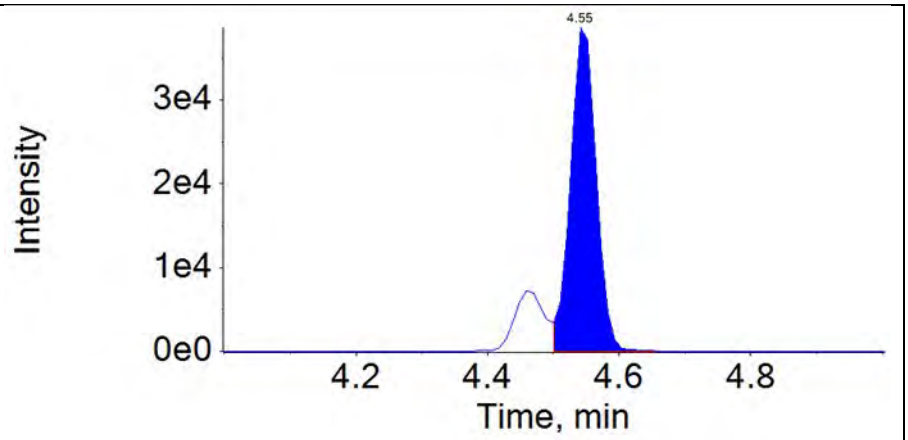



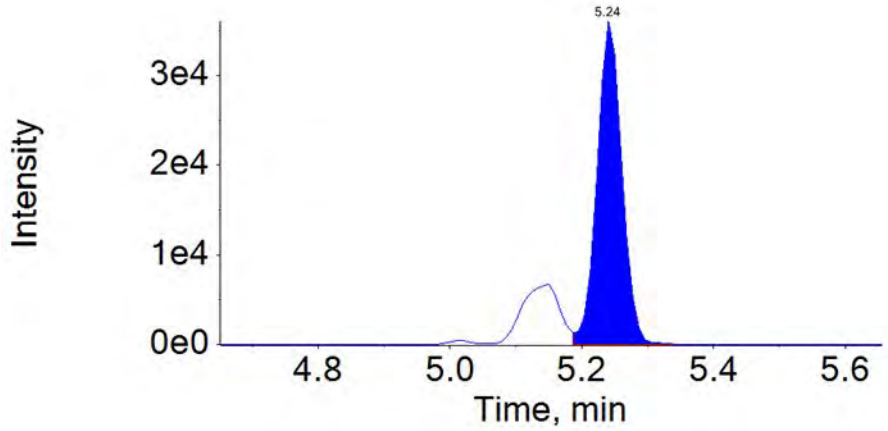

APPROVED
*By MCD at 6:34 pm, 11/12/18*

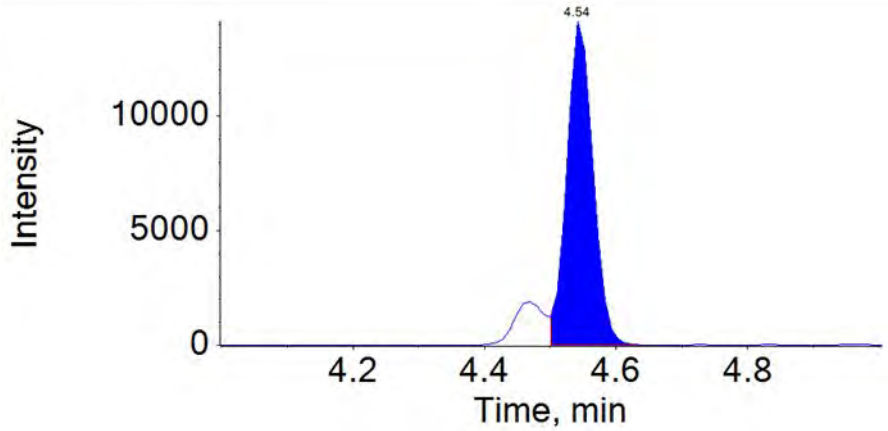


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFHxS<br>**RT (min.):** 4.55<br>**Peak Area:** 105576.75<br>**Mass Range:** 399.0 / 80.0<br>**File Name:** 18NOV12DCAL-52.wiff<br>**Sample Name:** CCV1_CAL3 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS<br>**RT (min.):** 5.24<br>**Peak Area:** 94723.88<br>**Mass Range:** 499.0 / 80.0<br>**File Name:** 18NOV12DCAL-52.wiff<br>**Sample Name:** CCV1_CAL3 | <br>**Integration Comment:** incorrect integration |

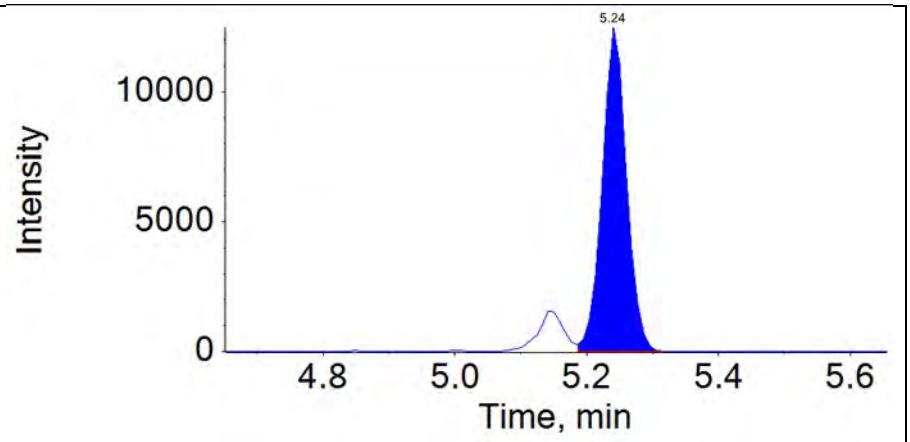
| | |
|---|---|
| **Component Name:** PFHxS_2<br>**RT (min.):** 4.54<br>**Peak Area:** 39165.47<br>**Mass Range:** 399.0 / 99.0<br>**File Name:** 18NOV12DCAL-52.wiff<br>**Sample Name:** CCV1_CAL3 | <br>**Integration Comment:** incorrect integration |

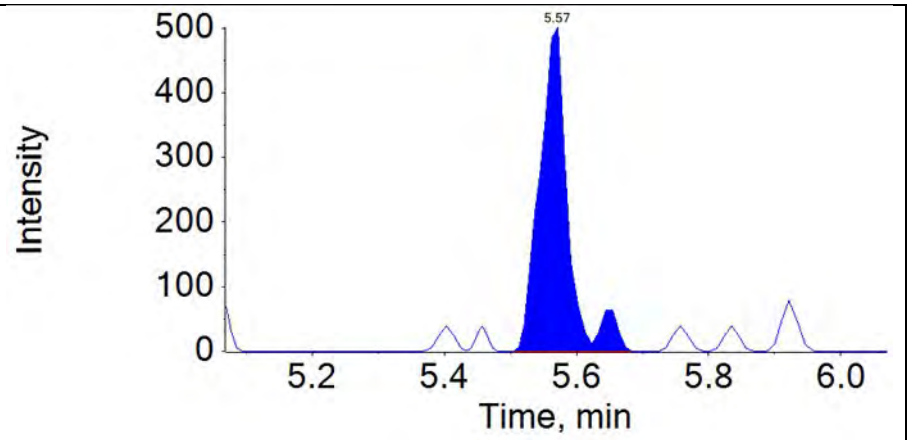
APPROVED
*By MCD at 6:34 pm, 11/12/18*

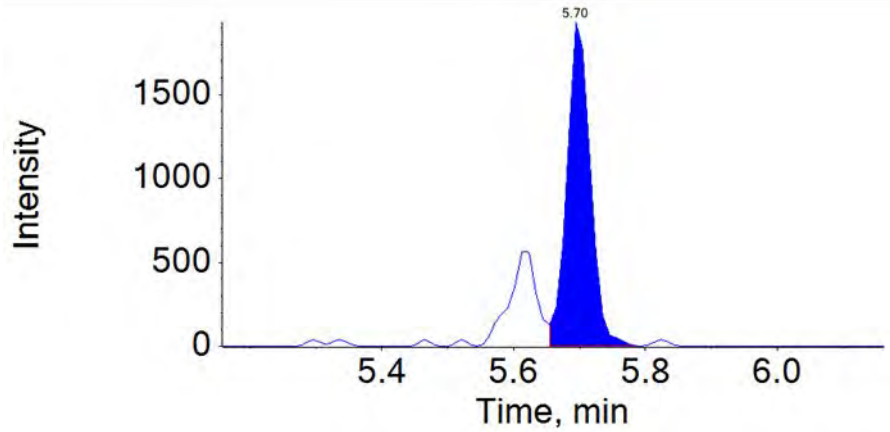


REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.24<br>**Peak Area:** 32024.51<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV12DCAL-52.wiff<br>**Sample Name:** CCV1_CAL3 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFDA_2<br>**RT (min.):** 5.57<br>**Peak Area:** 1525.22<br>**Mass Range:** 513.0 / 169.0<br>**File Name:** 18NOV12DCAL-52.wiff<br>**Sample Name:** CCV1_CAL3 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NMeFOSAA_2<br>**RT (min.):** 5.70<br>**Peak Area:** 4786.64<br>**Mass Range:** 570.0 / 483.0<br>**File Name:** 18NOV12DCAL-52.wiff<br>**Sample Name:** CCV1_CAL3 | <br>**Integration Comment:** incorrect integration |

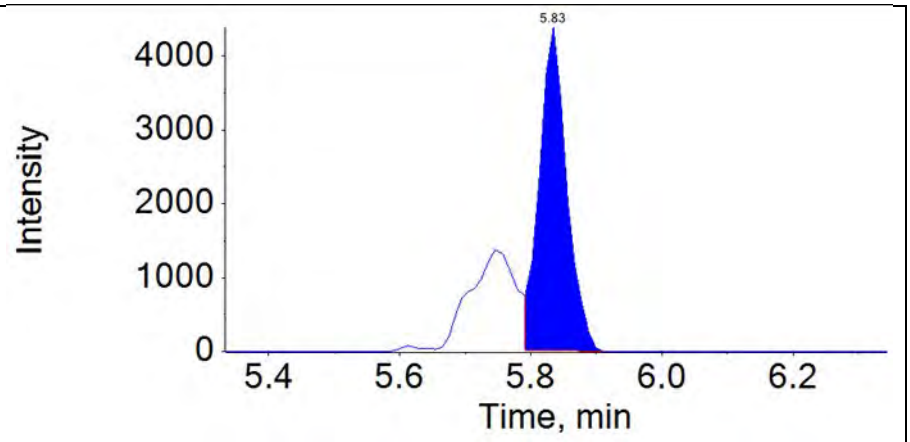
APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

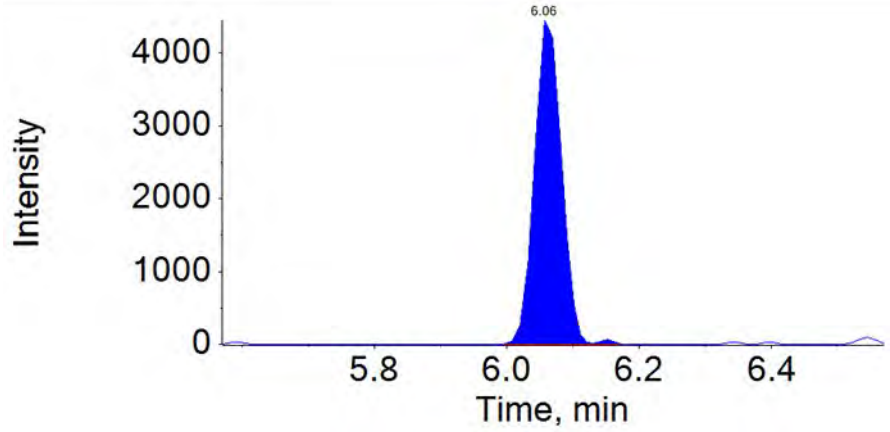
**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NEtFOSAA_2
**RT (min.):**
5.83
**Peak Area:**
12735.31
**Mass Range:**
584.0 / 526.0
**File Name:**
18NOV12DCAL-52.wiff
**Sample Name:**
CCV1_CAL3



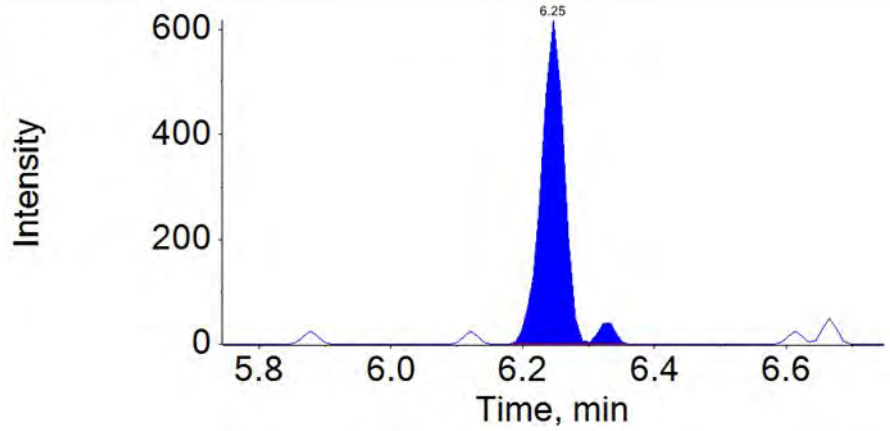

**Integration Comment:** incorrect integration

**Component Name:**
10:2 FTS_2
**RT (min.):**
6.06
**Peak Area:**
12750.49
**Mass Range:**
627.0 / 81.0
**File Name:**
18NOV12DCAL-52.wiff
**Sample Name:**
CCV1_CAL3




**Integration Comment:** incorrect integration

**Component Name:**
PFTrDA_2
**RT (min.):**
6.25
**Peak Area:**
1561.97
**Mass Range:**
663.0 / 169.0
**File Name:**
18NOV12DCAL-52.wiff
**Sample Name:**
CCV1_CAL3




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:34 pm, 11/12/18*



REVIEWED
*By HMK at 10:53 am, 11/13/18*

**Results Table Name:** 18NOV12DCAL
**Results Table Date:** 11/12/2018 6:23:42 PM

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

# Ion Ratio Report

**Sample Name:** CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV12DCAL-52.wiff

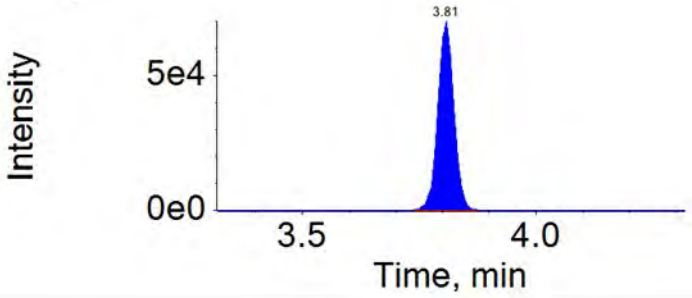
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 166889.60 | A | 0.3619 | 0.3759 | | | |
| PFBS_2 | 3.81 | 1.00 | 62739.70 | A | 0.3619 | 0.3759 | 4 | 50 | |
| 4:2-FTS | 4.12 | 1.00 | 33008.94 | A | 0.6730 | 0.6769 | | | |
| 4:2 FTS_2 | 4.12 | 1.00 | 22342.63 | A | 0.6730 | 0.6769 | | #NA! | |
| PFHxA | 4.16 | 1.00 | 362325.97 | A | 0.0117 | 0.0114 | | | |
| PFHxA_2 | 4.16 | 1.00 | 4119.87 | A | 0.0117 | 0.0114 | -2 | 50 | |
| PFPeS | 4.18 | 1.10 | 87834.91 | A | 0.5191 | 0.5380 | | | |
| PFPeS_2 | 4.17 | 1.10 | 47259.43 | A | 0.5191 | 0.5380 | 4 | 50 | |
| PFHpA | 4.54 | 1.00 | 361271.55 | A | 0.0563 | 0.0528 | | | |
| PFHpA_2 | 4.54 | 1.00 | 19075.67 | A | 0.0563 | 0.0528 | -6 | 50 | |
| PFHxS | 4.55 | 1.00 | 128396.13 | M | 0.3428 | 0.3526 | | | |
| PFHxS_2 | 4.54 | 1.00 | 45266.10 | M | 0.3428 | 0.3526 | 3 | 50 | |
| 6:2-FTS | 4.90 | 1.00 | 30500.72 | A | 0.6604 | 0.6139 | | | |
| 6:2 FTS_2 | 4.90 | 1.00 | 18723.69 | A | 0.6604 | 0.6139 | | #NA! | |
| PFHpS | 4.91 | 1.08 | 122801.74 | A | 0.4066 | 0.3898 | | | |
| PFHpS_2 | 4.91 | 1.08 | 47867.04 | A | 0.4066 | 0.3898 | -4 | 50 | |
| PFOA | 4.91 | 1.00 | 370358.65 | A | 0.0562 | 0.0572 | | | |
| PFOA_2 | 4.91 | 1.00 | 21182.05 | A | 0.0562 | 0.0572 | 2 | 50 | |
| PFOS | 5.24 | 1.00 | 122332.00 | M | 0.2968 | 0.2965 | | | |
| PFOS_2 | 5.24 | 1.00 | 36275.78 | M | 0.2968 | 0.2965 | 0 | 50 | |
| PFNA | 5.26 | 1.00 | 292557.20 | A | 0.0229 | 0.0191 | | | |
| PFNA_2 | 5.26 | 1.00 | 5601.50 | A | 0.0229 | 0.0191 | -16 | 50 | |
| PFNS | 5.54 | 1.06 | 76021.24 | A | 0.4828 | 0.4752 | | | |
| PFNS_2 | 5.54 | 1.06 | 36125.34 | A | 0.4828 | 0.4752 | -2 | 50 | |
| PFDA | 5.56 | 1.00 | 253956.70 | A | 0.0081 | 0.0055 | | | |
| PFDA_2 | 5.57 | 1.00 | 1404.60 | M | 0.0081 | 0.0055 | -32 | 50 | |
| 8:2-FTS | 5.56 | 1.00 | 22335.45 | A | 0.6814 | 0.6085 | | | |
| 8:2 FTS_2 | 5.56 | 1.00 | 13590.39 | A | 0.6814 | 0.6085 | | #NA! | |
| NMeFOSAA | 5.70 | 1.00 | 28733.42 | A | 0.2569 | 0.2248 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 6459.32 | M | 0.2569 | 0.2248 | -12 | 50 | |
| PFDS | 5.79 | 1.11 | 62507.84 | A | 0.5144 | 0.4958 | | | |
| PFDS_2 | 5.79 | 1.10 | 30989.83 | A | 0.5144 | 0.4958 | -4 | 50 | |
| PFUnDA | 5.82 | 1.00 | 199322.38 | A | 0.0058 | 0.0036 | | | |
| PFUnDA_2 | 5.82 | 1.00 | 716.12 | A | 0.0058 | 0.0036 | -38 | 50 | |
| NEtFOSAA | 5.83 | 1.00 | 24531.93 | A | 0.7253 | 0.7928 | | | |
| NEtFOSAA_2 | 5.83 | 1.00 | 19448.32 | M | 0.7253 | 0.7928 | 9 | 50 | |
| PFDoDA | 6.05 | 1.00 | 228792.93 | A | 0.0157 | 0.0084 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 1930.67 | A | 0.0157 | 0.0084 | -46 | 50 | |
| 10:2-FTS | 6.06 | 1.09 | 14411.12 | A | 0.6356 | 0.8781 | | | |
| 10:2 FTS_2 | 6.06 | 1.09 | 12654.02 | M | 0.6356 | 0.8781 | | #NA! | |
| PFTrDA | 6.25 | 1.03 | 185154.57 | A | 0.0086 | 0.0080 | | | |
| PFTrDA_2 | 6.25 | 1.03 | 1486.41 | M | 0.0086 | 0.0080 | -6 | 50 | |
| PFTeDA | 6.42 | 1.00 | 159904.63 | A | 0.0062 | 0.0061 | | | |
| PFTeDA_2 | 6.42 | 1.00 | 982.46 | A | 0.0062 | 0.0061 | -2 | 50 | |
| PFHxDA | 6.73 | 1.05 | 68393.80 | A | 0.0683 | 0.0584 | | | |
| PFHxDA_2 | 6.73 | 1.05 | 3992.51 | A | 0.0683 | 0.0584 | -14 | 50 | |
| PFODA | 6.99 | 1.09 | 58092.41 | A | 0.0277 | 0.0262 | | | |
| PFODA_2 | 6.99 | 1.09 | 1524.27 | A | 0.0277 | 0.0262 | -5 | 50 | |

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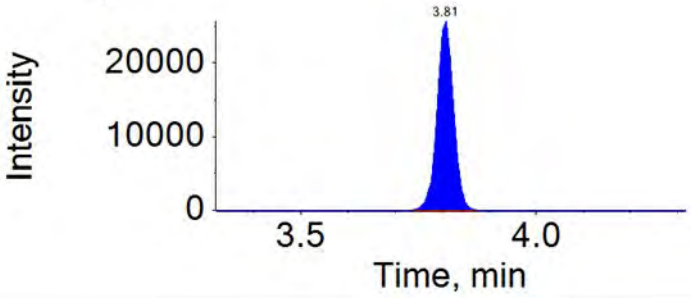


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*By HMK at 10:53 am, 11/13/18*

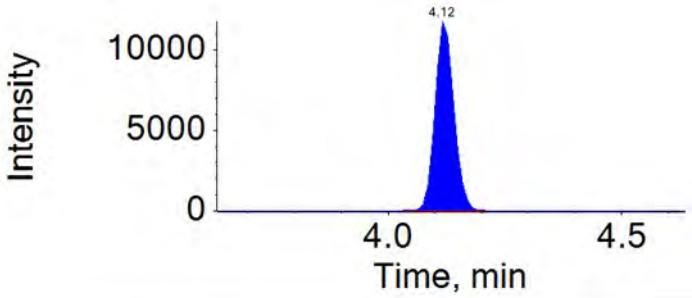
Component: PFBS
Primary Mass: 299.0 / 80.0



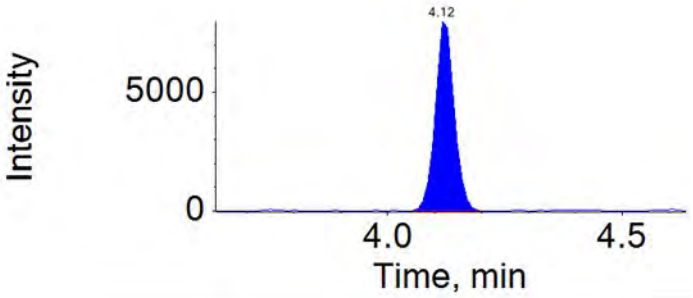

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



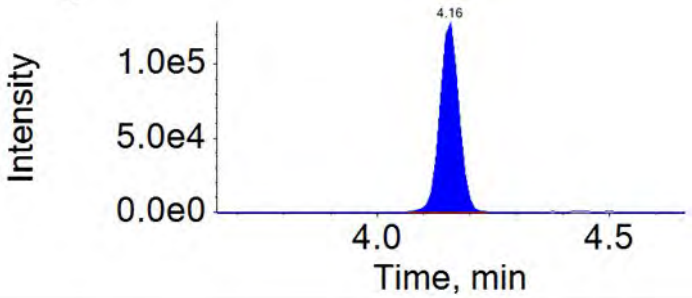

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



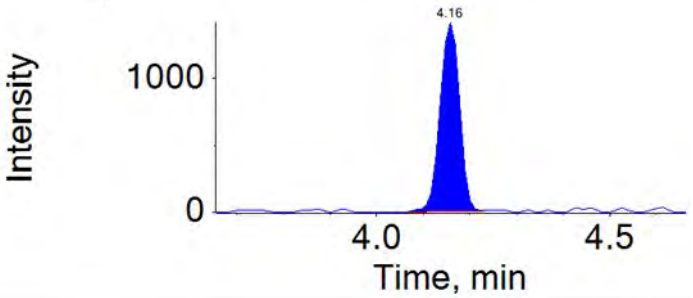

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



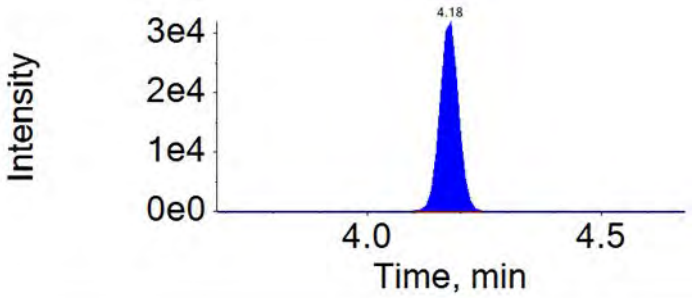

Component: PFHxA
Primary Mass: 313.0 / 269.0



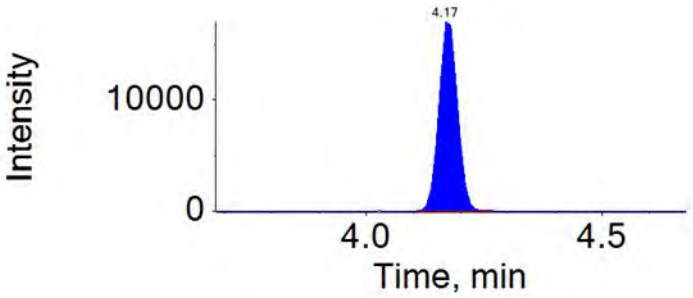

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

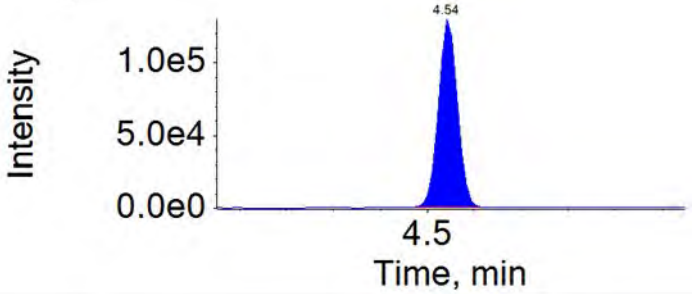



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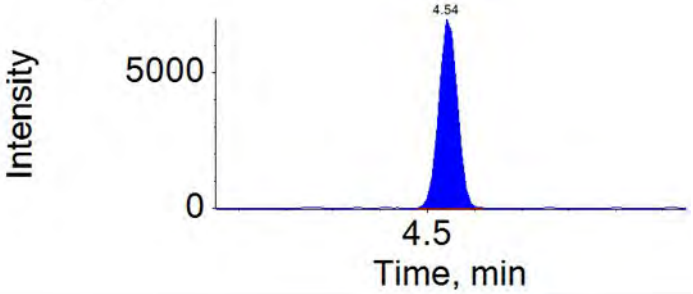


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*By HMK at 10:53 am, 11/13/18*

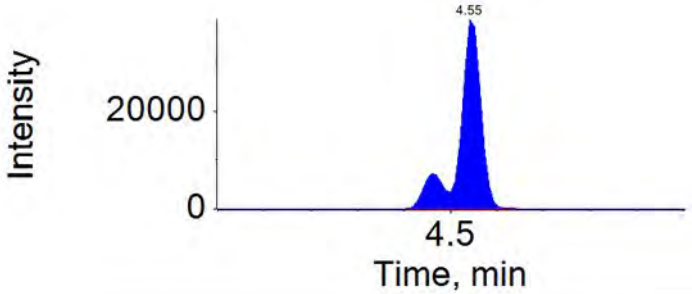
Component: PFHpA
Primary Mass: 363.0 / 319.0



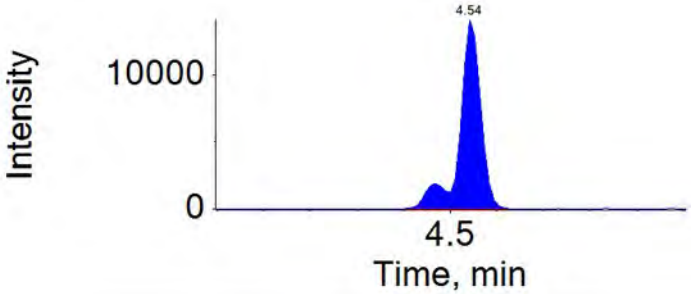

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



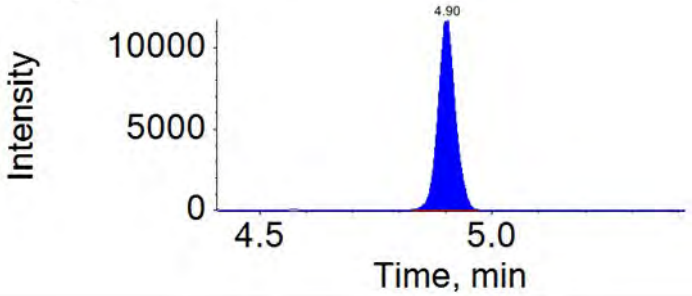

Component: PFHxS
Primary Mass: 399.0 / 80.0



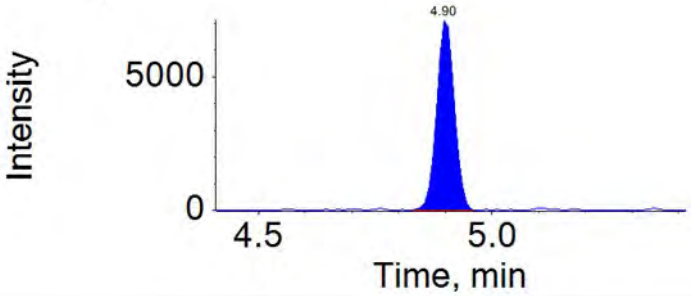

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



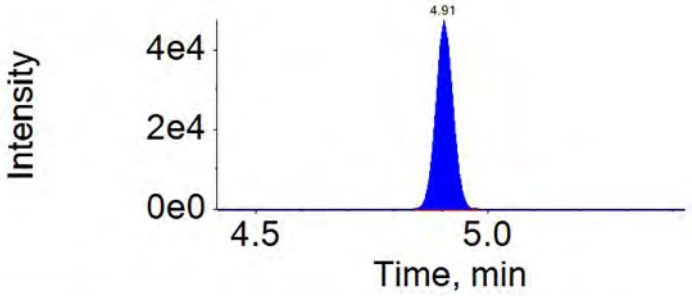

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



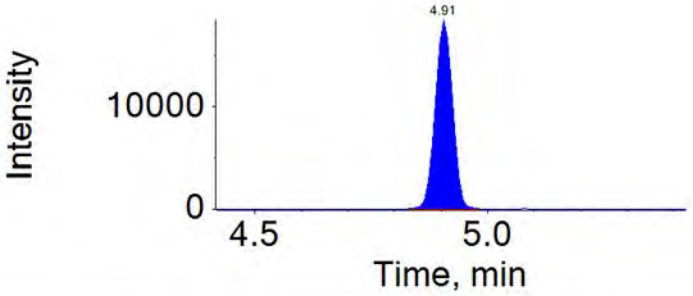

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

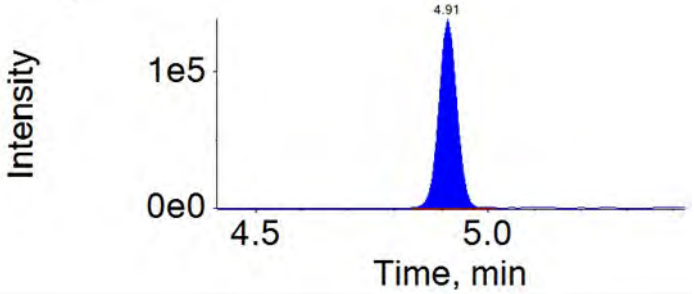



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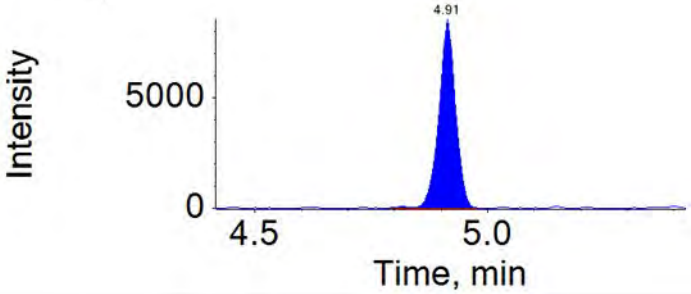


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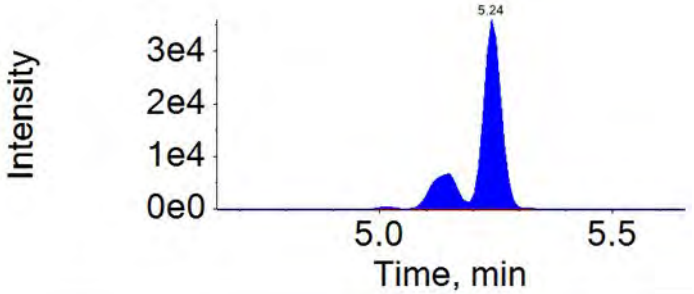
Component: PFOA
Primary Mass: 413.0 / 369.0



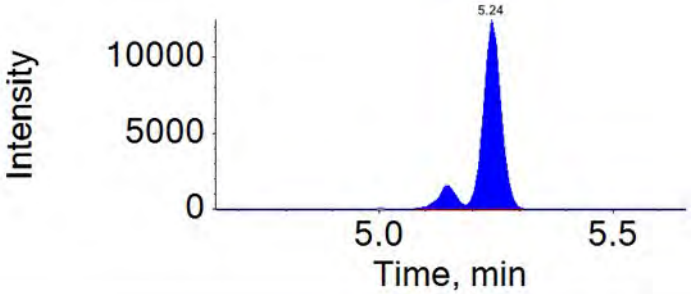

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



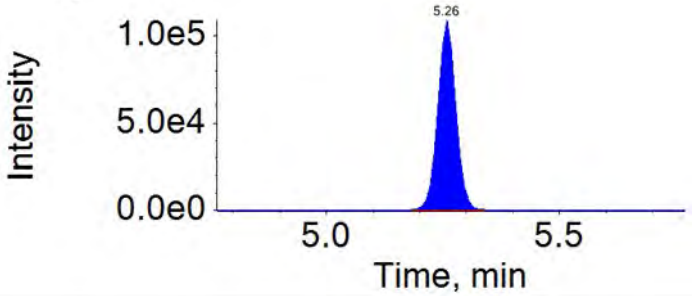

Component: PFOS
Primary Mass: 499.0 / 80.0



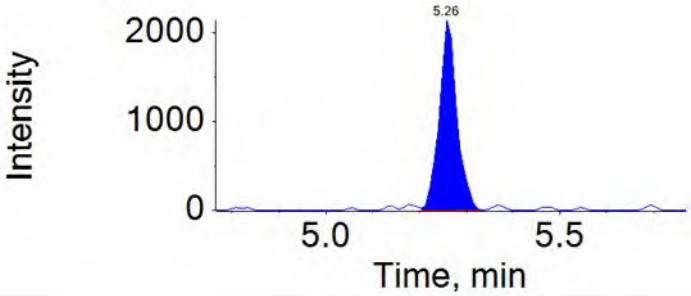

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



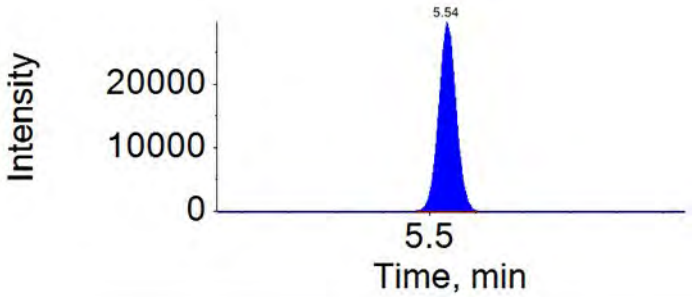

Component: PFNA
Primary Mass: 463.0 / 419.0



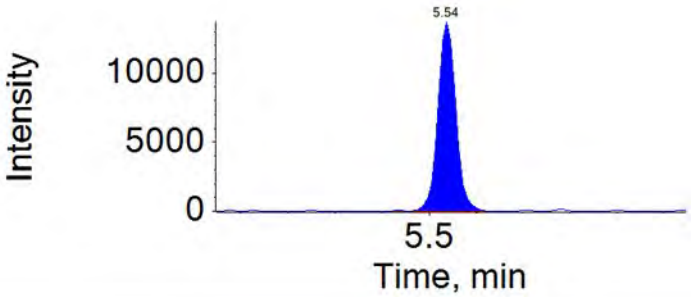

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

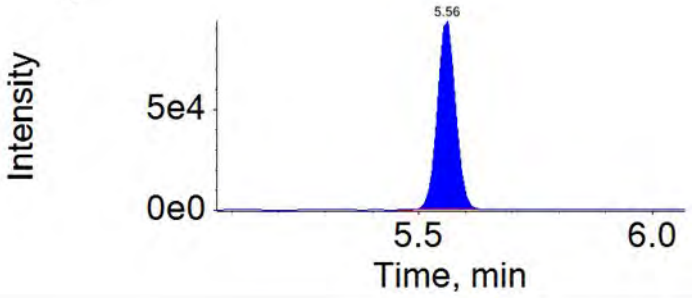



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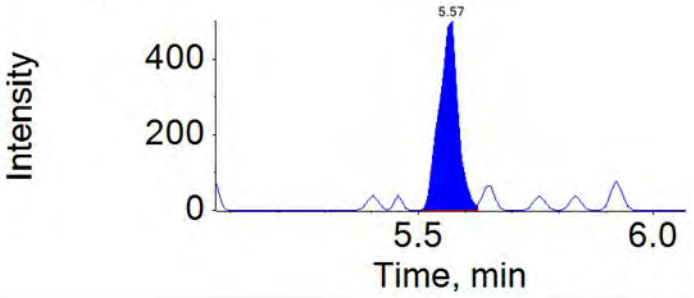


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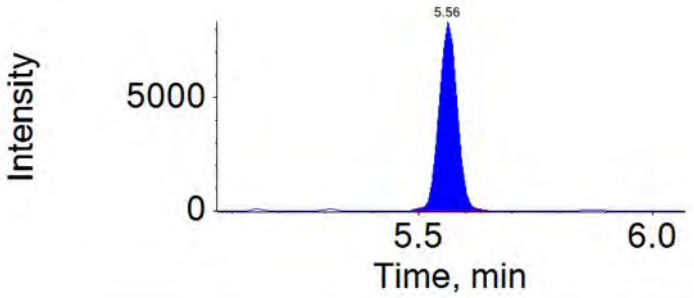
Component: PFDA
Primary Mass: 513.0 / 469.0



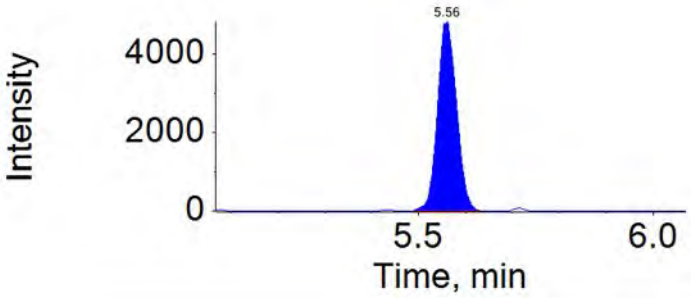

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



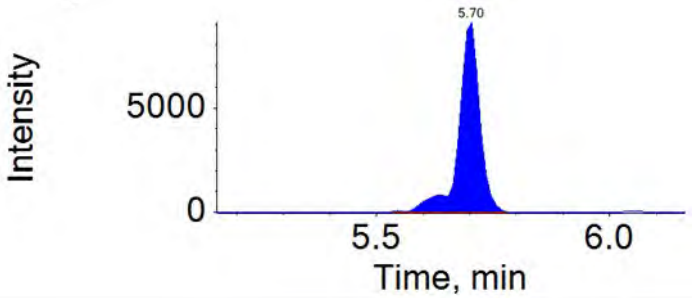

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



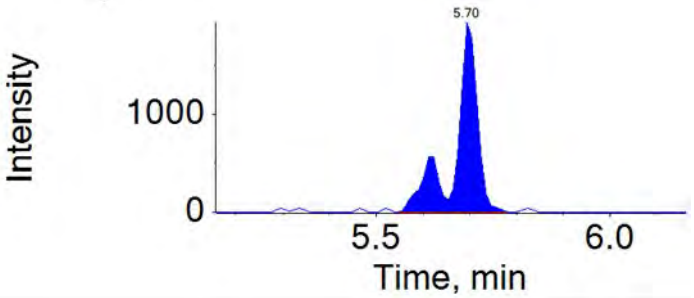

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



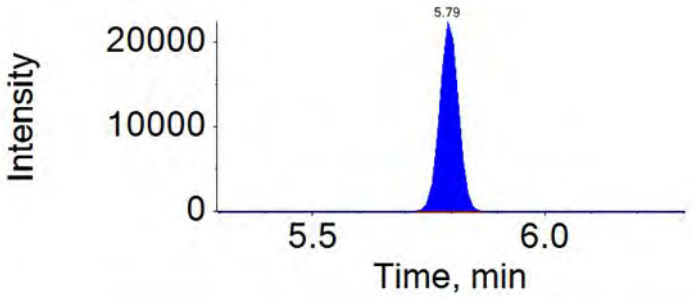

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



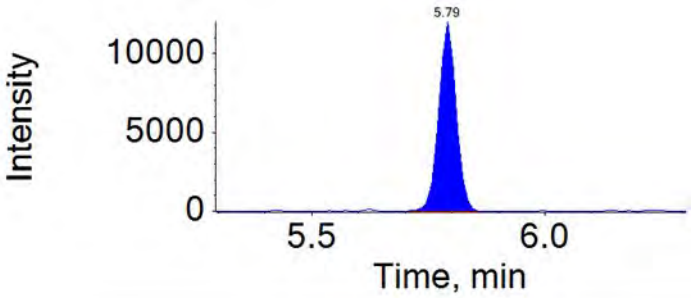

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

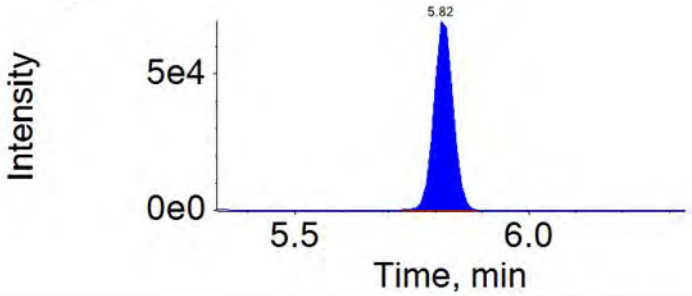



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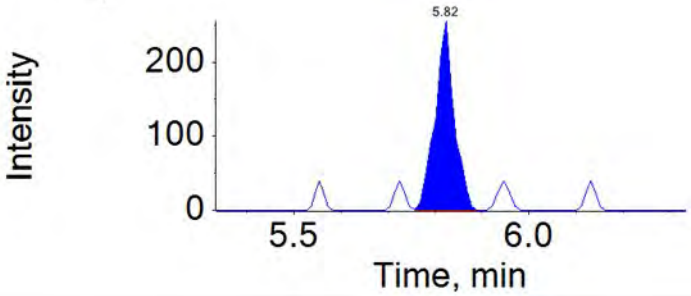


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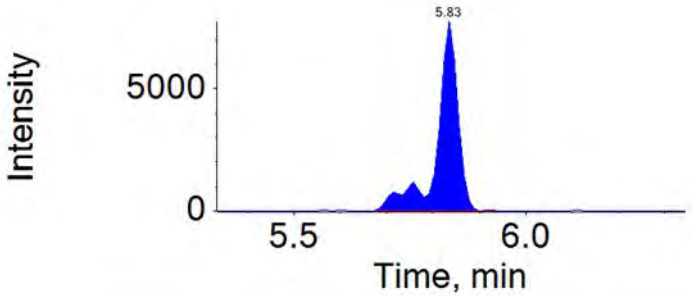
Component: PFUnDA
Primary Mass: 563.0 / 519.0



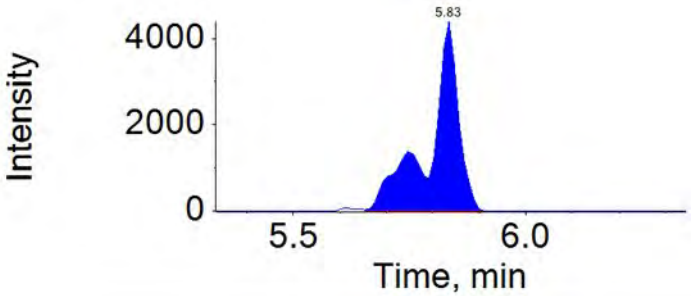

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



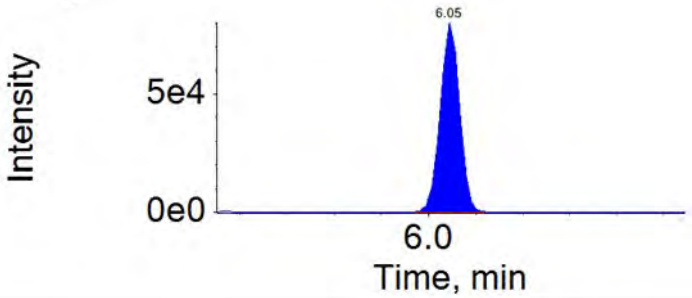

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



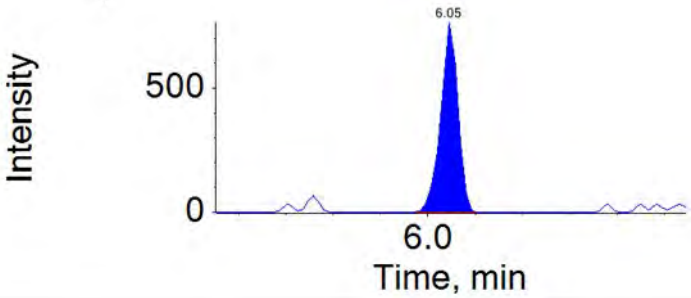

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



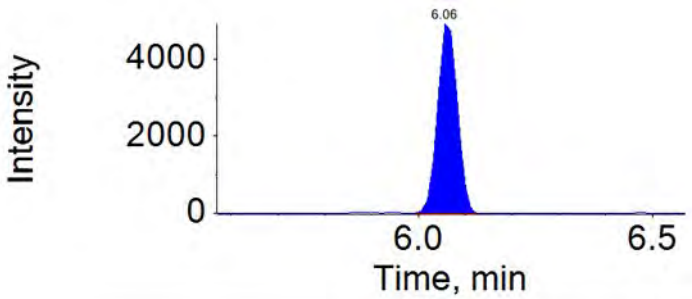

Component: PFDoDA
Primary Mass: 613.0 / 569.0



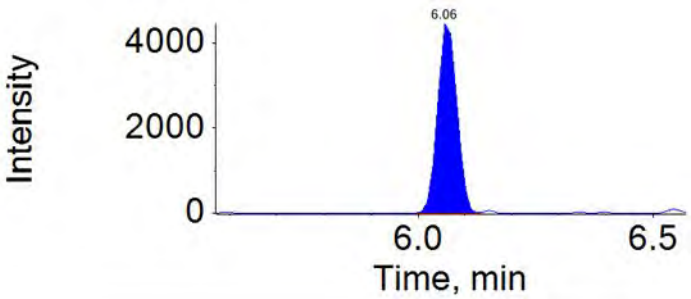

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

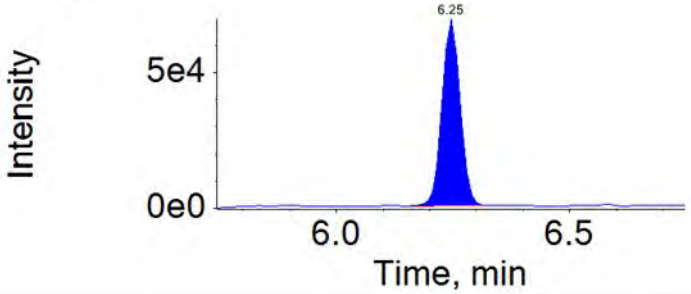



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*By MCD at 6:34 pm, 11/12/18*

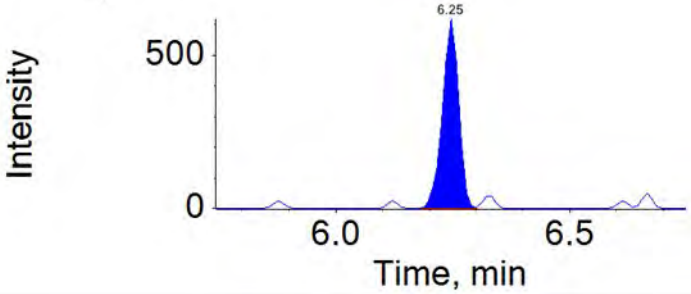


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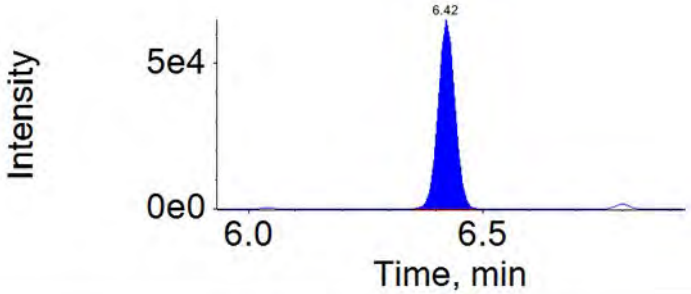
Component: PFTrDA
Primary Mass: 663.0 / 619.0



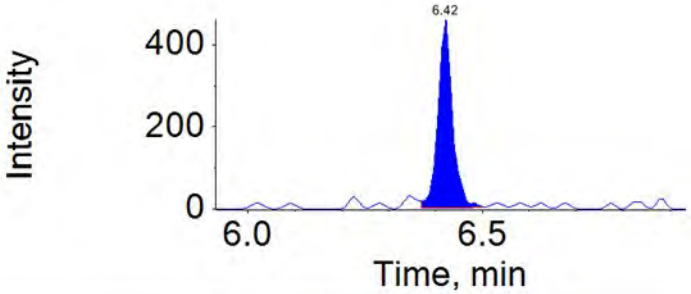

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



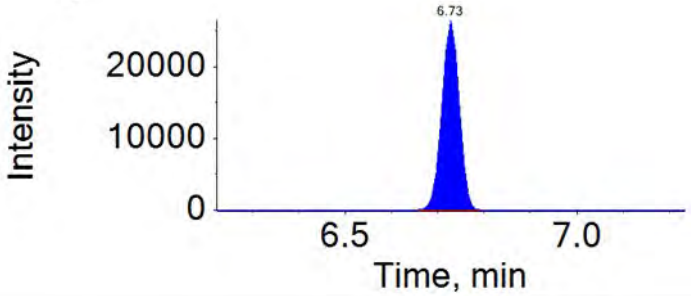

Component: PFTeDA
Primary Mass: 713.0 / 669.0



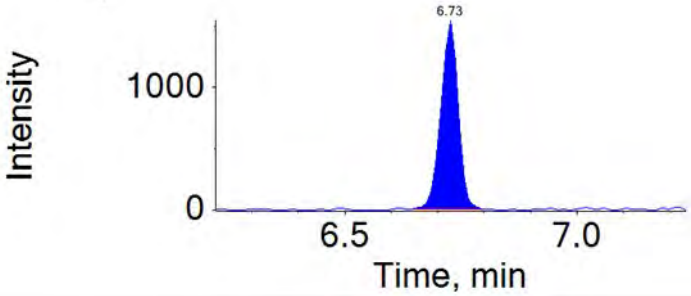

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



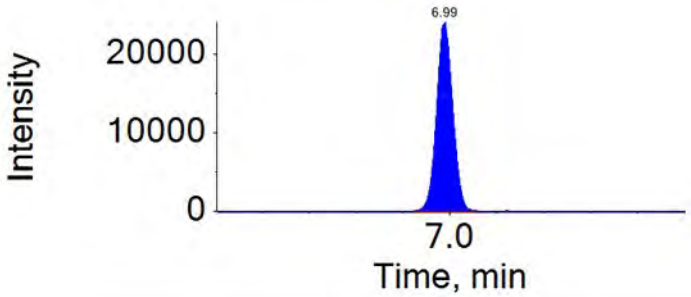

Component: PFHxDA
Primary Mass: 813.0 / 769.0



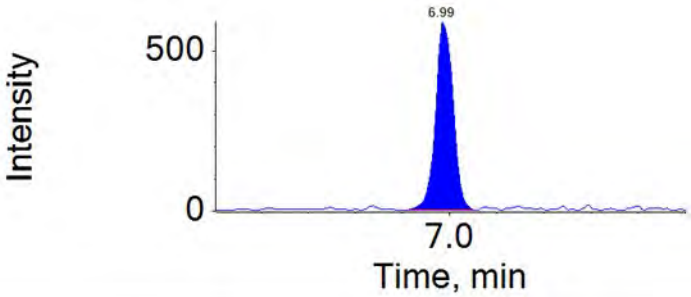

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:34 pm, 11/12/18*

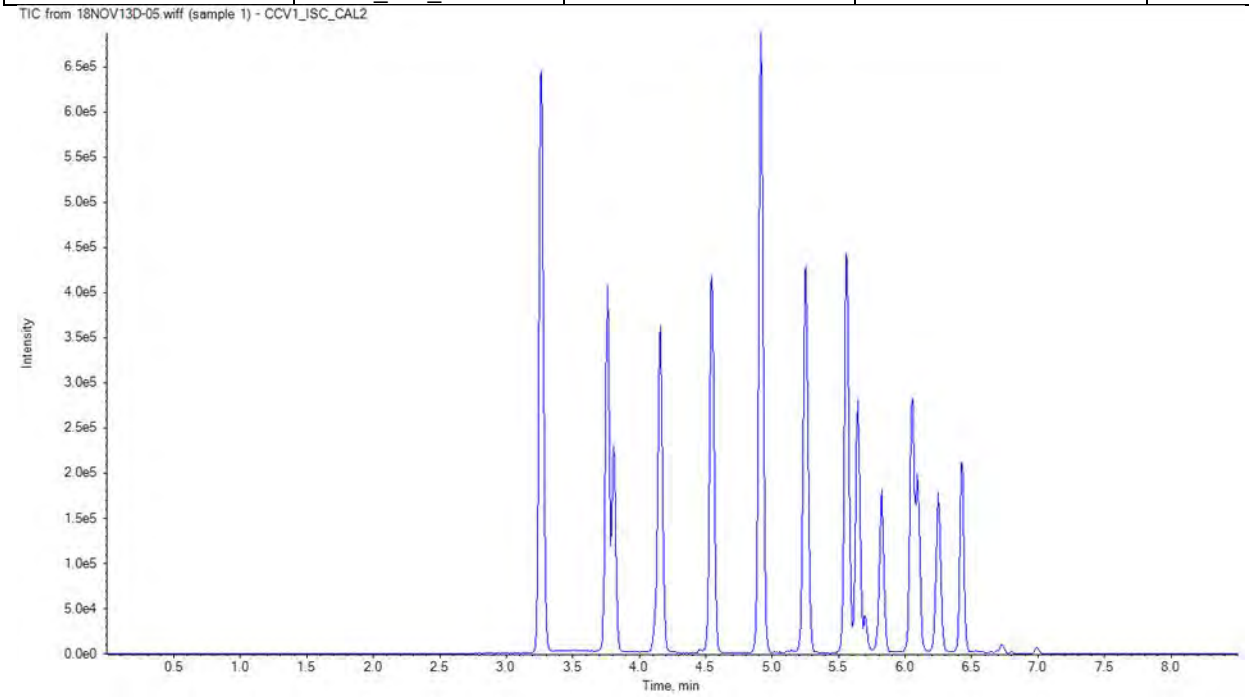


REVIEWED
*By HMK at 10:53 am, 11/13/18*

# Instrument Sensitivity Check/ Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV1_ISC_CAL2 | CALBRN21833C | 18NOV13D-05.wiff | 2018-11-13T09:44:02 |




Injection Standard Area Reference File: 18NOV12DCAL-44

| 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 | 661126.9 | 659926.2 | 0 | 50 | |
| 13C2-PFOA | 5.0 | 466902.6 | 450219.7 | 4 | 50 | |
| 13C4-PFOS | 4.8 | 247446.9 | 249205.8 | -1 | 50 | |
| 13C2-PFDA | 5.0 | 295381.6 | 278743.9 | 6 | 50 | |

APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

# Instrument Sensitivity Check/ Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV1_ISC_CAL2 | CALBRN21833C | 18NOV13D-05.wiff | 2018-11-13T09:44:02 |

| 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 | 80023.3 | 10 | 13C4-PFBA | 766812.0 | 5.0 | 0.104 | 3.26 | 1.000 | 0.600 | 0.578 | -4 | 30 | |
| PFPeA | 76472.6 | 11 | 13C5-PFPeA | 751025.9 | 5.0 | 0.102 | 3.76 | 1.000 | 0.600 | 0.589 | -2 | 30 | |
| PFBS | 41984.3 | 11 | 13C3-PFBS | 427122.1 | 4.7 | 0.098 | 3.81 | 1.000 | 0.531 | 0.468 | -12 | 30 | |
| 4:2-FTS | 9629.9 | 12 | 13C2-4:2-FTS | 54897.9 | 4.7 | 0.175 | 4.12 | 1.000 | 0.560 | 0.476 | -15 | 30 | |
| PFHxA | 96444.0 | 12 | 13C5-PFHxA | 705940.0 | 5.0 | 0.137 | 4.16 | 1.000 | 0.600 | 0.570 | -5 | 30 | |
| PFPeS | 22297.9 | 11 | 13C3-PFBS | 427122.1 | 4.7 | 0.052 | 4.18 | 1.100 | 0.563 | 0.507 | -10 | 30 | |
| PFHpA | 93659.5 | 12 | 13C4-PFHpA | 545224.8 | 5.0 | 0.172 | 4.55 | 1.000 | 0.600 | 0.569 | -5 | 30 | |
| PFHxS | 34111.0 | 18 | 13C3-PFHxS | 315188.2 | 4.7 | 0.108 | 4.55 | 1.000 | 0.547 | 0.525 | -4 | 30 | |
| 6:2-FTS | 9221.0 | 11 | 13C2-6:2-FTS | 36348.0 | 4.8 | 0.254 | 4.90 | 1.000 | 0.569 | 0.614 | 8 | 30 | |
| PFHpS | 30798.1 | 11 | 13C3-PFHxS | 315188.2 | 4.7 | 0.098 | 4.91 | 1.080 | 0.571 | 0.514 | -10 | 30 | |
| PFOA | 100905.0 | 11 | 13C8-PFOA | 916289.6 | 5.0 | 0.110 | 4.92 | 1.000 | 0.600 | 0.588 | -2 | 30 | |
| PFOS | 34555.4 | 22 | 13C8-PFOS | 283234.2 | 4.8 | 0.122 | 5.24 | 1.000 | 0.555 | 0.534 | -4 | 30 | |
| PFNA | 70400.6 | 11 | 13C9-PFNA | 459889.6 | 5.0 | 0.153 | 5.26 | 1.000 | 0.600 | 0.552 | -8 | 30 | |
| PFNS | 17583.2 | 10 | 13C8-PFOS | 283234.2 | 4.8 | 0.062 | 5.54 | 1.060 | 0.576 | 0.434 | -25 | 30 | |
| PFDA | 68441.3 | 11 | 13C6-PFDA | 633571.3 | 5.0 | 0.108 | 5.56 | 1.000 | 0.600 | 0.573 | -5 | 30 | |
| 8:2-FTS | 5551.6 | 11 | 13C2-8:2-FTS | 28239.6 | 4.8 | 0.197 | 5.56 | 1.000 | 0.575 | 0.458 | -20 | 30 | |
| PFOSA | 70097.0 | 12 | 13C8-PFOSA | 581964.0 | 5.0 | 0.120 | 5.64 | 1.000 | 0.600 | 0.588 | -2 | 30 | |
| NMeFOSAA | 7238.6 | 17 | d3-NMeFOSAA | 75677.4 | 5.0 | 0.096 | 5.71 | 1.000 | 0.600 | 0.541 | -10 | 30 | |
| PFDS | 14746.9 | 12 | 13C8-PFOS | 283234.2 | 4.8 | 0.052 | 5.80 | 1.110 | 0.578 | 0.472 | -18 | 30 | |
| PFUnDA | 55065.8 | 12 | 13C7-PFUnDA | 262614.2 | 5.0 | 0.210 | 5.82 | 1.000 | 0.600 | 0.548 | -9 | 30 | |
| NEtFOSAA | 8391.3 | 19 | d5-NEtFOSAA | 67382.4 | 5.0 | 0.125 | 5.84 | 1.000 | 0.600 | 0.653 | 9 | 30 | |
| PFDoDA | 63306.6 | 12 | 13C2-PFDoDA | 563416.3 | 5.0 | 0.112 | 6.05 | 1.000 | 0.600 | 0.572 | -5 | 30 | |
| 10:2-FTS | 4315.1 | 11 | 13C2-8:2-FTS | 28239.6 | 4.8 | 0.153 | 6.07 | 1.090 | 0.578 | 0.509 | -12 | 30 | |
| NMePFOSAE | 46107.4 | 12 | d7-NMePFOSAE | 315627.9 | 5.0 | 0.146 | 6.10 | 1.000 | 0.600 | 0.608 | 1 | 30 | |
| NMePFOSA | 7580.7 | 13 | d3-NMePFOSA | 81274.6 | 5.0 | 0.093 | 6.11 | 1.000 | 0.600 | 0.460 | -23 | 30 | |
| PFDoS | 7907.3 | 11 | 13C8-PFOS | 283234.2 | 4.8 | 0.028 | 6.22 | 1.190 | 0.581 | 0.489 | -16 | 30 | |
| NEtPFOSAE | 46594.2 | 12 | d9-NEtPFOSAE | 264447.2 | 5.0 | 0.176 | 6.26 | 1.000 | 0.600 | 0.565 | -6 | 30 | |
| NEtPFOSA | 7426.1 | 11 | d5-NEtPFOSA | 57059.6 | 5.0 | 0.130 | 6.27 | 1.000 | 0.600 | 0.598 | 0 | 30 | |
| PFTrDA | 52911.8 | 12 | 13C2-PFDoDA | 563416.3 | 5.0 | 0.094 | 6.25 | 1.030 | 0.600 | 0.593 | -1 | 30 | |
| PFTeDA | 38686.6 | 11 | 13C2-PFTeDA | 412151.2 | 5.0 | 0.094 | 6.43 | 1.000 | 0.600 | 0.526 | -12 | 30 | |
| PFHxDA | 18605.8 | 11 | 13C2-PFTeDA | 412151.2 | 5.0 | 0.045 | 6.73 | 1.050 | 0.600 | 0.538 | -10 | 30 | |
| PFODA | 15935.1 | 10 | 13C2-PFTeDA | 412151.2 | 5.0 | 0.039 | 6.99 | 1.090 | 0.600 | 0.538 | -10 | 30 | |

APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

## Instrument Sensitivity Check/ Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CCV1_ISC_CAL2 | | | **Data File:** | | 18NOV13D-05.wiff |
| **Sample ID:** | CALBRN21833C | | | **Acquis Date:** | | 2018-11-13T09:44:02 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 4 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV13DCCV1-4 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV12DCAL-44

| 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 | 661126.9 | 659926.2 | 0 | 50 | |
| 13C2-PFOA | 5.0 | 466902.6 | 450219.7 | 4 | 50 | |
| 13C4-PFOS | 4.8 | 247446.9 | 249205.8 | -1 | 50 | |
| 13C2-PFDA | 5.0 | 295381.6 | 278743.9 | 6 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 766812.0 | 13C3-PFBA | 661126.9 | 1.160 | 5.000 | 5.200 | 104 | 70-130 | |
| E13C5-PFPeA | 751025.9 | 13C3-PFBA | 661126.9 | 1.136 | 5.000 | 5.095 | 102 | 70-130 | |
| E13C3-PFBS | 427122.1 | 13C3-PFBA | 661126.9 | 0.646 | 4.650 | 4.561 | 98 | 70-130 | |
| E13C2-4:2-FTS | 54897.9 | 13C2-PFOA | 466902.6 | 0.118 | 4.670 | 5.237 | 112 | 70-130 | |
| E13C5-PFHxA | 705940.0 | 13C2-PFOA | 466902.6 | 1.512 | 5.000 | 5.462 | 109 | 70-130 | |
| E13C3-PFHxS | 315188.2 | 13C2-PFOA | 466902.6 | 0.675 | 4.730 | 4.632 | 98 | 70-130 | |
| E13C4-PFHpA | 545224.8 | 13C2-PFOA | 466902.6 | 1.168 | 5.000 | 5.261 | 105 | 70-130 | |
| E13C2-6:2-FTS | 36348.0 | 13C2-PFOA | 466902.6 | 0.078 | 4.750 | 5.209 | 110 | 70-130 | |
| E13C8-PFOA | 916289.6 | 13C2-PFOA | 466902.6 | 1.962 | 5.000 | 5.407 | 108 | 70-130 | |
| E13C8-PFOS | 283234.2 | 13C4-PFOS | 247446.9 | 1.145 | 4.780 | 5.072 | 106 | 70-130 | |
| E13C9-PFNA | 459889.6 | 13C4-PFOS | 247446.9 | 1.859 | 5.000 | 5.182 | 104 | 70-130 | |
| E13C6-PFDA | 633571.3 | 13C2-PFDA | 295381.6 | 2.145 | 5.000 | 5.005 | 100 | 70-130 | |
| E13C2-8:2-FTS | 28239.6 | 13C2-PFDA | 295381.6 | 0.096 | 4.790 | 4.768 | 100 | 70-130 | |
| E13C8-PFOSA | 581964.0 | 13C2-PFDA | 295381.6 | 1.970 | 5.000 | 4.368 | 87 | 70-130 | |
| Ed3-NMeFOSAA | 75677.4 | 13C2-PFDA | 295381.6 | 0.256 | 5.000 | 4.625 | 92 | 70-130 | |
| E13C7-PFUnDA | 262614.2 | 13C2-PFDA | 295381.6 | 0.889 | 5.000 | 5.162 | 103 | 70-130 | |
| Ed5-NEtFOSAA | 67382.4 | 13C2-PFDA | 295381.6 | 0.228 | 5.000 | 4.826 | 97 | 70-130 | |
| E13C2-PFDoDA | 563416.3 | 13C2-PFDA | 295381.6 | 1.907 | 5.000 | 4.952 | 99 | 70-130 | |
| Ed7-NMePFOSAE | 315627.9 | 13C2-PFDA | 295381.6 | 1.069 | 5.000 | 4.624 | 92 | 70-130 | |
| Ed3-NMePFOSA | 81274.6 | 13C2-PFDA | 295381.6 | 0.275 | 5.000 | 4.999 | 100 | 70-130 | |
| Ed9-NEtPFOSAE | 264447.2 | 13C2-PFDA | 295381.6 | 0.895 | 5.000 | 4.656 | 93 | 70-130 | |
| Ed5-NEtPFOSA | 57059.6 | 13C2-PFDA | 295381.6 | 0.193 | 5.000 | 4.531 | 91 | 70-130 | |
| E13C2-PFTeDA | 412151.2 | 13C2-PFDA | 295381.6 | 1.395 | 5.000 | 4.899 | 98 | 70-130 | |

APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

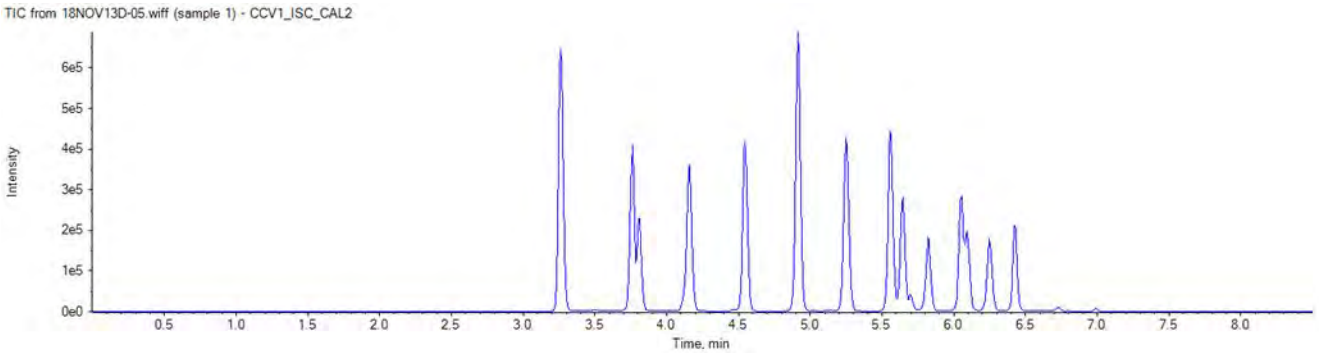
## Analyte Quantitation Peak Table

**Sample Name:** CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV13D-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 | 80023.3 | | A | 13C4-PFBA | 3.26 | 766812.0 | 0.104 | 0.578 |
| PFPeA | 3.76 | 1.000 | 76472.6 | | A | 13C5-PFPeA | 3.76 | 751025.9 | 0.102 | 0.589 |
| PFBS | 3.81 | 1.000 | 41984.3 | | A | 13C3-PFBS | 3.81 | 427122.1 | 0.098 | 0.468 |
| 4:2-FTS | 4.12 | 1.000 | 9629.9 | | M | 13C2-4:2-FTS | 4.12 | 54897.9 | 0.175 | 0.476 |
| PFHxA | 4.16 | 1.000 | 96444.0 | | A | 13C5-PFHxA | 4.16 | 705940.0 | 0.137 | 0.570 |
| PFPeS | 4.18 | 1.100 | 22297.9 | | A | 13C3-PFBS | 3.81 | 427122.1 | 0.052 | 0.507 |
| PFHpA | 4.55 | 1.000 | 93659.5 | | A | 13C4-PFHpA | 4.55 | 545224.8 | 0.172 | 0.569 |
| PFHxS | 4.55 | 1.000 | 34111.0 | | M | 13C3-PFHxS | 4.55 | 315188.2 | 0.108 | 0.525 |
| 6:2-FTS | 4.90 | 1.000 | 9221.0 | | M | 13C2-6:2-FTS | 4.90 | 36348.0 | 0.254 | 0.614 |
| PFHpS | 4.91 | 1.080 | 30798.1 | | A | 13C3-PFHxS | 4.55 | 315188.2 | 0.098 | 0.514 |
| PFOA | 4.92 | 1.000 | 100905.0 | | A | 13C8-PFOA | 4.91 | 916289.6 | 0.110 | 0.588 |
| PFOS | 5.24 | 1.000 | 34555.4 | | M | 13C8-PFOS | 5.24 | 283234.2 | 0.122 | 0.534 |
| PFNA | 5.26 | 1.000 | 70400.6 | | A | 13C9-PFNA | 5.26 | 459889.6 | 0.153 | 0.552 |
| PFNS | 5.54 | 1.060 | 17583.2 | | A | 13C8-PFOS | 5.24 | 283234.2 | 0.062 | 0.434 |
| PFDA | 5.56 | 1.000 | 68441.3 | | A | 13C6-PFDA | 5.56 | 633571.3 | 0.108 | 0.573 |
| 8:2-FTS | 5.56 | 1.000 | 5551.6 | | A | 13C2-8:2-FTS | 5.56 | 28239.6 | 0.197 | 0.458 |
| PFOSA | 5.64 | 1.000 | 70097.0 | | A | 13C8-PFOSA | 5.64 | 581964.0 | 0.120 | 0.588 |
| NMeFOSAA | 5.71 | 1.000 | 7238.6 | | A | d3-NMeFOSAA | 5.70 | 75677.4 | 0.096 | 0.541 |
| PFDS | 5.80 | 1.110 | 14746.9 | | A | 13C8-PFOS | 5.24 | 283234.2 | 0.052 | 0.472 |
| PFUnDA | 5.82 | 1.000 | 55065.8 | | A | 13C7-PFUnDA | 5.82 | 262614.2 | 0.210 | 0.548 |
| NEtFOSAA | 5.84 | 1.000 | 8391.3 | | M | d5-NEtFOSAA | 5.83 | 67382.4 | 0.125 | 0.653 |
| PFDoDA | 6.05 | 1.000 | 63306.6 | | A | 13C2-PFDoDA | 6.05 | 563416.3 | 0.112 | 0.572 |
| 10:2-FTS | 6.07 | 1.090 | 4315.1 | | A | 13C2-8:2-FTS | 5.56 | 28239.6 | 0.153 | 0.509 |
| NMePFOSAE | 6.10 | 1.000 | 46107.4 | | A | d7-NMePFOSAE | 6.09 | 315627.9 | 0.146 | 0.608 |
| NMePFOSA | 6.11 | 1.000 | 7580.7 | | A | d3-NMePFOSA | 6.10 | 81274.6 | 0.093 | 0.460 |
| PFDoS | 6.22 | 1.190 | 7907.3 | | A | 13C8-PFOS | 5.24 | 283234.2 | 0.028 | 0.489 |
| NEtPFOSAE | 6.26 | 1.000 | 46594.2 | | A | d9-NEtPFOSAE | 6.25 | 264447.2 | 0.176 | 0.565 |
| NEtPFOSA | 6.27 | 1.000 | 7426.1 | | A | d5-NEtPFOSA | 6.26 | 57059.6 | 0.130 | 0.598 |
| PFTrDA | 6.25 | 1.030 | 52911.8 | | M | 13C2-PFDoDA | 6.05 | 563416.3 | 0.094 | 0.593 |
| PFTeDA | 6.43 | 1.000 | 38686.6 | | A | 13C2-PFTeDA | 6.43 | 412151.2 | 0.094 | 0.526 |
| PFHxDA | 6.73 | 1.050 | 18605.8 | | A | 13C2-PFTeDA | 6.43 | 412151.2 | 0.045 | 0.538 |
| PFODA | 6.99 | 1.090 | 15935.1 | | A | 13C2-PFTeDA | 6.43 | 412151.2 | 0.039 | 0.538 |

## Total Ion Chromatogram



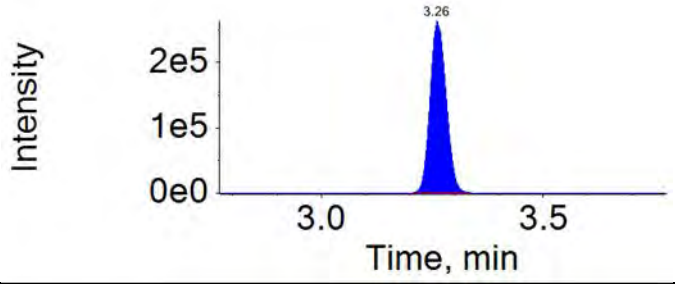

APPROVED
*By JPT at 4:33 pm, 11/13/18*



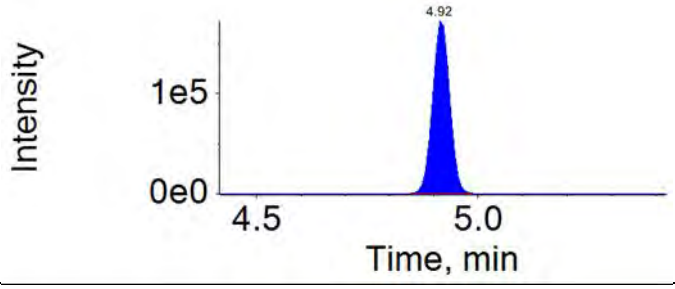
REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

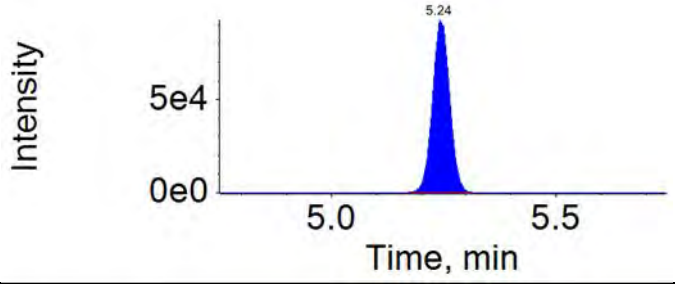
Injection Standard: 13C3-PFBA
216.0 / 172.0



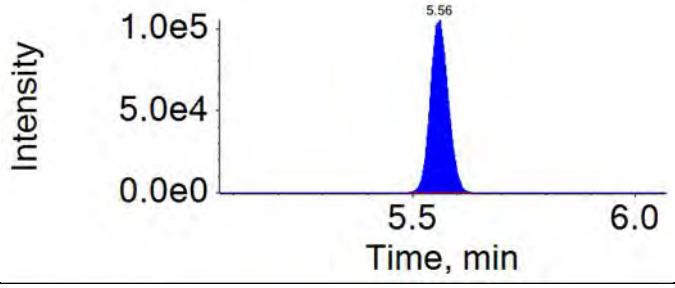

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



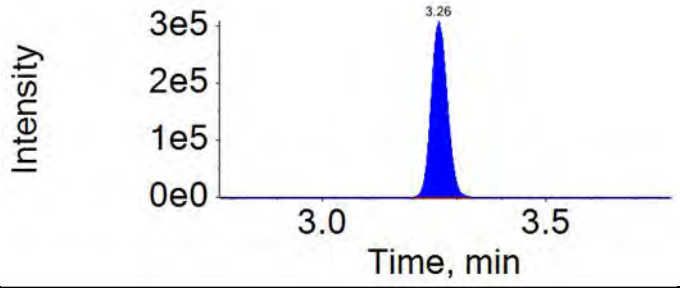

APPROVED
*By JPT at 4:33 pm, 11/13/18*

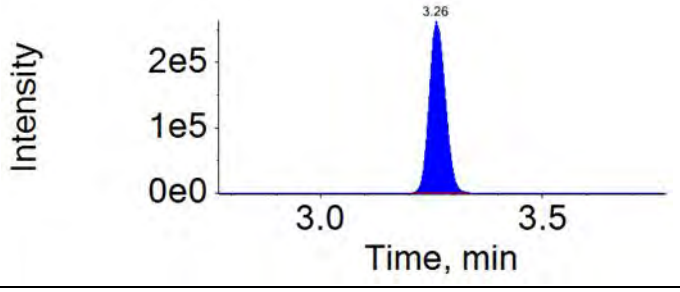


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

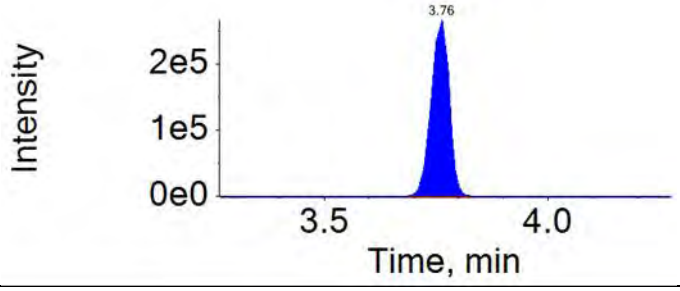
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

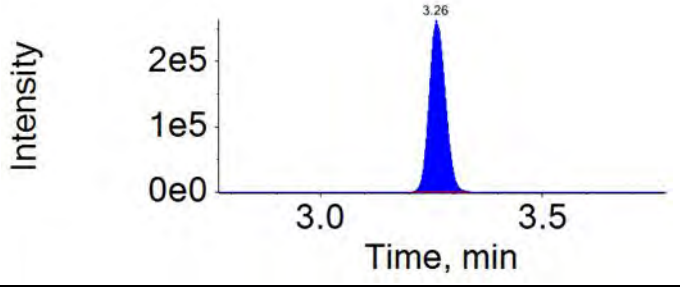
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



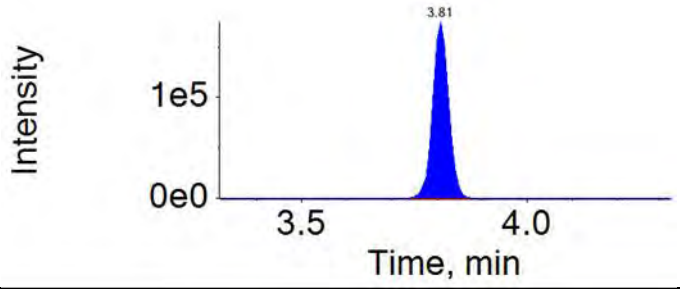



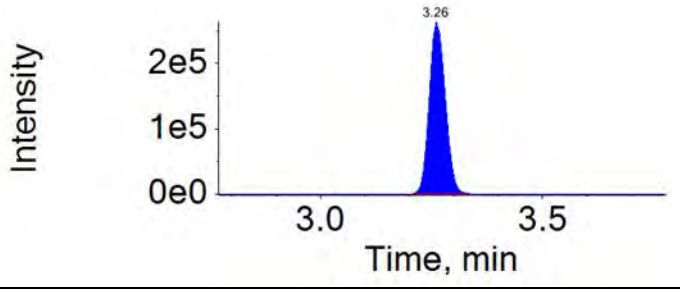

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



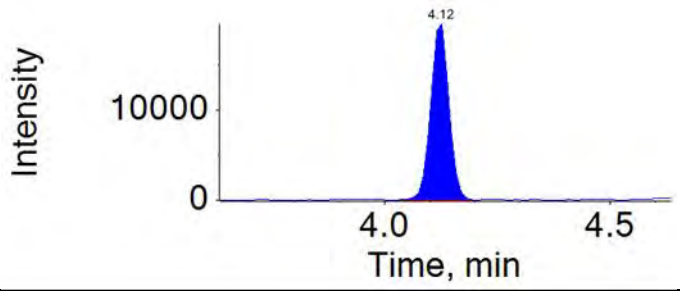



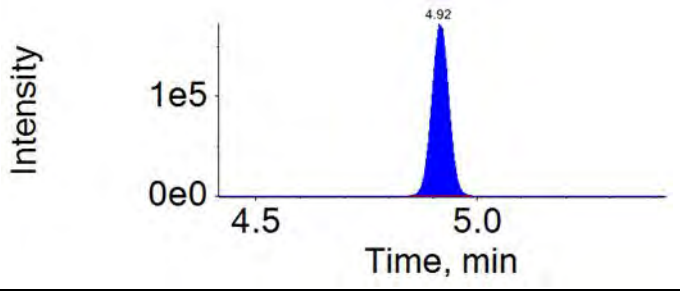

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




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



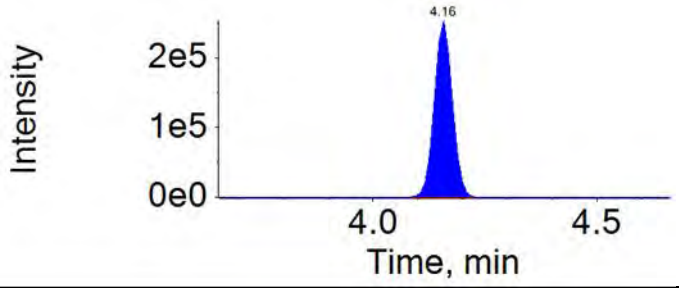
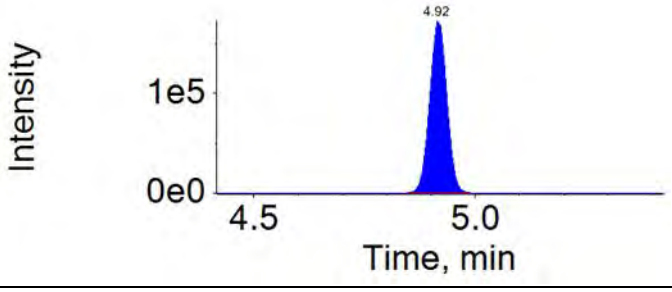




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*By JPT at 4:33 pm, 11/13/18*



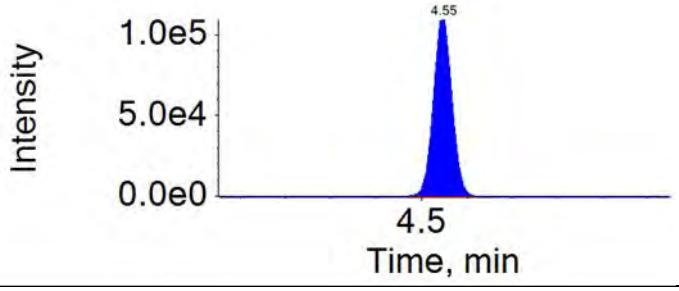
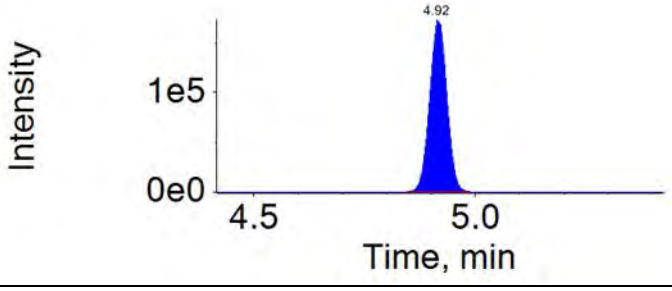
REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

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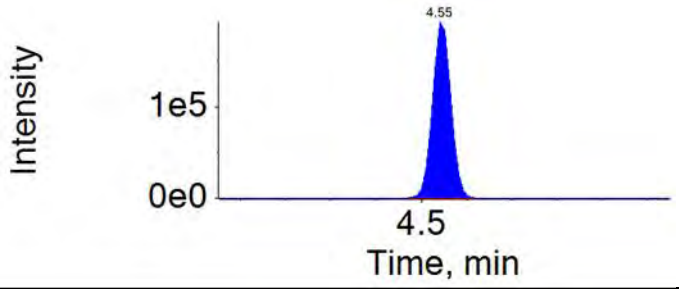
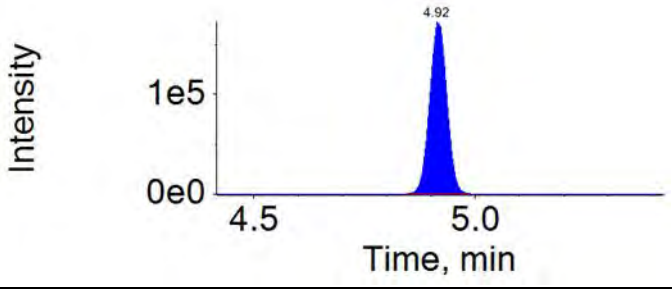




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |

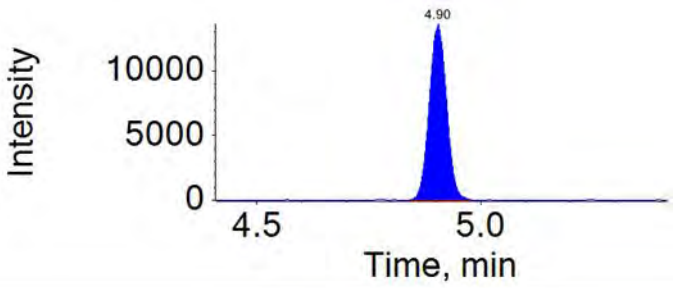
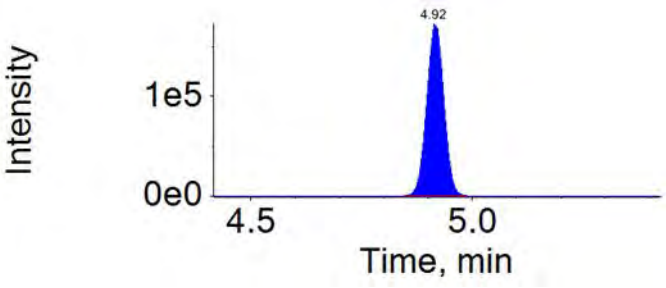




| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |
|  |  |





| Extraction Standard: E13C2-6:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 429.0 / 81.0 | 415.0 / 370.0 |
|  |  |



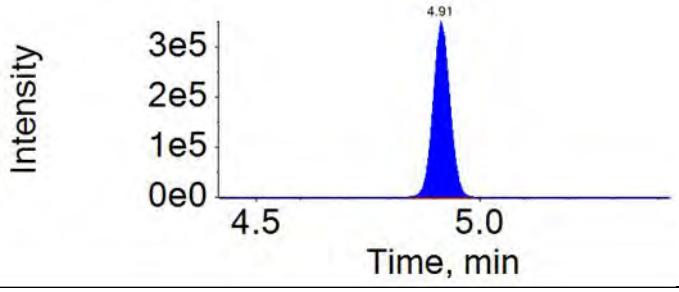
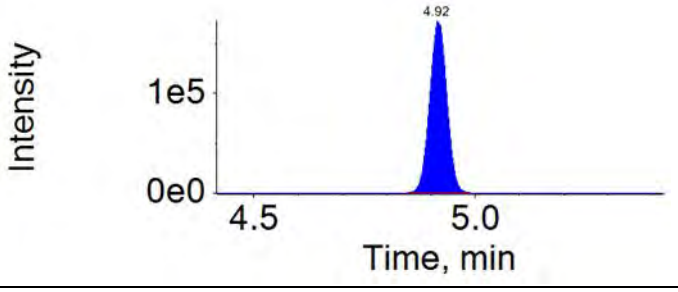


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*By JPT at 4:33 pm, 11/13/18*



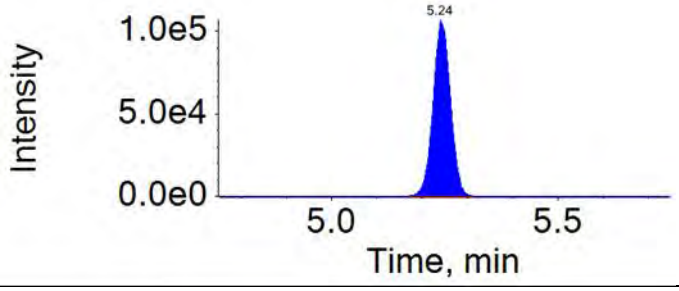
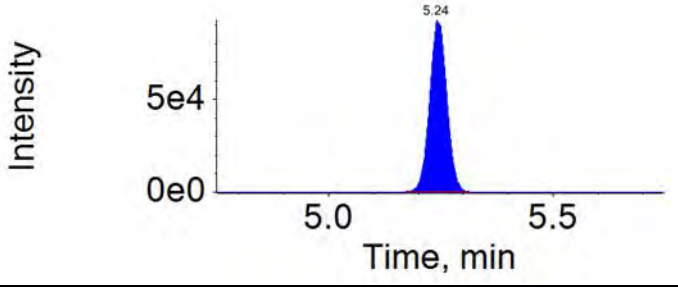
REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

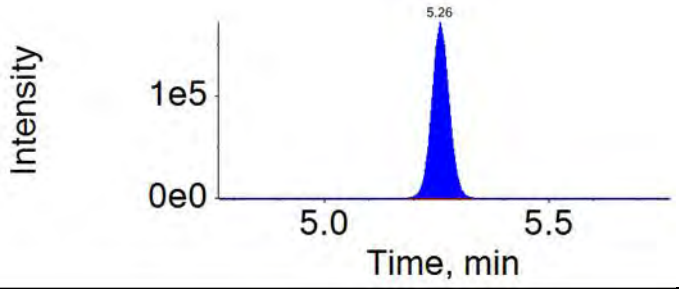
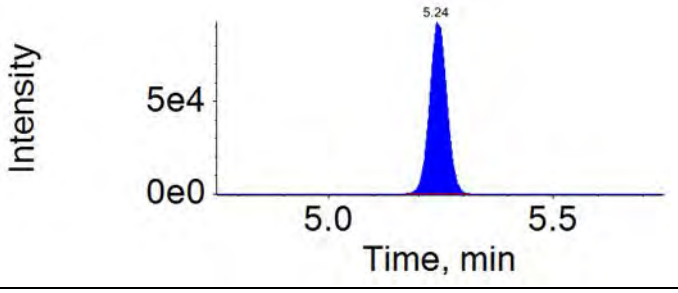




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

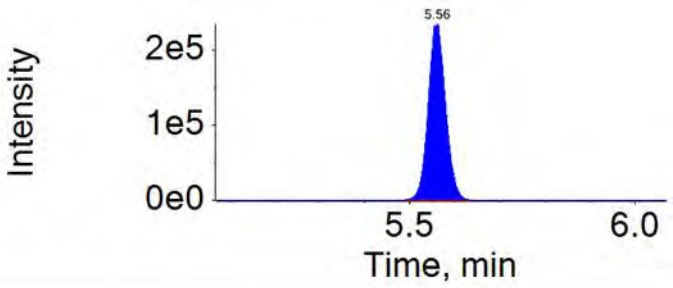
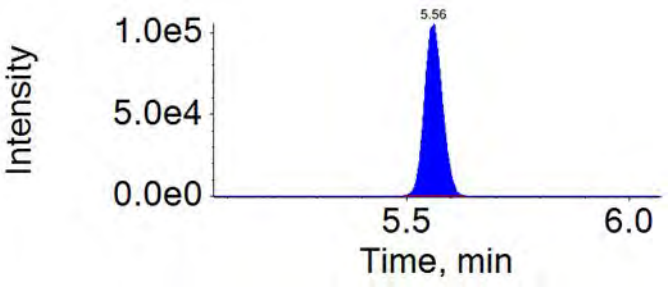




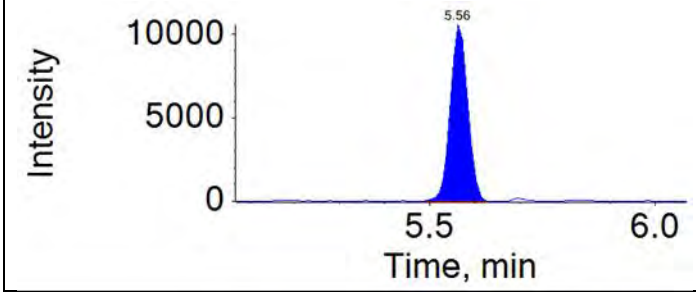
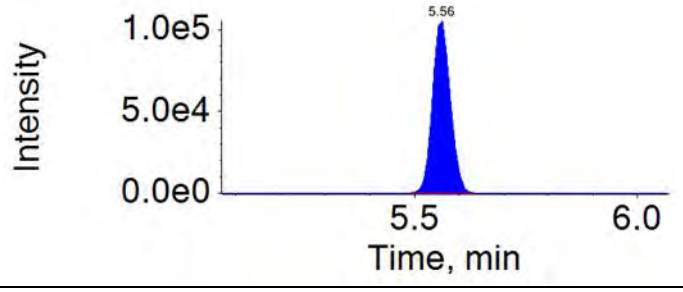
| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





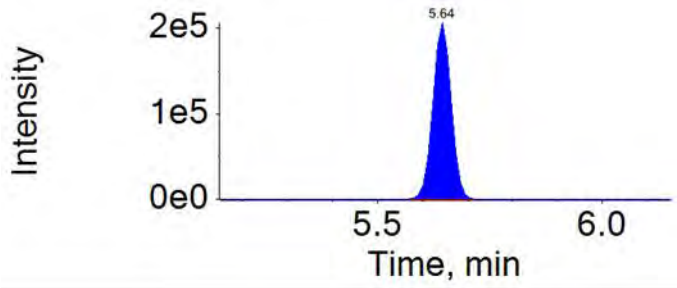
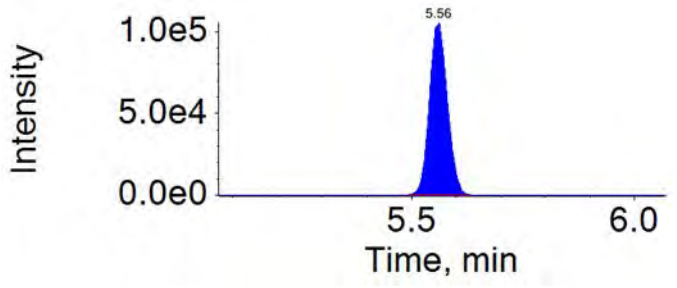
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|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

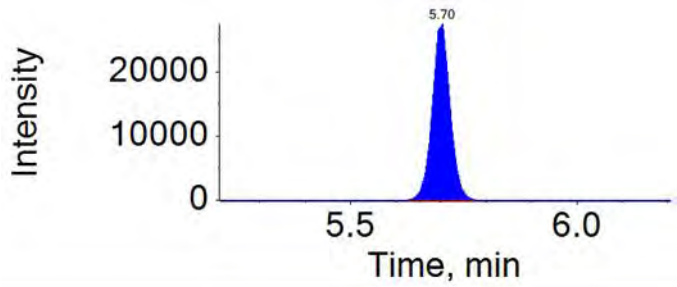
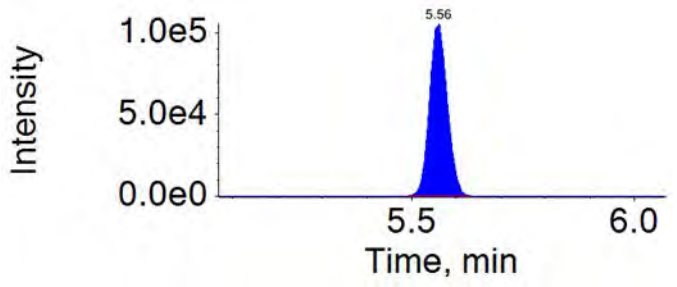




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

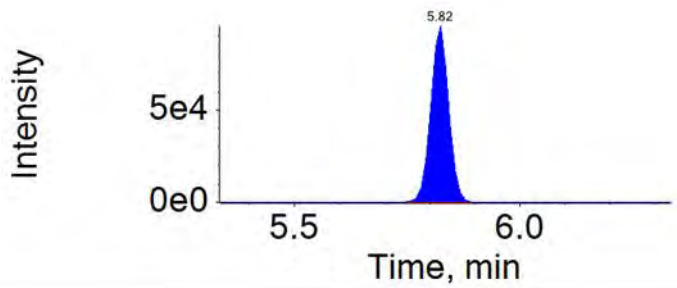
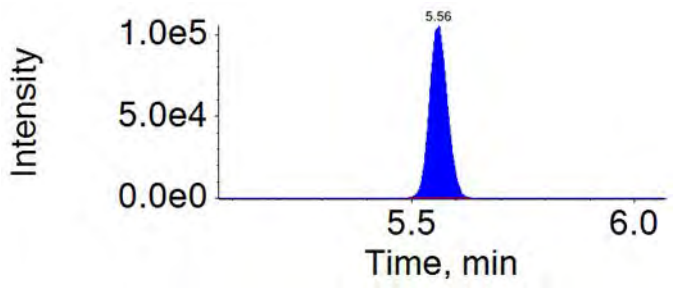




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |





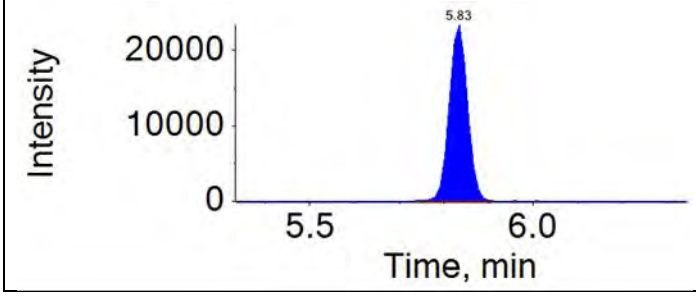
APPROVED
*By JPT at 4:33 pm, 11/13/18*

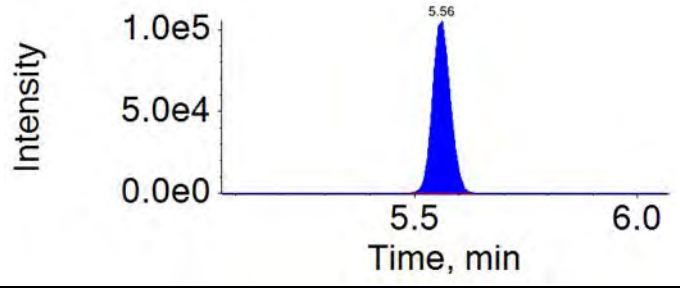


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

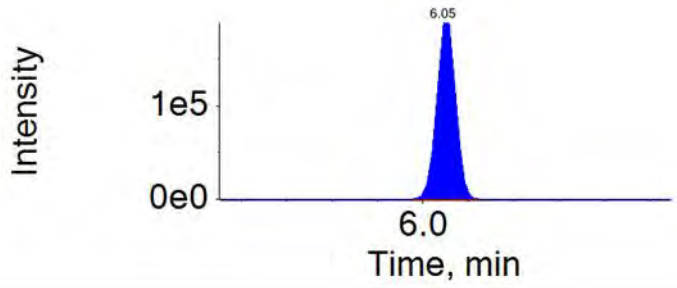
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

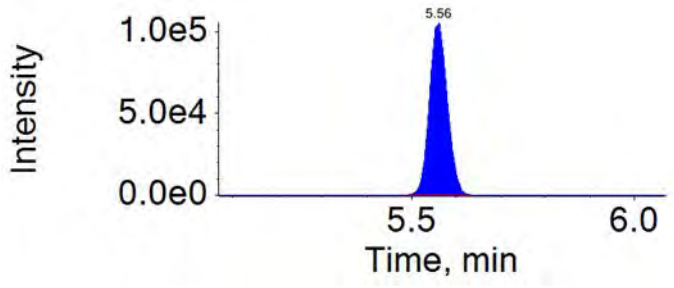
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|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |



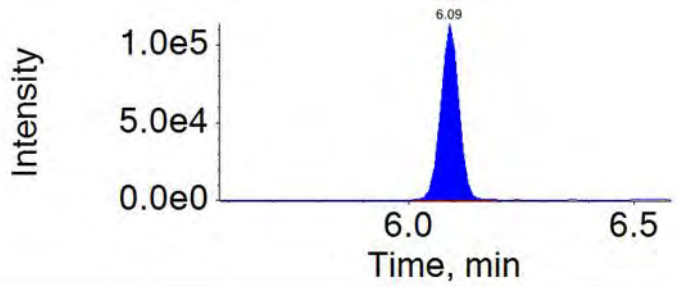



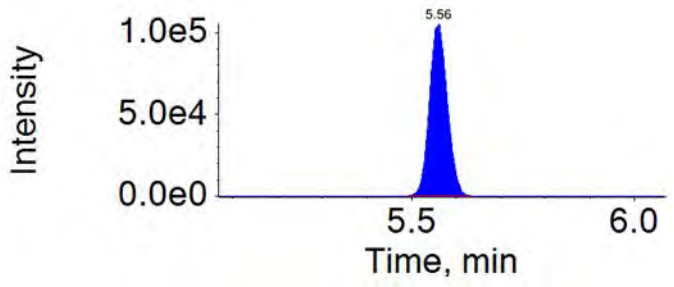

| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |



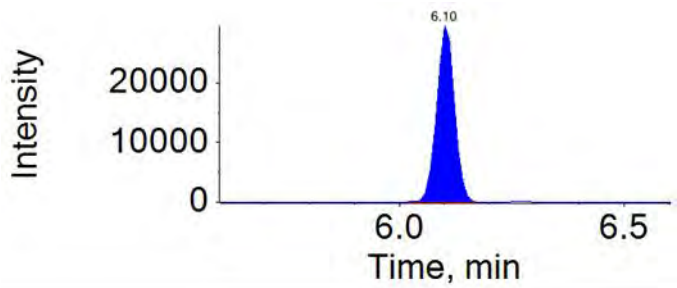



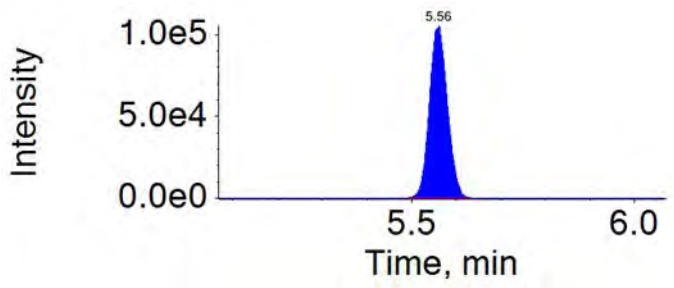

| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |




| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |



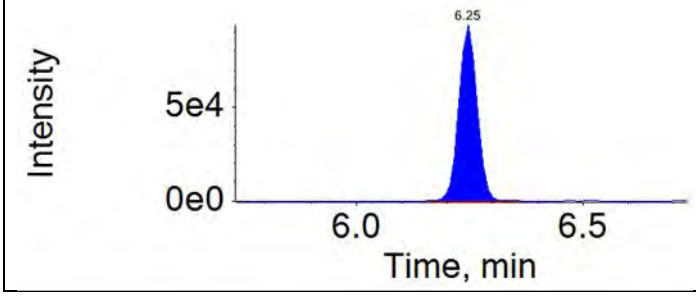

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*By JPT at 4:33 pm, 11/13/18*

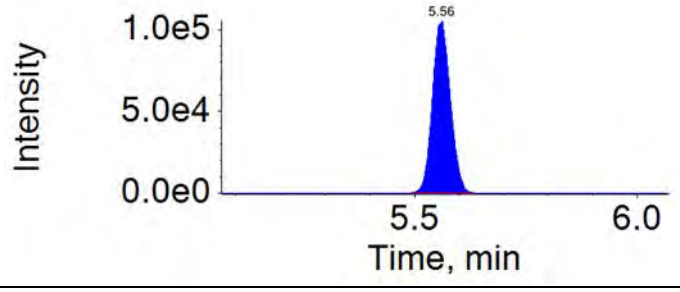


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

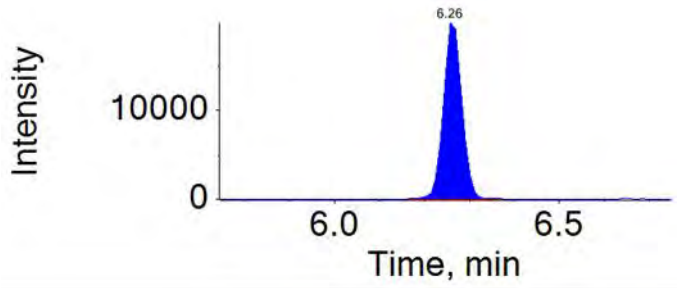
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

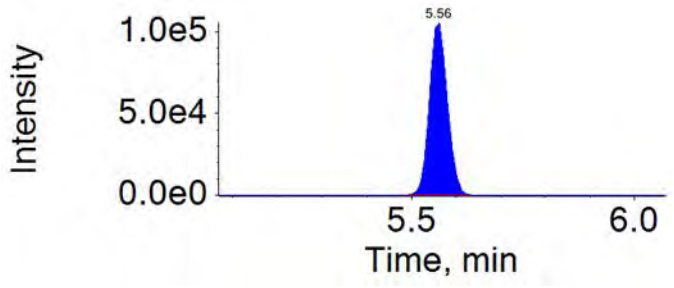
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



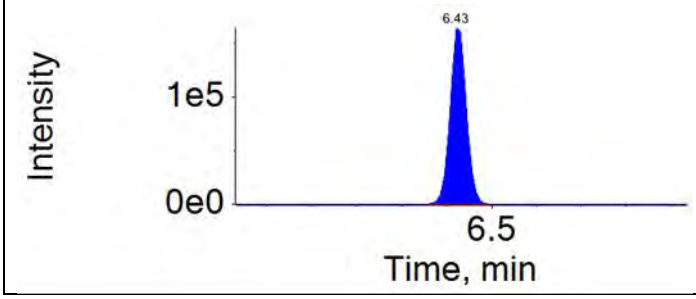



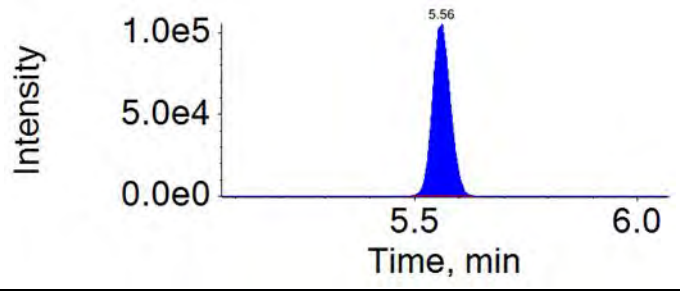

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |



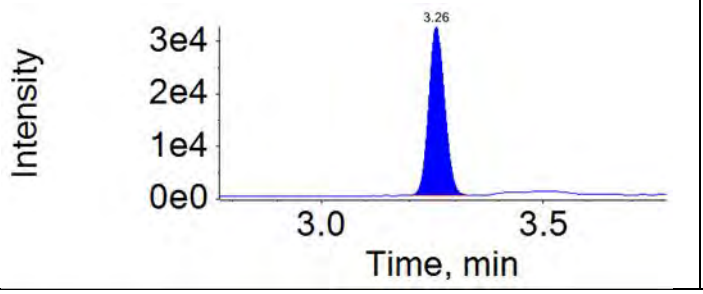

APPROVED
*By JPT at 4:33 pm, 11/13/18*

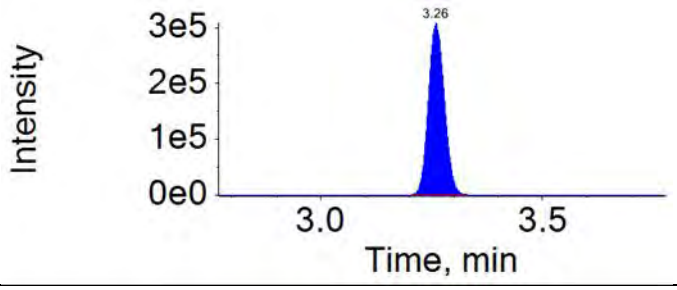


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

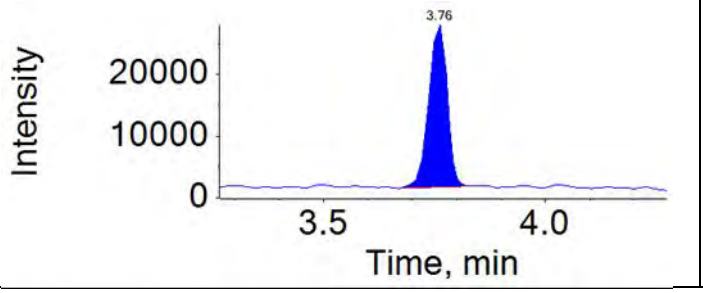
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

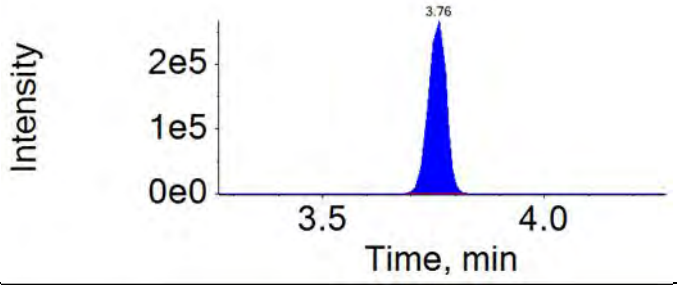
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



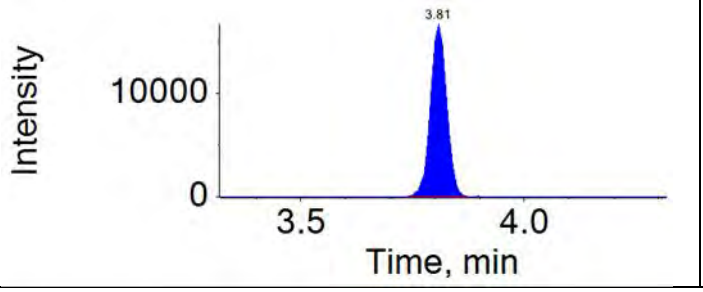



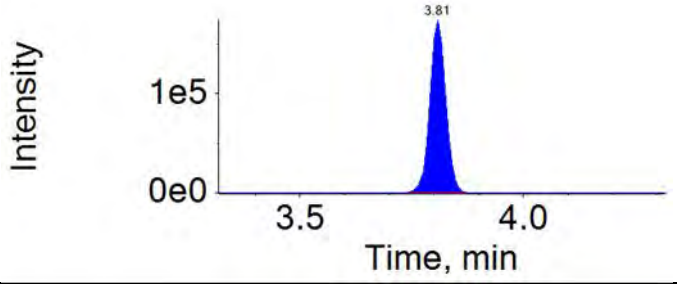

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



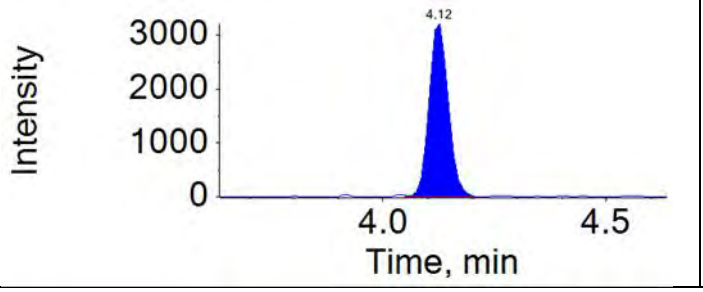



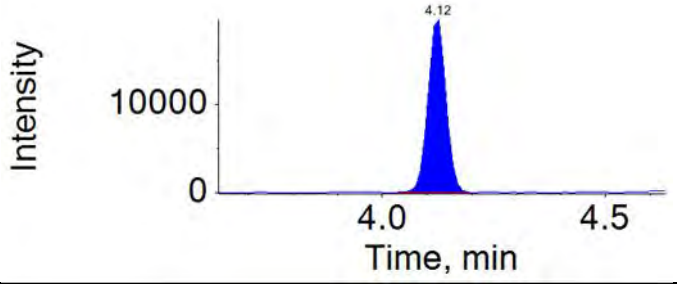

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




| Analyte: 4:2-FTS | Extraction Standard: 13C2-4:2-FTS |
|---|---|
| 327.0 / 307.0 | 329.0 / 81.0 |



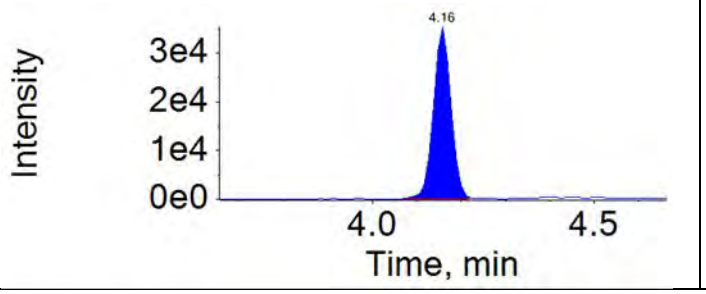

APPROVED
*By JPT at 4:33 pm, 11/13/18*

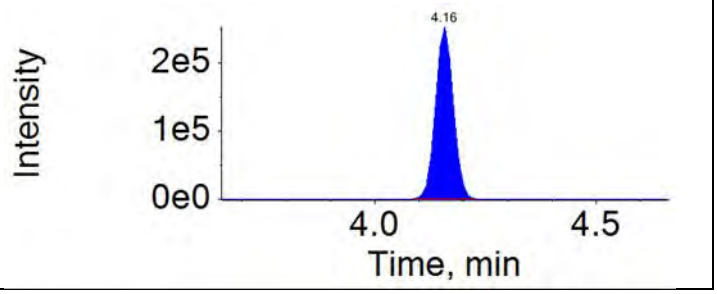


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

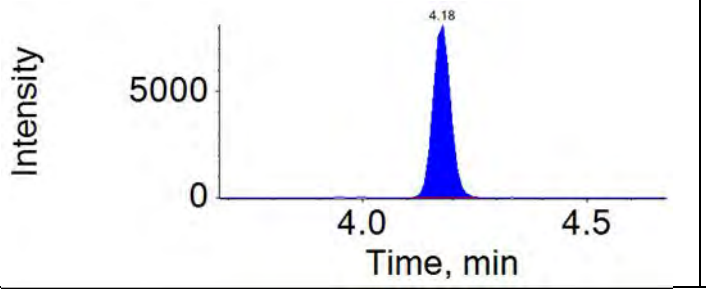
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

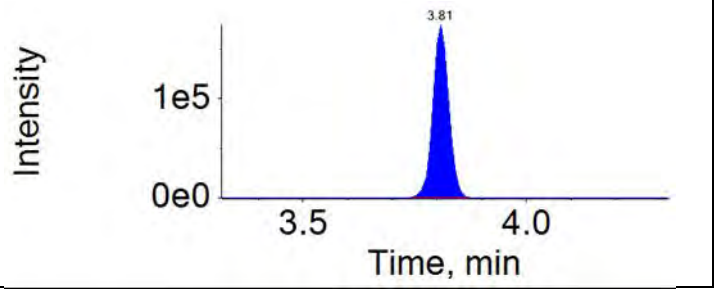
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



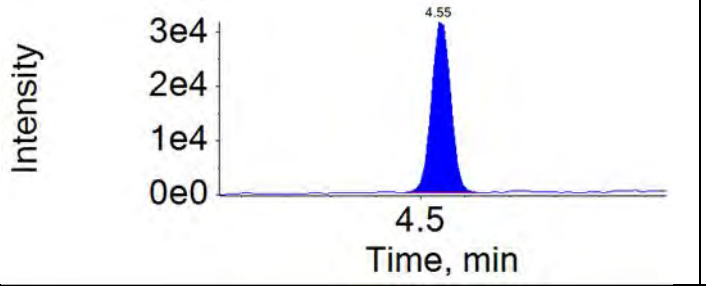



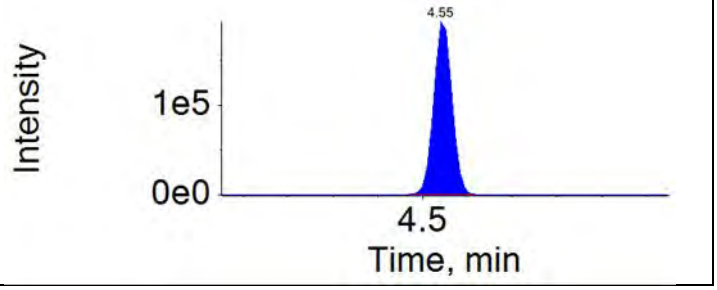

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



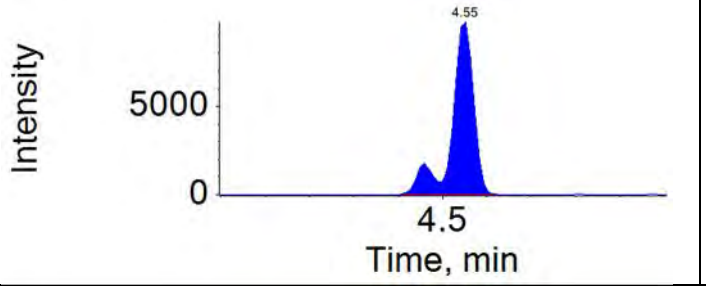



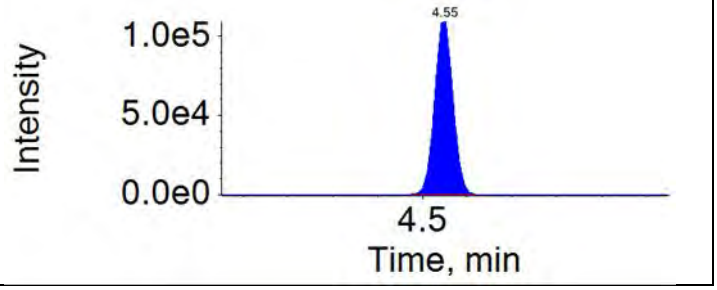

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |



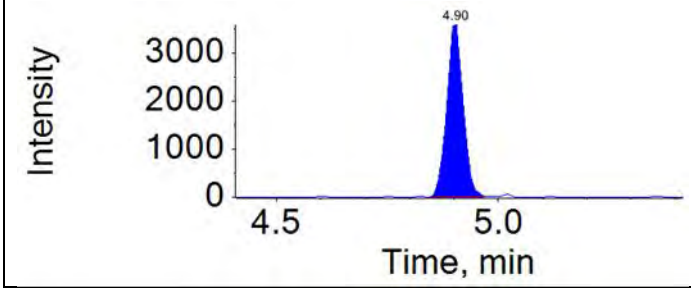

APPROVED
*By JPT at 4:33 pm, 11/13/18*

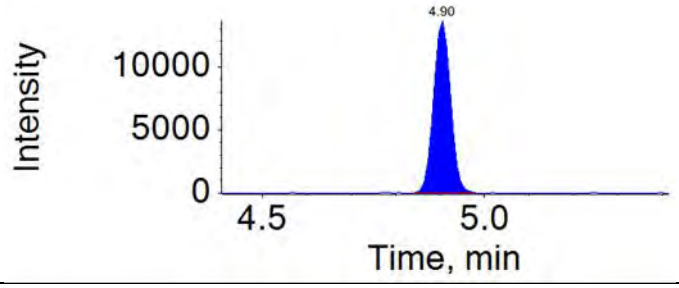


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

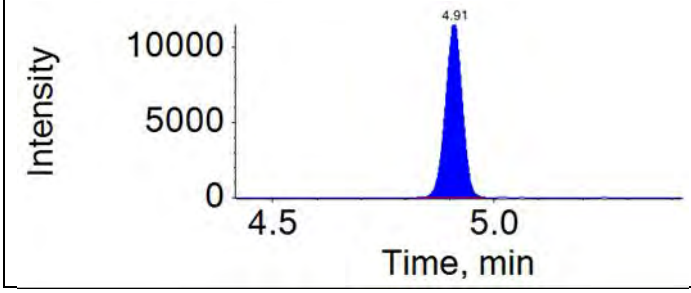
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

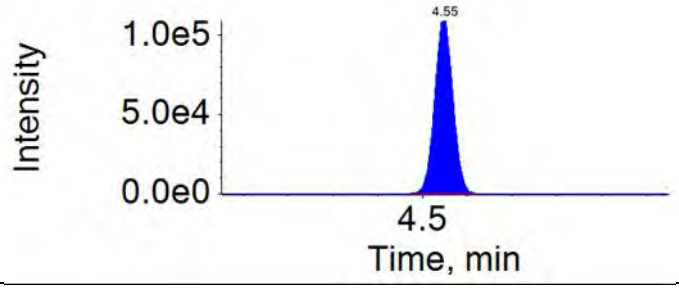
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



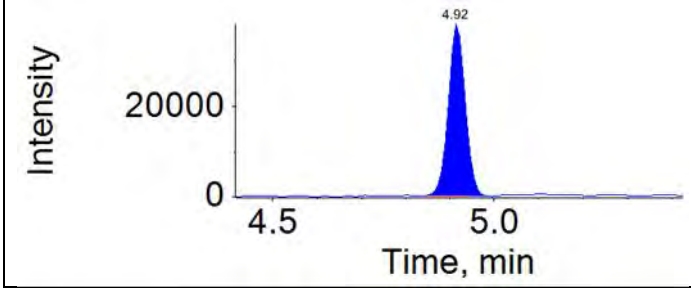



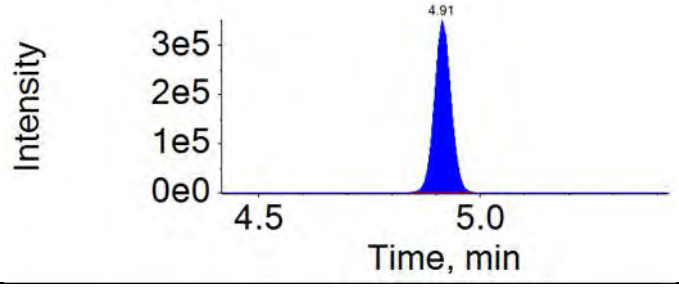

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



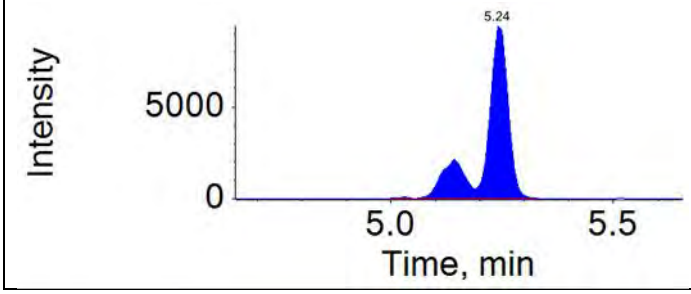



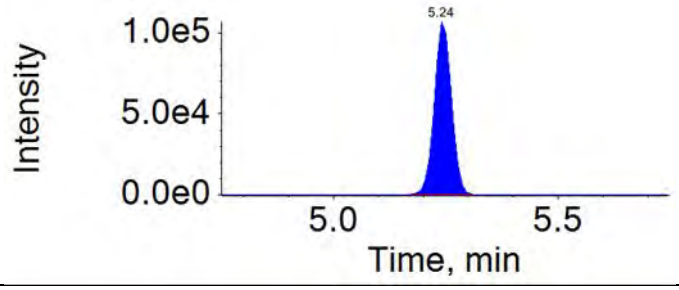

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



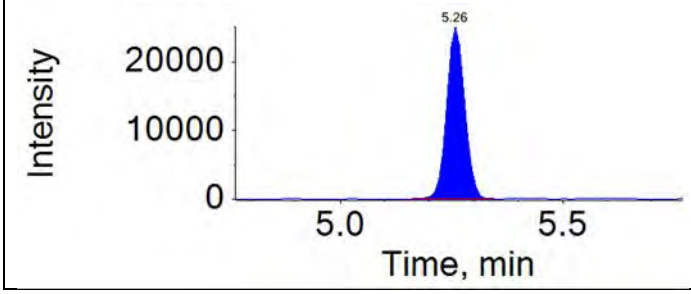

APPROVED
*By JPT at 4:33 pm, 11/13/18*

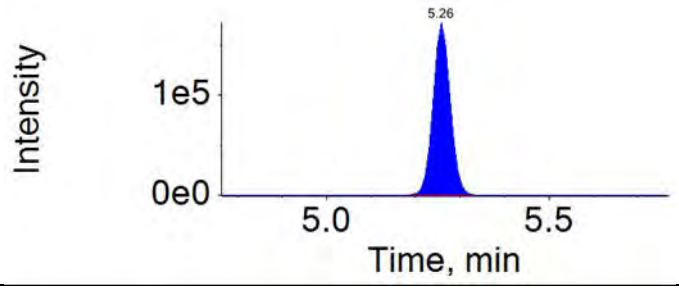


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

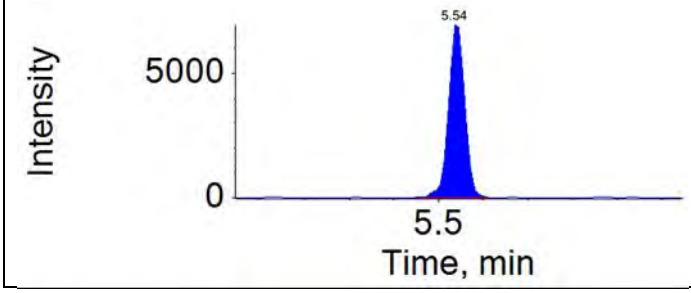
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

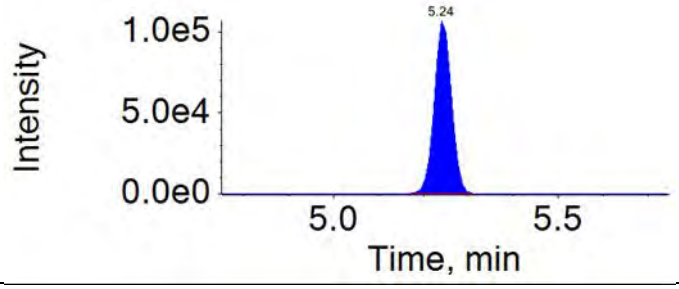
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



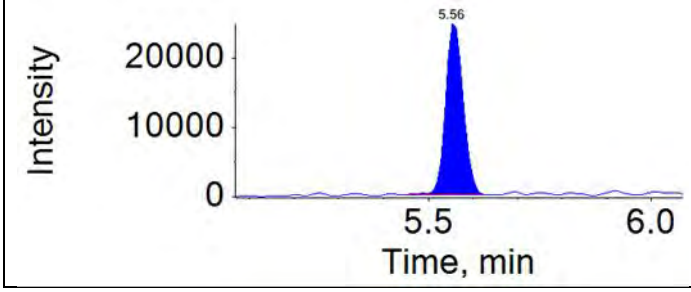



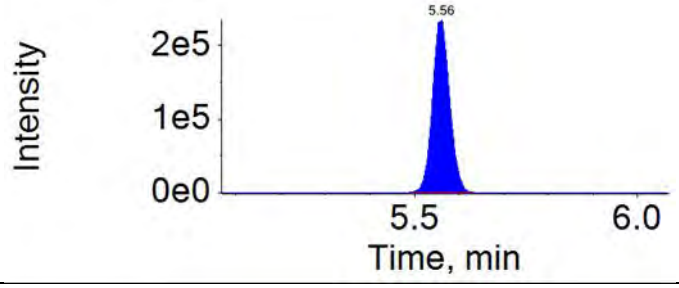

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



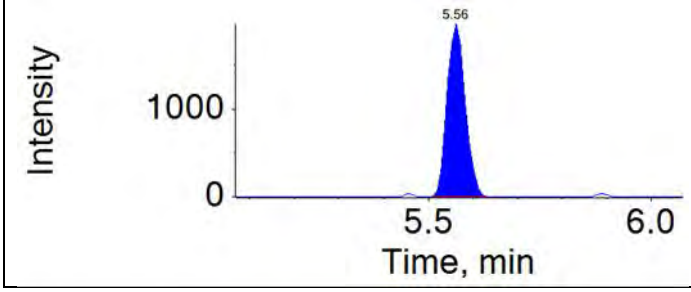



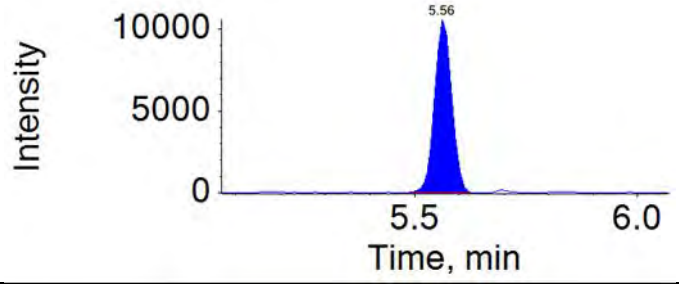

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




| Analyte: 8:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 527.0 / 507.0 | 529.0 / 81.0 |



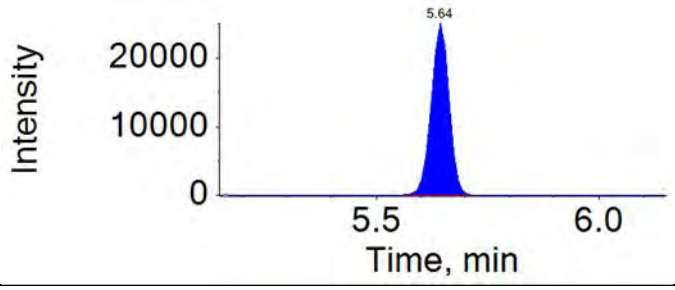
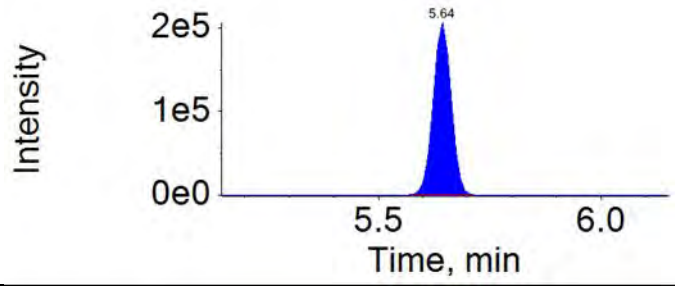




APPROVED
*By JPT at 4:33 pm, 11/13/18*



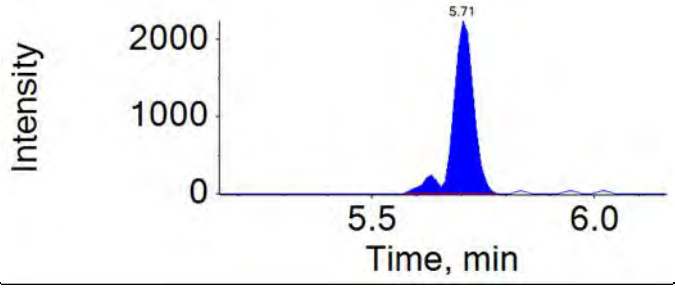
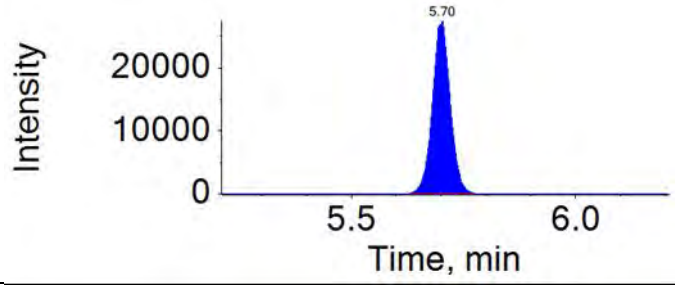
REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |
|  |  |

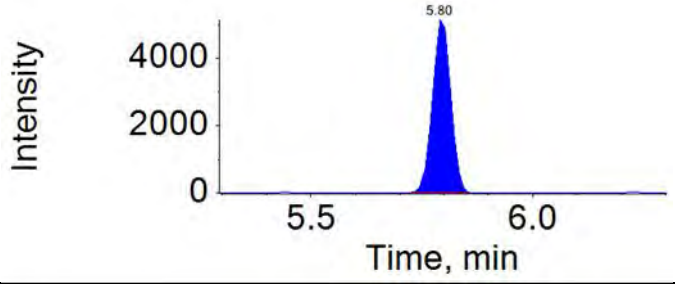
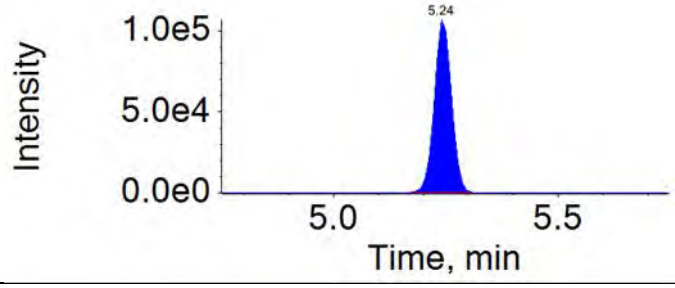




| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |
|  |  |

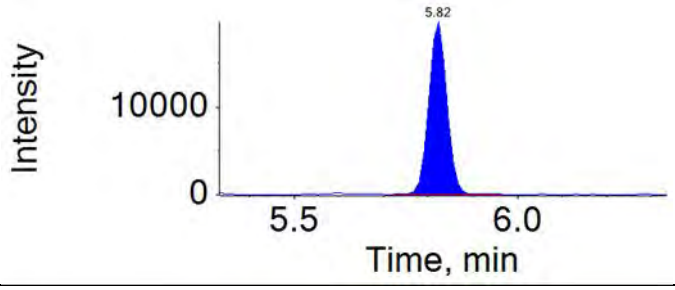
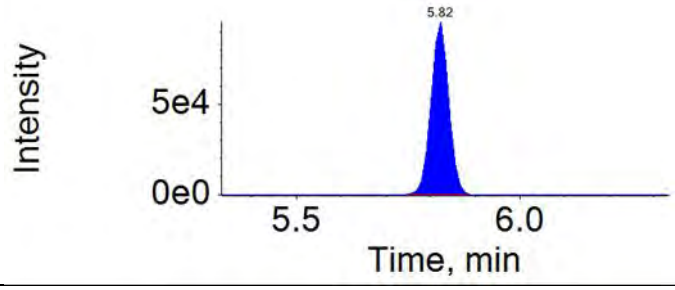




| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |
|  |  |





| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |
|  |  |



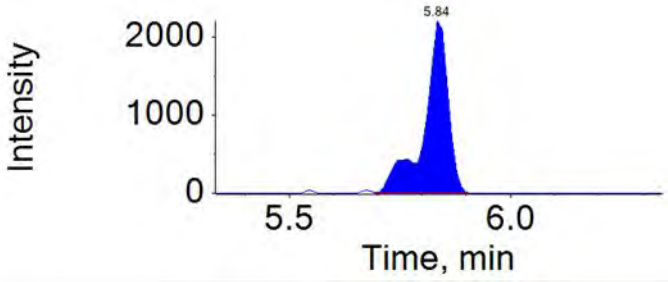
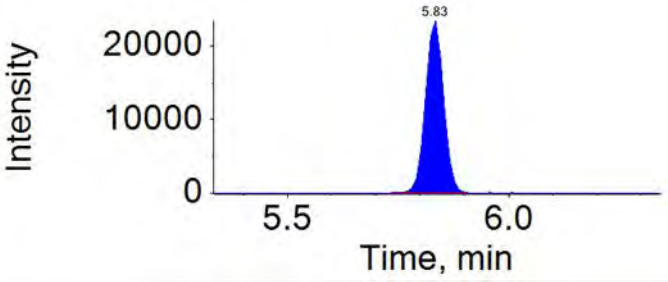


APPROVED
*By JPT at 4:33 pm, 11/13/18*



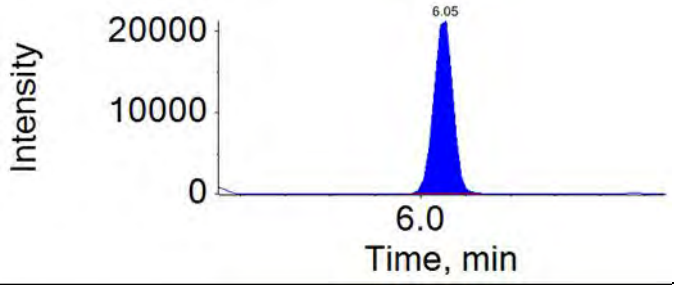
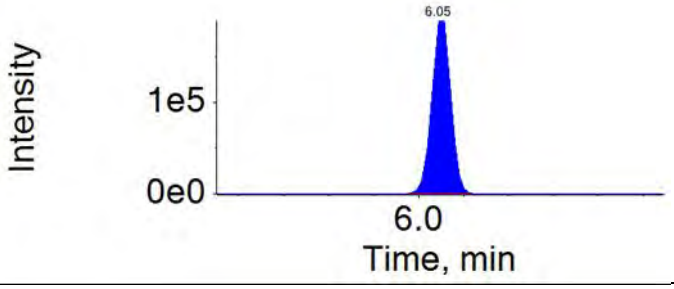
REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |
|  |  |

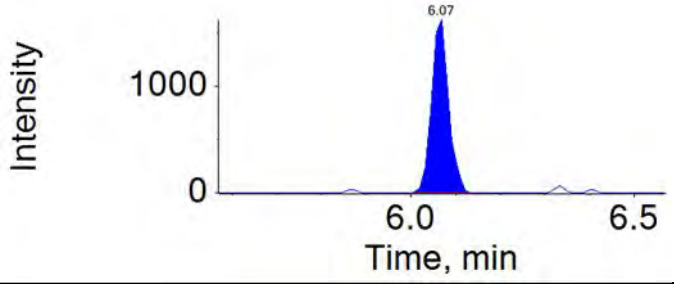
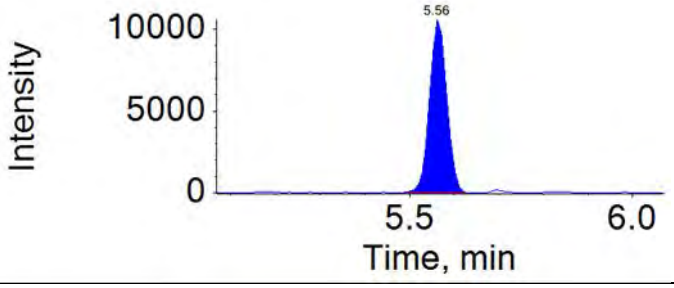




| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |
|  |  |

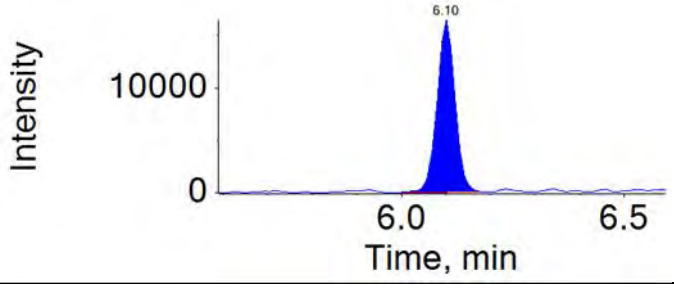
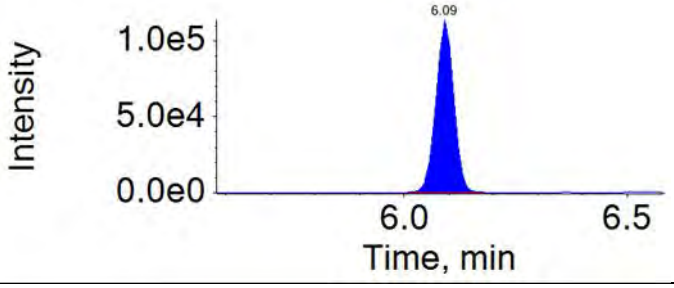




| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |
|  |  |





| Analyte: NMePFOSAE | Extraction Standard: d7-NMePFOSAE |
|---|---|
| 616.0 / 59.0 | 623.0 / 59.0 |
|  |  |





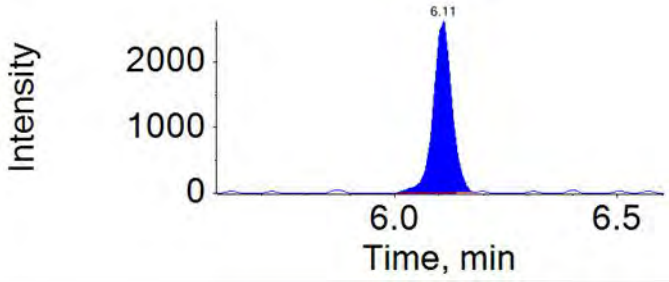
APPROVED
*By JPT at 4:33 pm, 11/13/18*

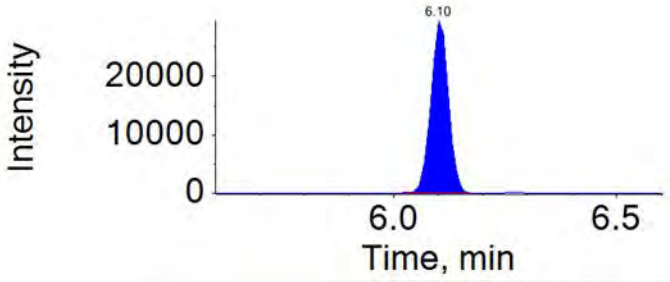


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

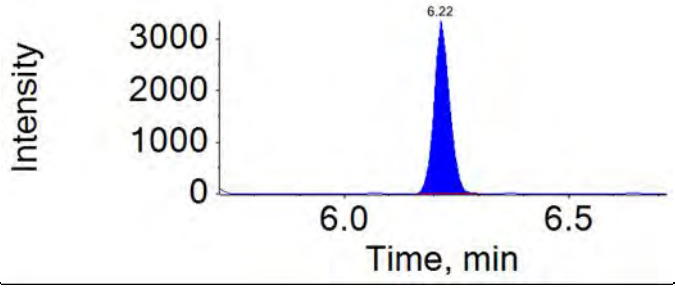
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

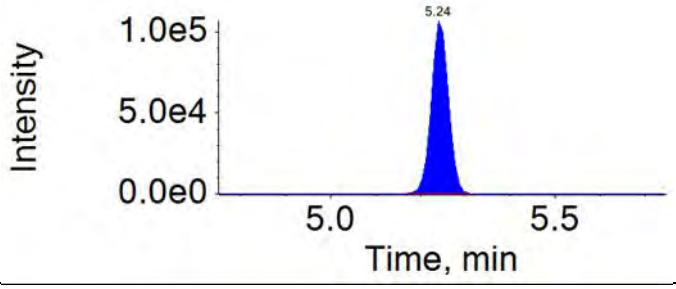
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



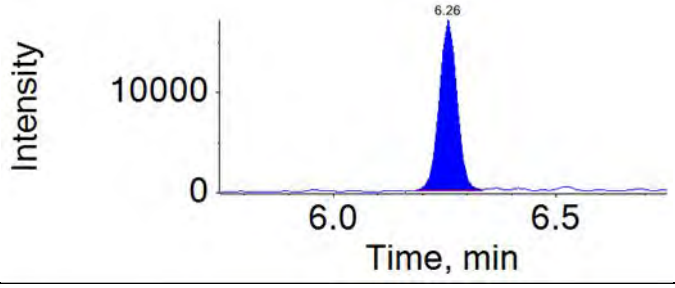



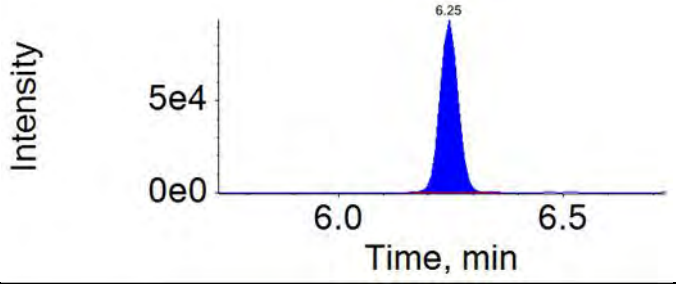

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



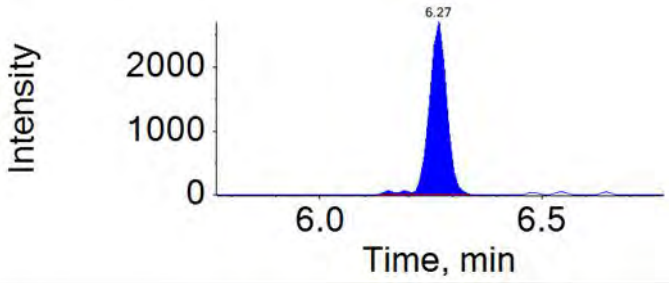



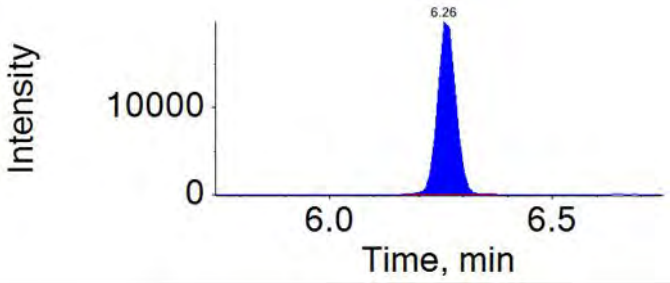

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




| Analyte: NEtPFOSA | Extraction Standard: d5-NEtPFOSA |
|---|---|
| 526.0 / 169.0 | 531.0 / 169.0 |



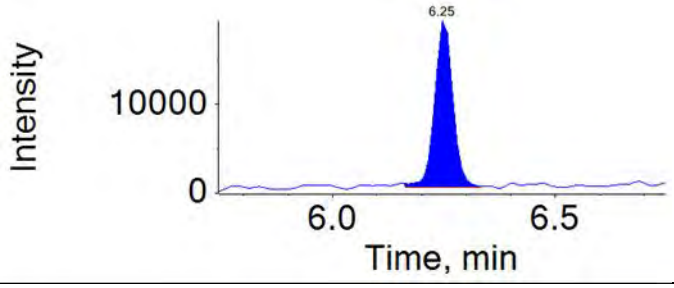
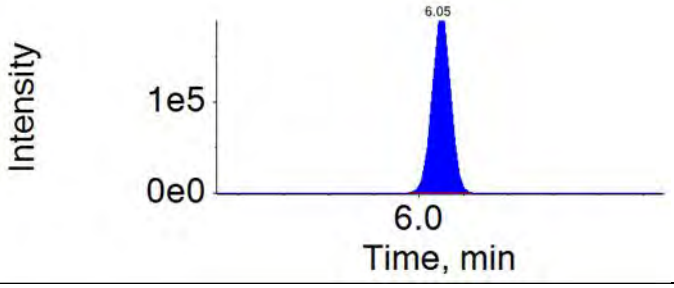




APPROVED
*By JPT at 4:33 pm, 11/13/18*



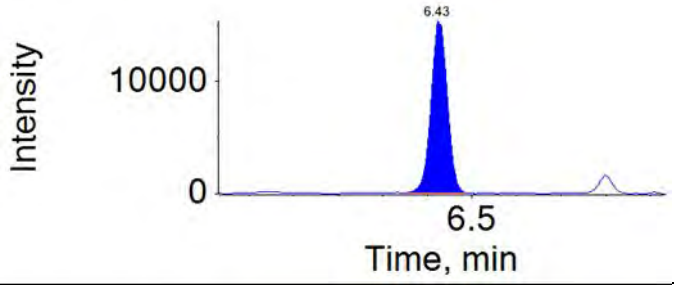
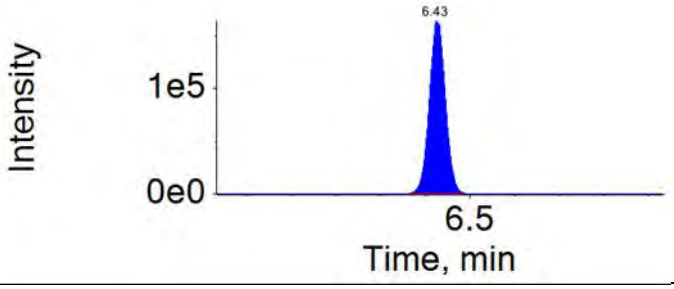
REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |
|  |  |

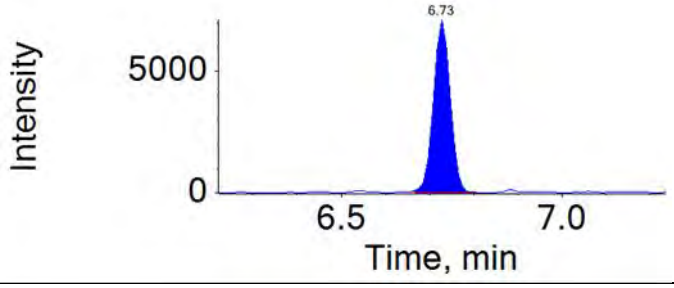
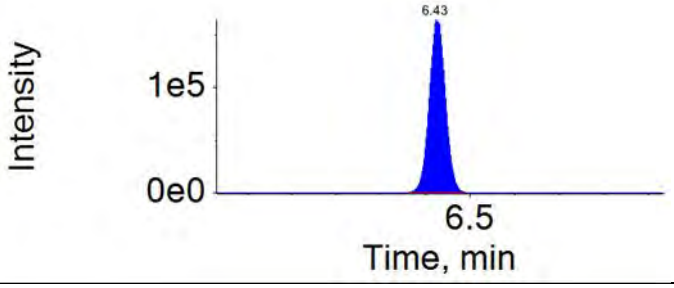




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

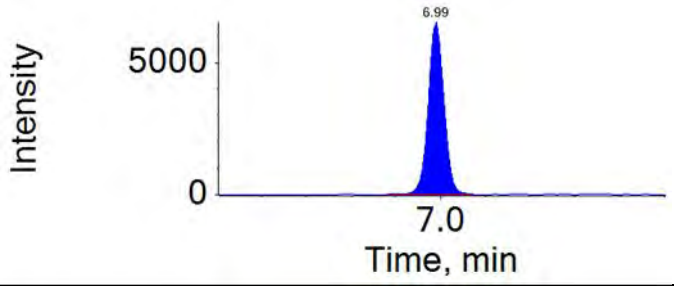
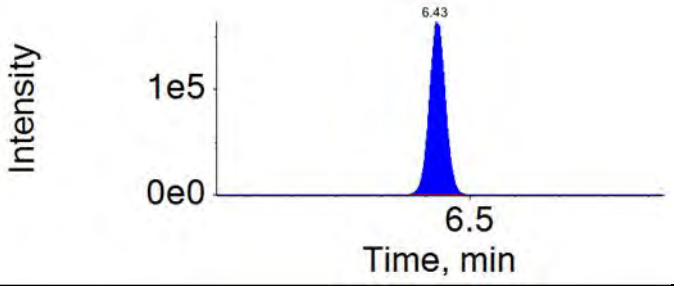




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





| Analyte: PFODA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 913.0 / 869.0 | 715.0 / 670.0 |
|  |  |





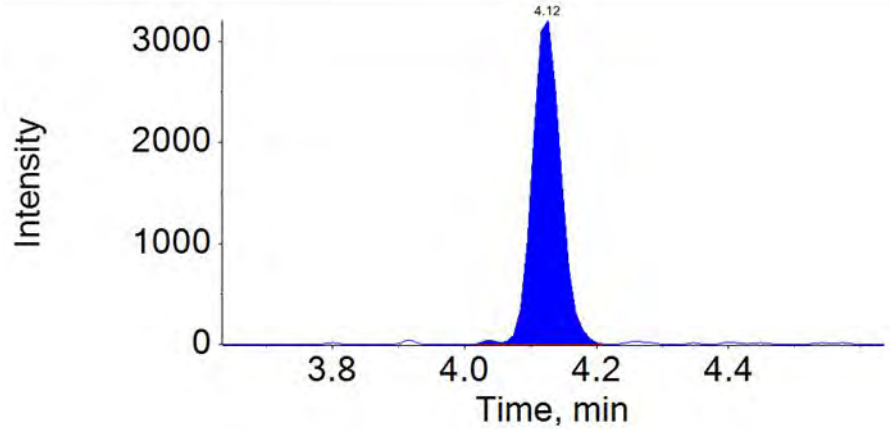
APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

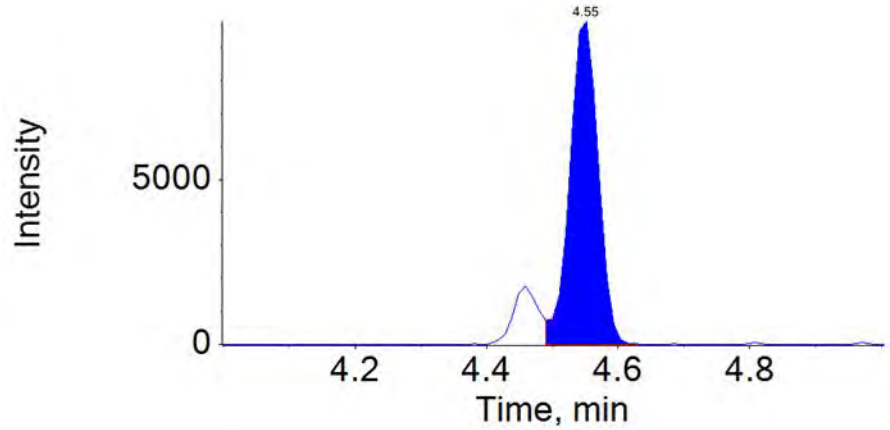
**Results Table Name:** 18NOV13DCCV1-4
**Results Table Date:** 11/13/2018 4:25:30 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
4:2-FTS
**RT (min.):**
4.12
**Peak Area:**
9681.3
**Mass Range:**
327.0 / 307.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2



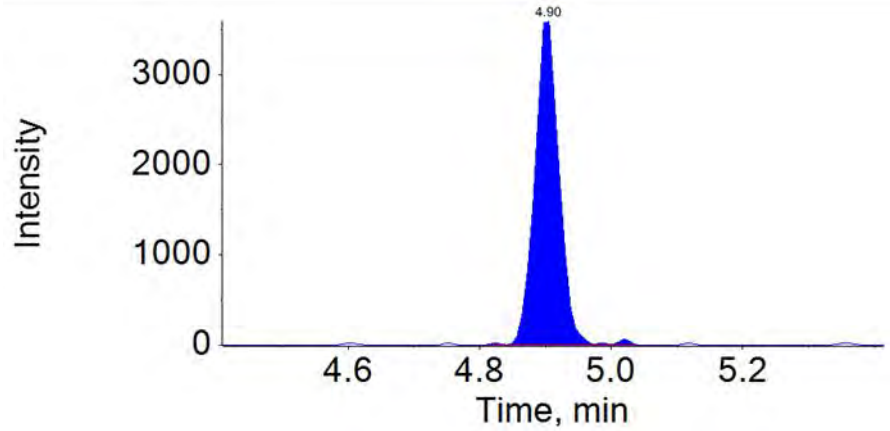

**Integration Comment:** incorrect integration

**Component Name:**
PFHxS
**RT (min.):**
4.55
**Peak Area:**
29488.0
**Mass Range:**
399.0 / 80.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2




**Integration Comment:** incorrect integration

**Component Name:**
6:2-FTS
**RT (min.):**
4.90
**Peak Area:**
9370.4
**Mass Range:**
427.0 / 407.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2




**Integration Comment:** incorrect integration

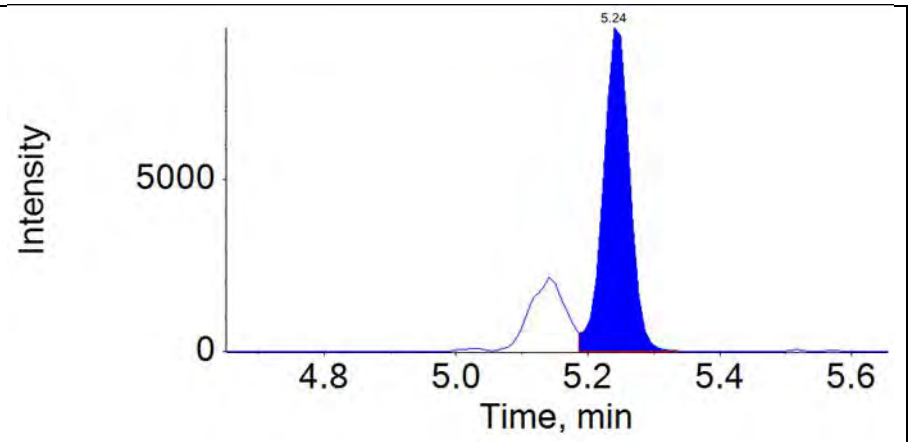
APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

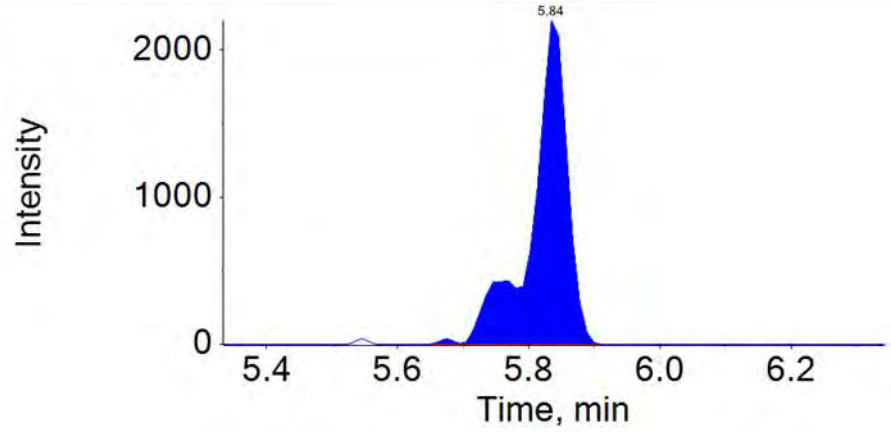
**Results Table Name:** 18NOV13DCCV1-4
**Results Table Date:** 11/13/2018 4:25:30 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFOS
**RT (min.):**
5.24
**Peak Area:**
26298.4
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2



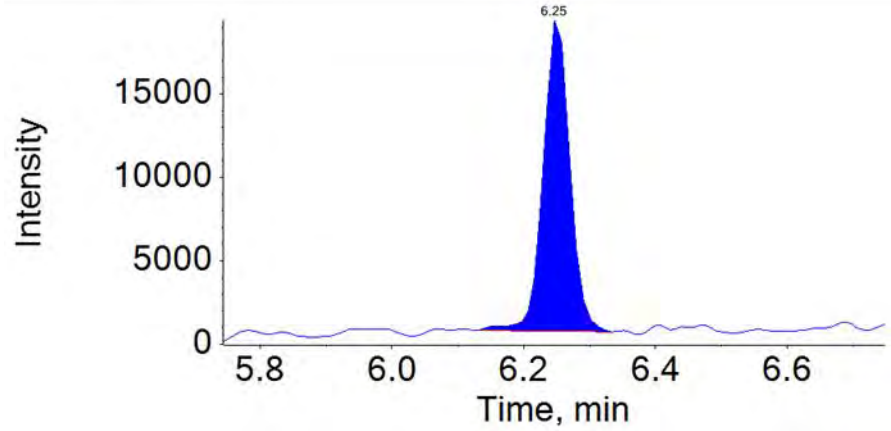

**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA
**RT (min.):**
5.84
**Peak Area:**
8449.1
**Mass Range:**
584.0 / 419.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2




**Integration Comment:** incorrect integration

**Component Name:**
PFTrDA
**RT (min.):**
6.25
**Peak Area:**
52734.4
**Mass Range:**
663.0 / 619.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2




**Integration Comment:** incorrect integration

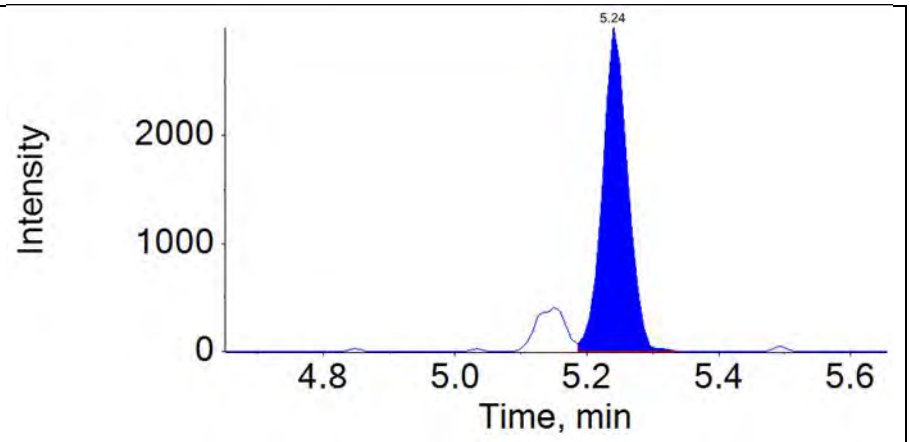
APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

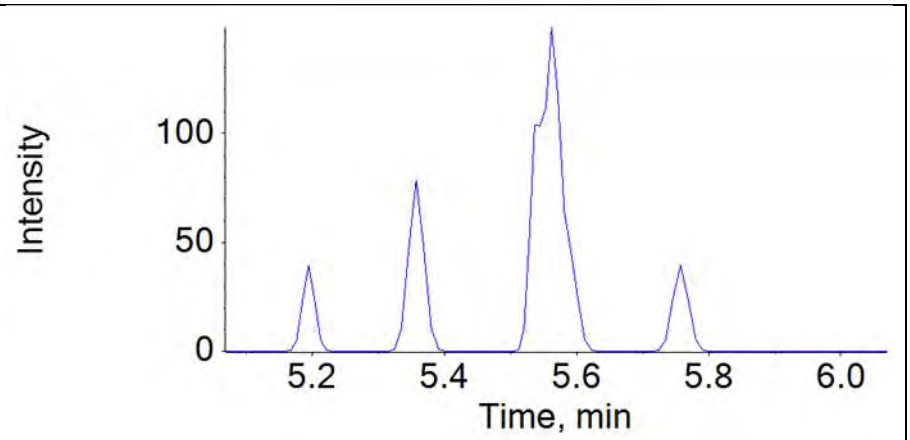
**Results Table Name:** 18NOV13DCCV1-4
**Results Table Date:** 11/13/2018 4:25:30 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFOS_2
**RT (min.):**
5.24
**Peak Area:**
7996.8
**Mass Range:**
499.0 / 99.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2



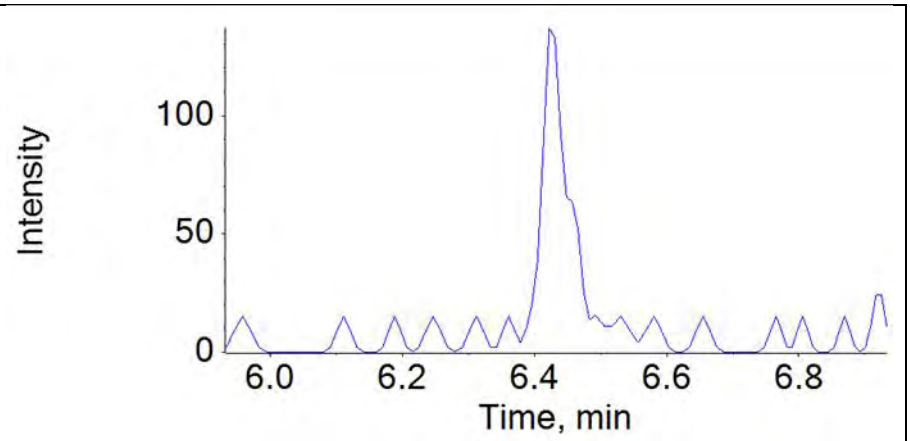

**Integration Comment:** incorrect integration

**Component Name:**
PFDA_2
**RT (min.):**
N/A
**Peak Area:**
N/A
**Mass Range:**
513.0 / 169.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2




**Integration Comment:** incorrect integration

**Component Name:**
PFTeDA_2
**RT (min.):**
N/A
**Peak Area:**
N/A
**Mass Range:**
713.0 / 169.0
**File Name:**
18NOV13D-05.wiff
**Sample Name:**
CCV1_ISC_CAL2




**Integration Comment:** incorrect integration

APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**Results Table Name:** 18NOV13DCCV1-4
**Results Table Date:** 11/13/2018 4:25:30 PM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

## Ion Ratio Report

**Sample Name:** CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV13D-05.wiff

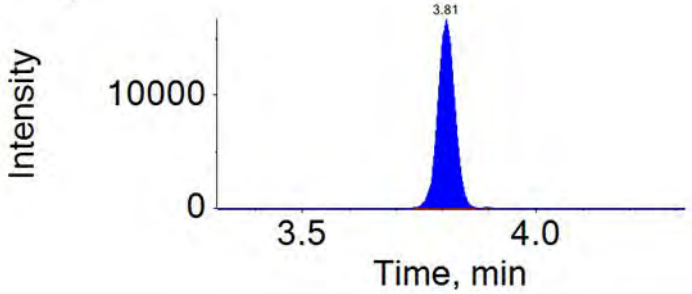
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 41984.3 | A | N/A | 1.0000 | | | |
| PFBS_2 | 3.81 | 1.00 | 15769.1 | A | N/A | 0.3756 | 3 | 50 | |
| 4:2-FTS | 4.12 | 1.00 | 9629.9 | M | N/A | 1.0000 | | | |
| 4:2 FTS_2 | 4.12 | 1.00 | 7594.0 | A | N/A | 0.7886 | | #NA! | |
| PFHxA | 4.16 | 1.00 | 96444.0 | A | N/A | 1.0000 | | | |
| PFHxA_2 | 4.16 | 1.00 | 1277.6 | A | N/A | 0.0132 | 13 | 50 | |
| PFPeS | 4.18 | 1.10 | 22297.9 | A | N/A | 1.0000 | | | |
| PFPeS_2 | 4.18 | 1.10 | 10707.8 | A | N/A | 0.4802 | -8 | 50 | |
| PFHpA | 4.55 | 1.00 | 93659.5 | A | N/A | 1.0000 | | | |
| PFHpA_2 | 4.55 | 1.00 | 4377.9 | A | N/A | 0.0467 | -17 | 50 | |
| PFHxS | 4.55 | 1.00 | 34111.0 | M | N/A | 1.0000 | | | |
| PFHxS_2 | 4.54 | 1.00 | 11982.0 | A | N/A | 0.3513 | 16 | 50 | |
| 6:2-FTS | 4.90 | 1.00 | 9221.0 | M | N/A | 1.0000 | | | |
| 6:2 FTS_2 | 4.91 | 1.00 | 4725.6 | A | N/A | 0.5125 | | #NA! | |
| PFHpS | 4.91 | 1.08 | 30798.1 | A | N/A | 1.0000 | | | |
| PFHpS_2 | 4.91 | 1.08 | 13327.9 | A | N/A | 0.4328 | 6 | 50 | |
| PFOA | 4.92 | 1.00 | 100905.0 | A | N/A | 1.0000 | | | |
| PFOA_2 | 4.91 | 1.00 | 5004.1 | A | N/A | 0.0496 | -13 | 50 | |
| PFOS | 5.24 | 1.00 | 34555.4 | M | N/A | 1.0000 | | | |
| PFOS_2 | 5.24 | 1.00 | 9315.9 | M | N/A | 0.2696 | 4 | 50 | |
| PFNA | 5.26 | 1.00 | 70400.6 | A | N/A | 1.0000 | | | |
| PFNA_2 | 5.25 | 1.00 | 1189.7 | A | N/A | 0.0169 | -26 | 50 | |
| PFNS | 5.54 | 1.06 | 17583.2 | A | N/A | 1.0000 | | | |
| PFNS_2 | 5.54 | 1.06 | 8054.2 | A | N/A | 0.4581 | -4 | 50 | |
| PFDA | 5.56 | 1.00 | 68441.3 | A | N/A | 1.0000 | | | |
| PFDA_2 | 5.56 | 1.00 | 425.8 | M | N/A | 0.0062 | -22 | 50 | |
| 8:2-FTS | 5.56 | 1.00 | 5551.6 | A | N/A | 1.0000 | | | |
| 8:2 FTS_2 | 5.56 | 1.00 | 3895.7 | A | N/A | 0.7017 | | #NA! | |
| NMeFOSAA | 5.71 | 1.00 | 7238.6 | A | N/A | 1.0000 | | | |
| NMeFOSAA_2 | 5.70 | 1.00 | 1290.9 | A | N/A | 0.1783 | -16 | 50 | |
| PFDS | 5.80 | 1.11 | 14746.9 | A | N/A | 1.0000 | | | |
| PFDS_2 | 5.79 | 1.11 | 7890.7 | A | N/A | 0.5351 | 5 | 50 | |
| PFUnDA | 5.82 | 1.00 | 55065.8 | A | N/A | 1.0000 | | | |
| PFUnDA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| NEtFOSAA | 5.84 | 1.00 | 8391.3 | M | N/A | 1.0000 | | | |
| NEtFOSAA_2 | 5.84 | 1.00 | 4219.2 | A | N/A | 0.5028 | -13 | 50 | |
| PFDoDA | 6.05 | 1.00 | 63306.6 | A | N/A | 1.0000 | | | |
| PFDoDA_2 | 6.06 | 1.00 | 973.7 | A | N/A | 0.0154 | -6 | 50 | |
| 10:2-FTS | 6.07 | 1.09 | 4315.1 | A | N/A | 1.0000 | | | |
| 10:2 FTS_2 | 6.06 | 1.09 | 3603.0 | A | N/A | 0.8350 | | #NA! | |
| PFTrDA | 6.25 | 1.03 | 52911.8 | M | N/A | 1.0000 | | | |
| PFTrDA_2 | 6.25 | 1.03 | 567.3 | A | N/A | 0.0107 | 16 | 50 | |
| PFTeDA | 6.43 | 1.00 | 38686.6 | A | N/A | 1.0000 | | | |
| PFTeDA_2 | 6.43 | 1.00 | 380.7 | M | N/A | 0.0098 | 54 | 50 | OOS |
| PFHxDA | 6.73 | 1.05 | 18605.8 | A | N/A | 1.0000 | | | |
| PFHxDA_2 | 6.73 | 1.05 | 1083.6 | A | N/A | 0.0582 | -14 | 50 | |
| PFODA | 6.99 | 1.09 | 15935.1 | A | N/A | 1.0000 | | | |
| PFODA_2 | 6.99 | 1.09 | 437.9 | A | N/A | 0.0275 | 2 | 50 | |

APPROVED
*By JPT at 4:33 pm, 11/13/18*

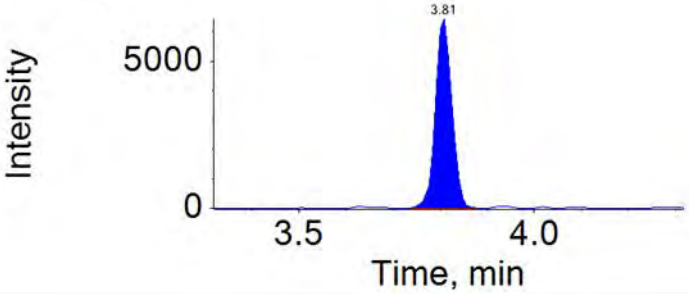


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

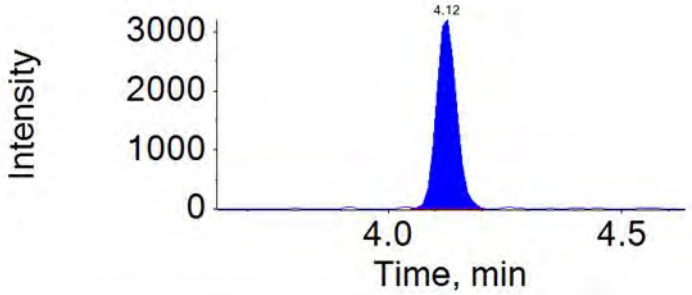
Component: PFBS
Primary Mass: 299.0 / 80.0



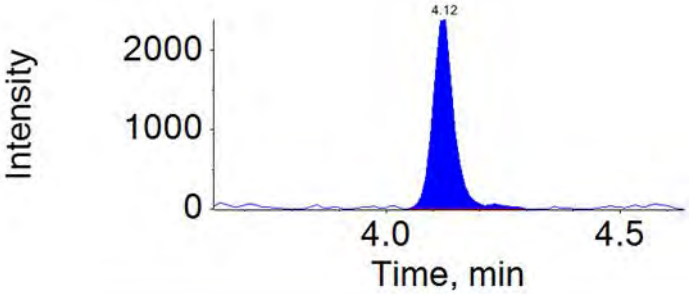

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



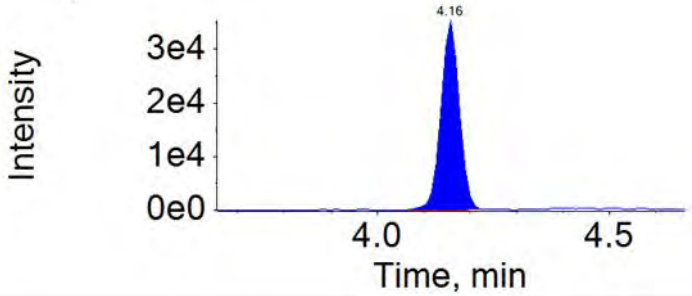

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



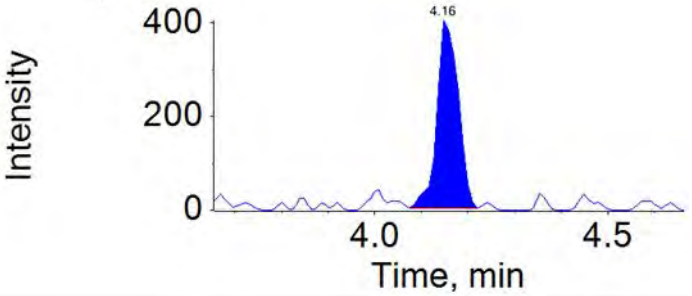

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



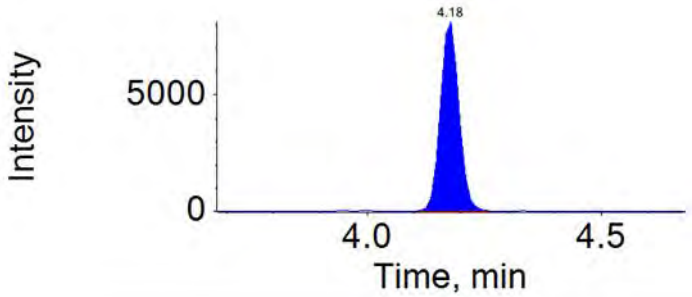

Component: PFHxA
Primary Mass: 313.0 / 269.0



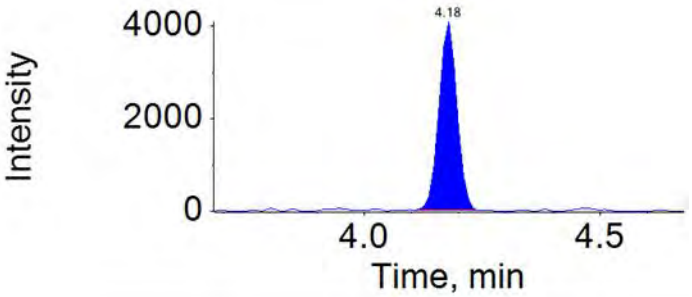

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

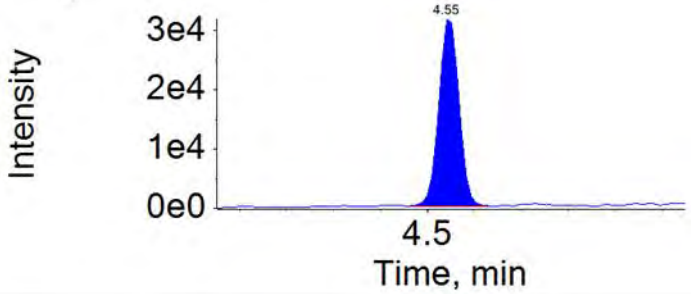



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*By JPT at 4:33 pm, 11/13/18*

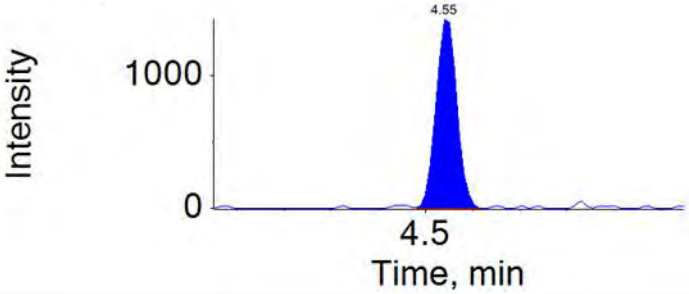


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

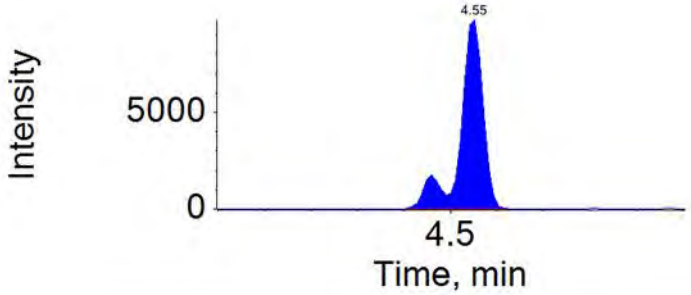
Component: PFHpA
Primary Mass: 363.0 / 319.0



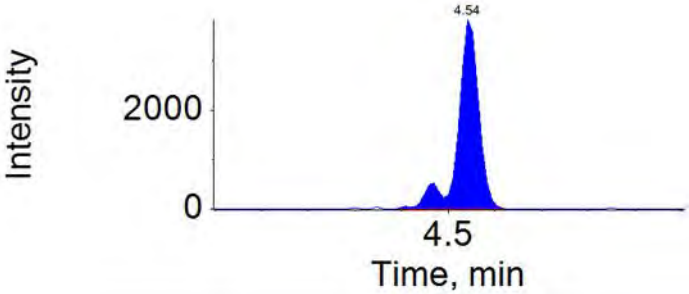

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



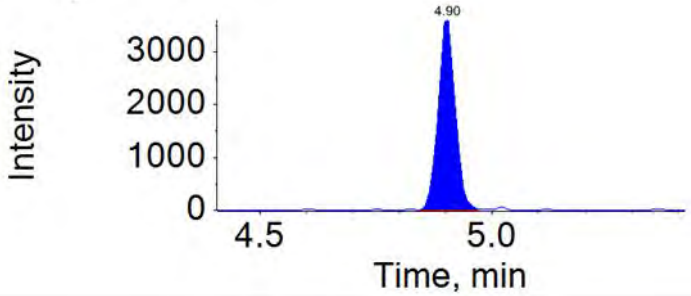

Component: PFHxS
Primary Mass: 399.0 / 80.0



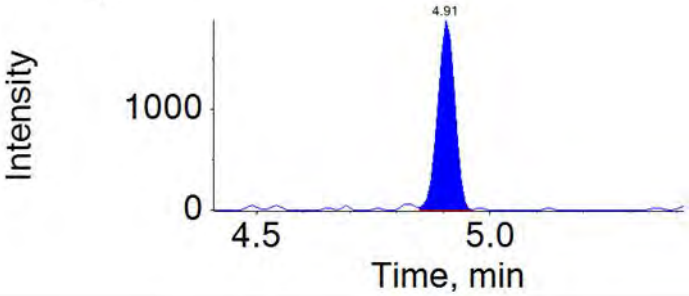

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



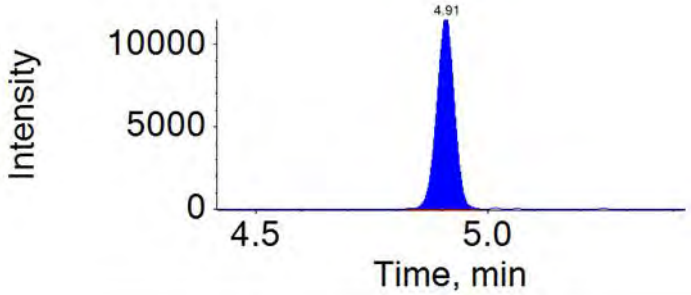

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



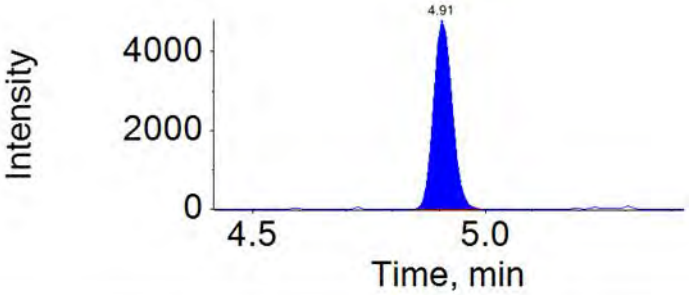

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

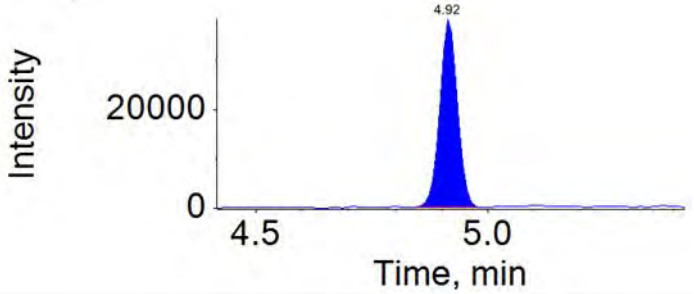



APPROVED
*By JPT at 4:33 pm, 11/13/18*

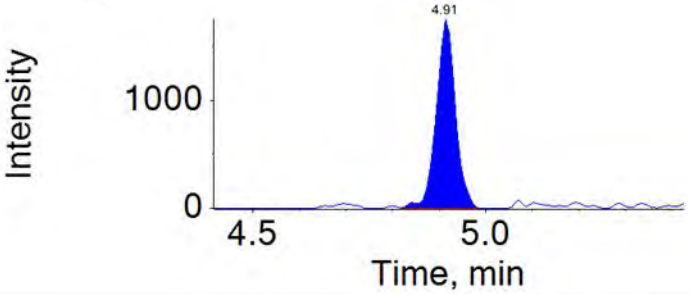


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

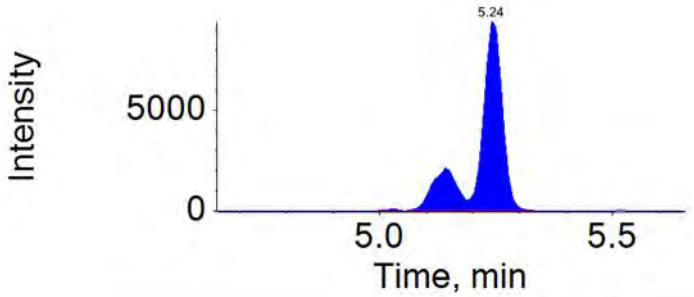
Component: PFOA
Primary Mass: 413.0 / 369.0



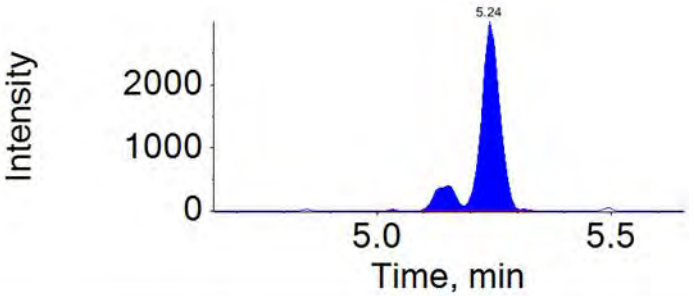

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



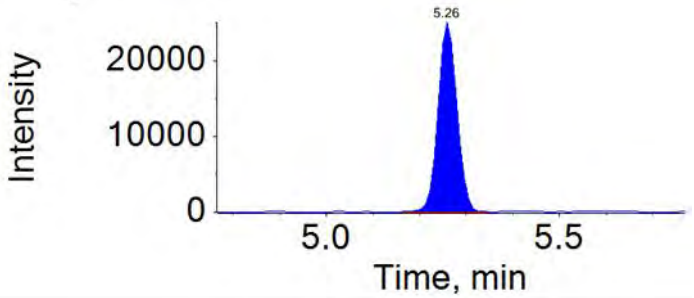

Component: PFOS
Primary Mass: 499.0 / 80.0



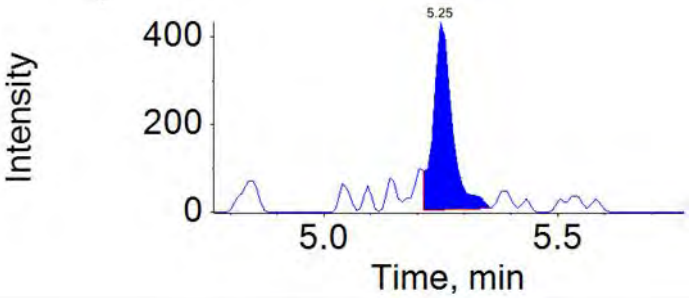

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



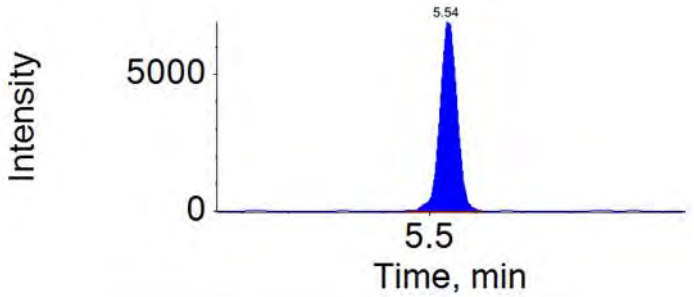

Component: PFNA
Primary Mass: 463.0 / 419.0



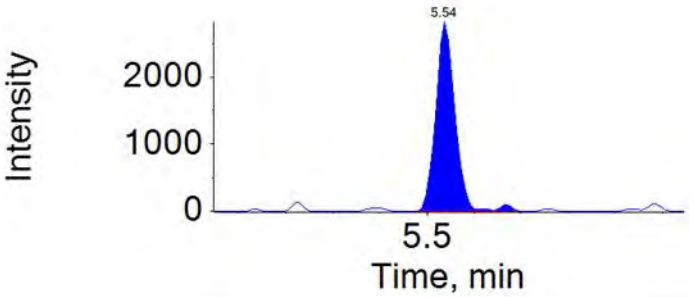

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

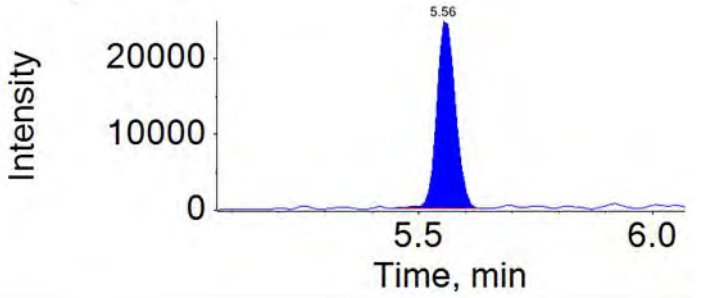



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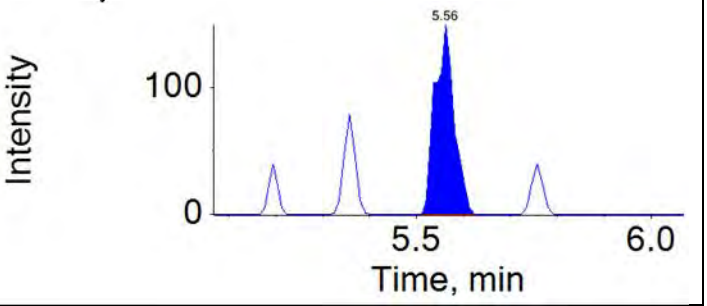


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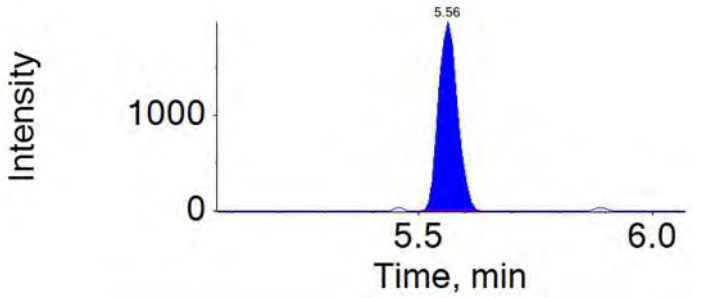
Component: PFDA
Primary Mass: 513.0 / 469.0



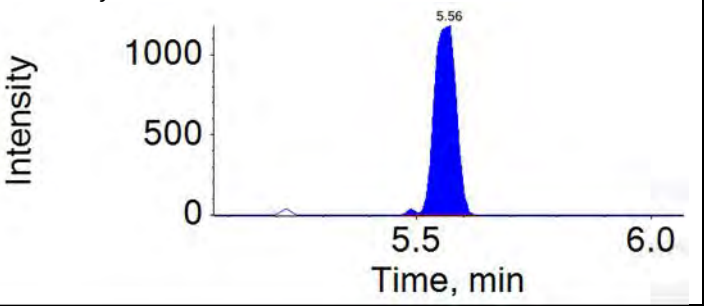

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



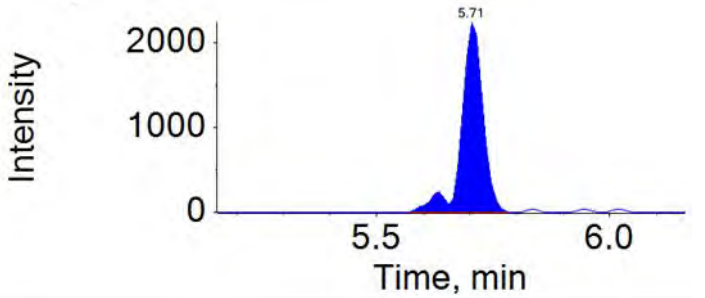

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



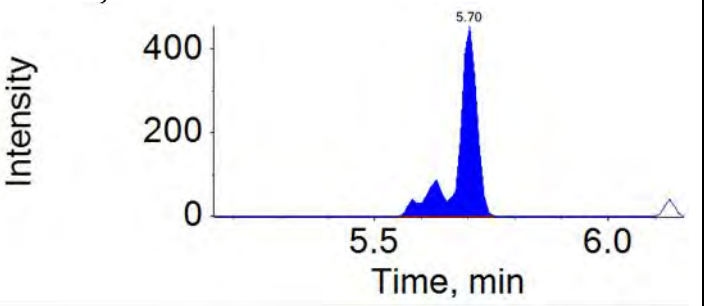

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



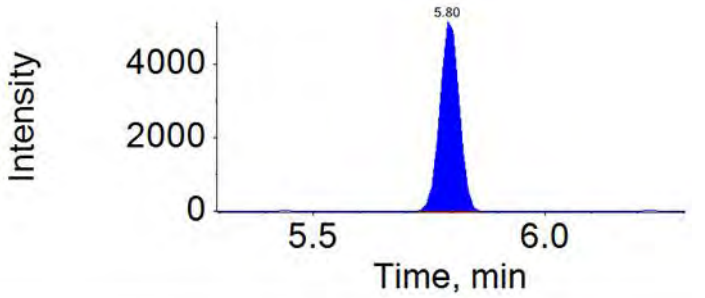

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



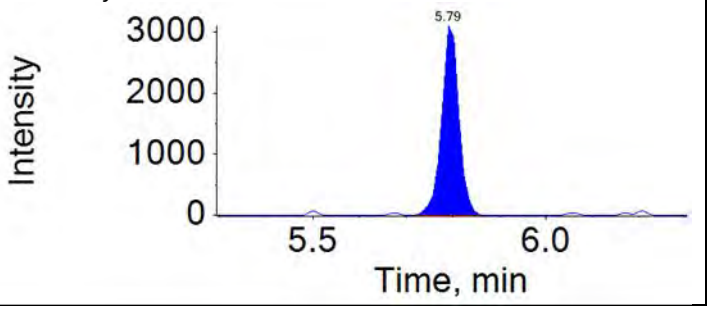

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

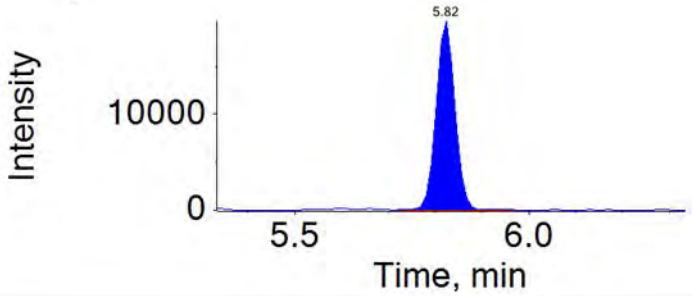



APPROVED
*By JPT at 4:33 pm, 11/13/18*

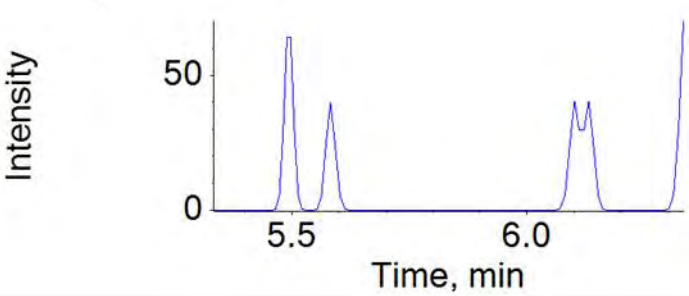


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

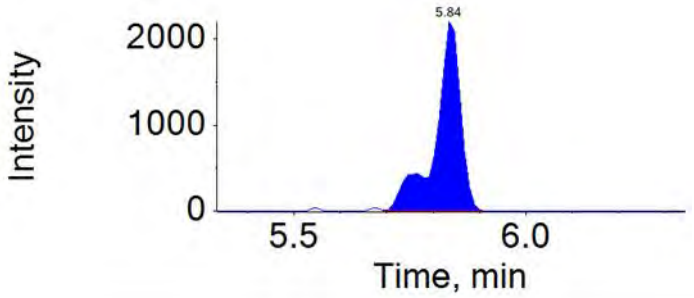
Component: PFUnDA
Primary Mass: 563.0 / 519.0



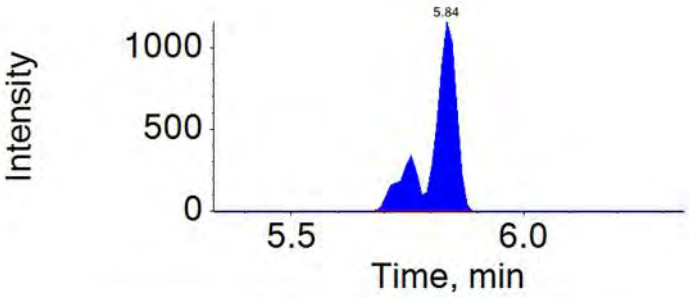

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



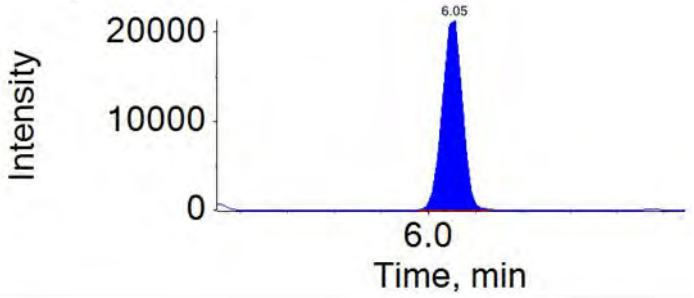

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



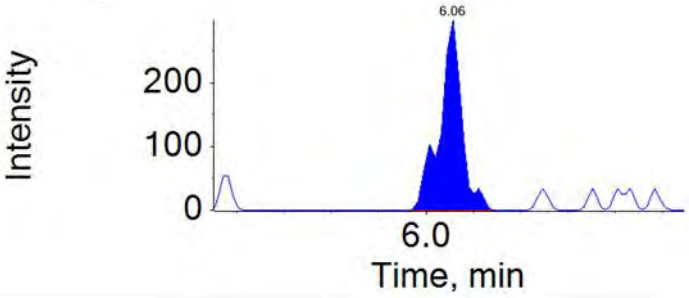

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



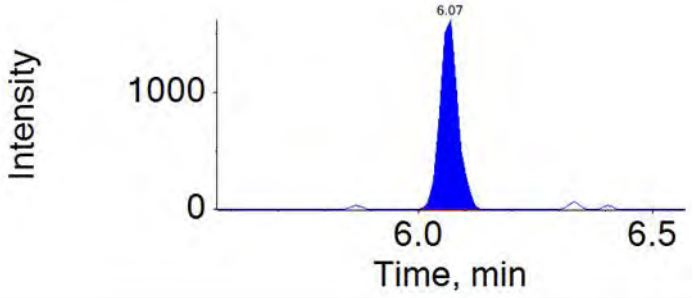

Component: PFDoDA
Primary Mass: 613.0 / 569.0



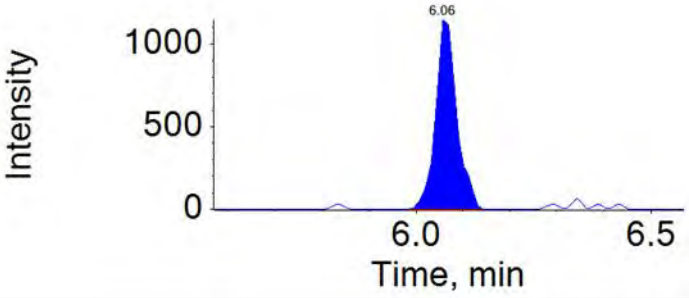

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

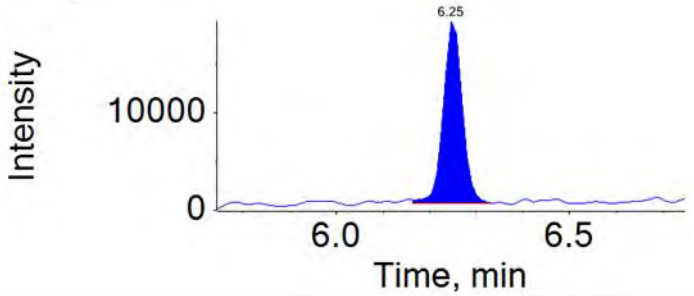



APPROVED
*By JPT at 4:33 pm, 11/13/18*

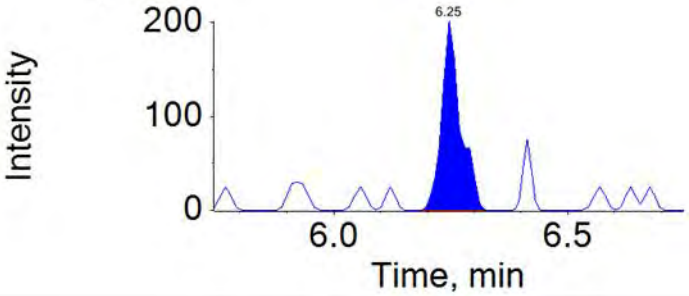


REVIEWED
*By HMK at 1:48 pm, 11/14/18*

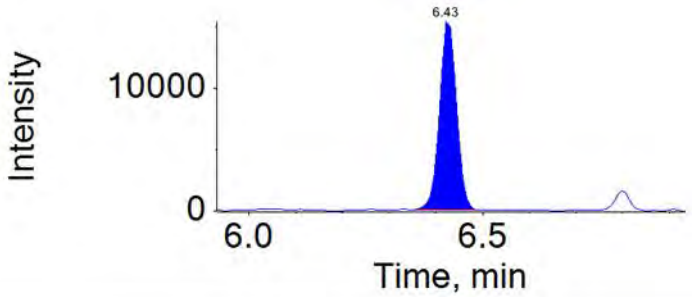
Component: PFTrDA
Primary Mass: 663.0 / 619.0



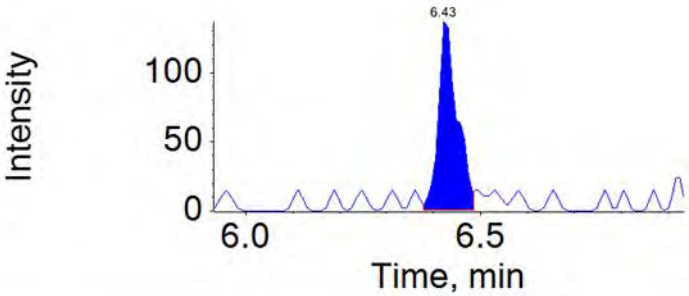

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



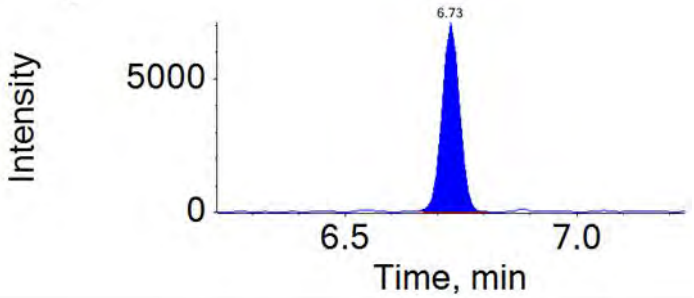

Component: PFTeDA
Primary Mass: 713.0 / 669.0



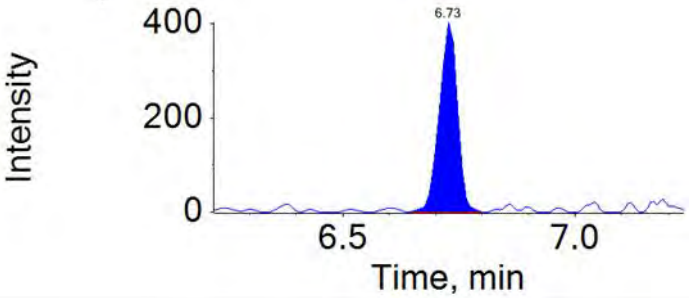

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



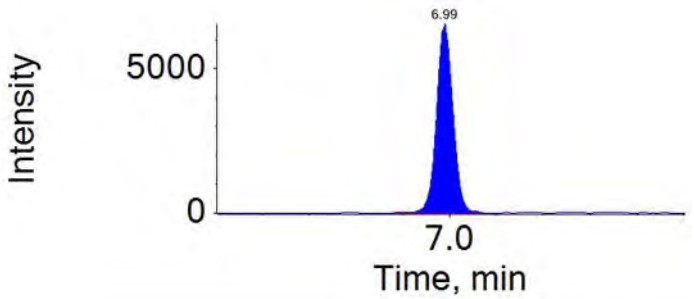

Component: PFHxDA
Primary Mass: 813.0 / 769.0



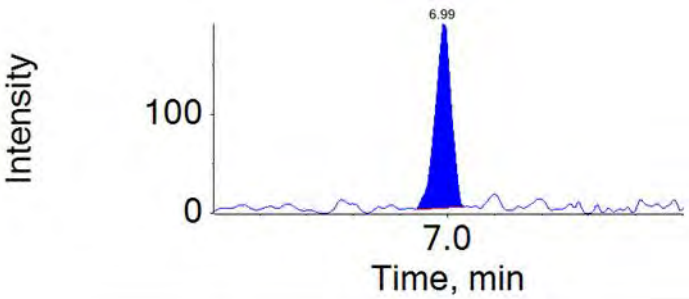

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By HMK at 1:48 pm, 11/14/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | INBLK | | | **Data File:** | | 18NOV13D-06.wiff |
| **Sample ID:** | methanol + labels | | | **Acquis Date:** | | 2018-11-13T09:53:05 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 1 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV13DCCV1-4 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 712182.6 | 661126.9 | 8 | 50 | |
| 13C2-PFOA | 5.0 | 517114.2 | 466902.6 | 11 | 50 | |
| 13C4-PFOS | 4.8 | 271947.8 | 247446.9 | 10 | 50 | |
| 13C2-PFDA | 5.0 | 309024.7 | 295381.6 | 5 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 788556.3 | 13C3-PFBA | 712182.6 | 1.107 | 5.000 | 4.964 | 99 | 70-130 | |
| E13C5-PFPeA | 789796.7 | 13C3-PFBA | 712182.6 | 1.109 | 5.000 | 4.974 | 99 | 70-130 | |
| E13C3-PFBS | 465118.9 | 13C3-PFBA | 712182.6 | 0.653 | 4.650 | 4.610 | 99 | 70-130 | |
| E13C2-4:2-FTS | 56775.7 | 13C2-PFOA | 517114.2 | 0.110 | 4.670 | 4.890 | 105 | 70-130 | |
| E13C5-PFHxA | 691160.9 | 13C2-PFOA | 517114.2 | 1.337 | 5.000 | 4.828 | 97 | 70-130 | |
| E13C3-PFHxS | 343877.9 | 13C2-PFOA | 517114.2 | 0.665 | 4.730 | 4.563 | 96 | 70-130 | |
| E13C4-PFHpA | 573094.5 | 13C2-PFOA | 517114.2 | 1.108 | 5.000 | 4.993 | 100 | 70-130 | |
| E13C2-6:2-FTS | 40405.9 | 13C2-PFOA | 517114.2 | 0.078 | 4.750 | 5.228 | 110 | 70-130 | |
| E13C8-PFOA | 989330.5 | 13C2-PFOA | 517114.2 | 1.913 | 5.000 | 5.271 | 105 | 70-130 | |
| E13C8-PFOS | 288721.3 | 13C4-PFOS | 271947.8 | 1.062 | 4.780 | 4.704 | 98 | 70-130 | |
| E13C9-PFNA | 496672.5 | 13C4-PFOS | 271947.8 | 1.826 | 5.000 | 5.092 | 102 | 70-130 | |
| E13C6-PFDA | 675627.9 | 13C2-PFDA | 309024.7 | 2.186 | 5.000 | 5.102 | 102 | 70-130 | |
| E13C2-8:2-FTS | 30302.5 | 13C2-PFDA | 309024.7 | 0.098 | 4.790 | 4.890 | 102 | 70-130 | |
| E13C8-PFOSA | 662561.8 | 13C2-PFDA | 309024.7 | 2.144 | 5.000 | 4.753 | 95 | 70-130 | |
| Ed3-NMeFOSAA | 77164.8 | 13C2-PFDA | 309024.7 | 0.250 | 5.000 | 4.507 | 90 | 70-130 | |
| E13C7-PFUnDA | 282164.2 | 13C2-PFDA | 309024.7 | 0.913 | 5.000 | 5.301 | 106 | 70-130 | |
| Ed5-NEtFOSAA | 63151.8 | 13C2-PFDA | 309024.7 | 0.204 | 5.000 | 4.323 | 86 | 70-130 | |
| E13C2-PFDoDA | 647992.1 | 13C2-PFDA | 309024.7 | 2.097 | 5.000 | 5.444 | 109 | 70-130 | |
| Ed7-NMePFOSAE | 342687.6 | 13C2-PFDA | 309024.7 | 1.109 | 5.000 | 4.799 | 96 | 70-130 | |
| Ed3-NMePFOSA | 79550.6 | 13C2-PFDA | 309024.7 | 0.257 | 5.000 | 4.677 | 94 | 70-130 | |
| Ed9-NEtPFOSAE | 282226.0 | 13C2-PFDA | 309024.7 | 0.913 | 5.000 | 4.750 | 95 | 70-130 | |
| Ed5-NEtPFOSA | 62508.0 | 13C2-PFDA | 309024.7 | 0.202 | 5.000 | 4.745 | 95 | 70-130 | |
| E13C2-PFTeDA | 434458.5 | 13C2-PFDA | 309024.7 | 1.406 | 5.000 | 4.936 | 99 | 70-130 | |

APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By umar at 5:40 pm, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

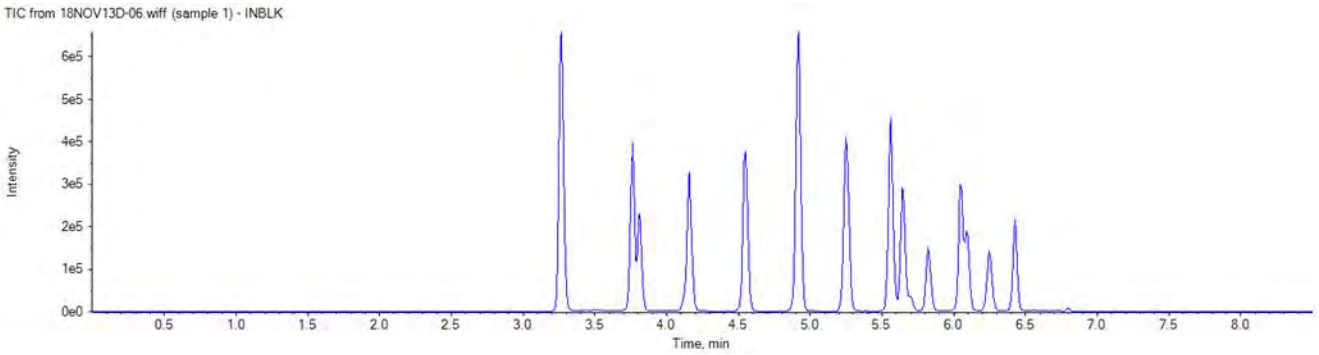
## Analyte Quantitation Peak Table

**Sample Name:** INBLK **Instrument Name:** LM27631 **File Name:** 18NOV13D-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 | 788556.3 | N/A | |
| PFPeA | N/A | N/A | N/A | | A | 13C5-PFPeA | 3.76 | 789796.7 | N/A | |
| PFBS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.81 | 465118.9 | N/A | |
| 4:2-FTS | N/A | N/A | N/A | | A | 13C2-4:2-FTS | 4.12 | 56775.7 | N/A | |
| PFHxA | N/A | N/A | N/A | | A | 13C5-PFHxA | 4.16 | 691160.9 | N/A | |
| PFPeS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.81 | 465118.9 | N/A | |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.55 | 573094.5 | N/A | |
| PFHxS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 343877.9 | N/A | |
| 6:2-FTS | N/A | N/A | N/A | | A | 13C2-6:2-FTS | 4.91 | 40405.9 | N/A | |
| PFHpS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.55 | 343877.9 | N/A | |
| PFOA | N/A | N/A | N/A | | A | 13C8-PFOA | 4.92 | 989330.5 | N/A | |
| PFOS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 288721.3 | N/A | |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.26 | 496672.5 | N/A | |
| PFNS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 288721.3 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.56 | 675627.9 | N/A | |
| 8:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.56 | 30302.5 | N/A | |
| PFOSA | N/A | N/A | N/A | | A | 13C8-PFOSA | 5.65 | 662561.8 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.70 | 77164.8 | N/A | |
| PFDS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 288721.3 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.82 | 282164.2 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.83 | 63151.8 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 647992.1 | N/A | |
| 10:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.56 | 30302.5 | N/A | |
| NMePFOSAE | N/A | N/A | N/A | | A | d7-NMePFOSAE | 6.09 | 342687.6 | N/A | |
| NMePFOSA | N/A | N/A | N/A | | A | d3-NMePFOSA | 6.10 | 79550.6 | N/A | |
| PFDoS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 288721.3 | N/A | |
| NEtPFOSAE | N/A | N/A | N/A | | A | d9-NEtPFOSAE | 6.25 | 282226.0 | N/A | |
| NEtPFOSA | N/A | N/A | N/A | | A | d5-NEtPFOSA | 6.26 | 62508.0 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 647992.1 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.43 | 434458.5 | N/A | |
| PFHxDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.43 | 434458.5 | N/A | |
| PFODA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.43 | 434458.5 | N/A | |

## Total Ion Chromatogram



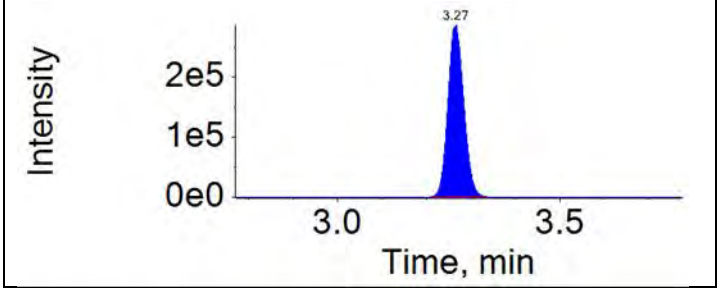

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*By JPT at 4:33 pm, 11/13/18*



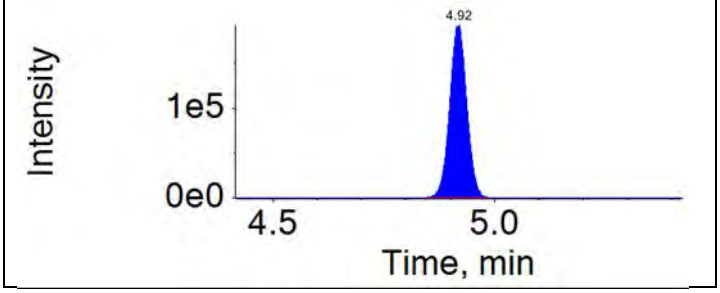
REVIEWED
*By umar at 5:40 pm, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

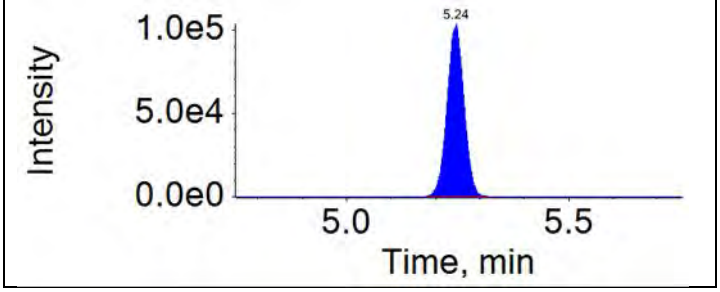
Injection Standard: 13C3-PFBA
216.0 / 172.0



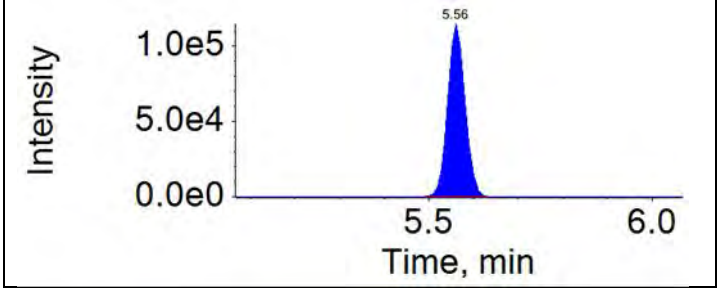

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

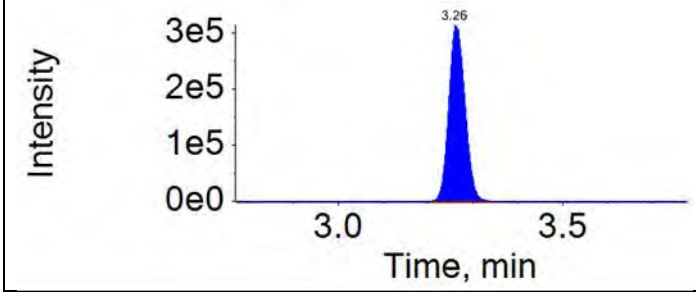
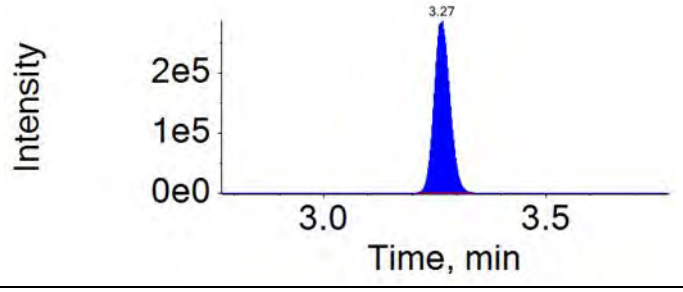



APPROVED
*By JPT at 4:33 pm, 11/13/18*



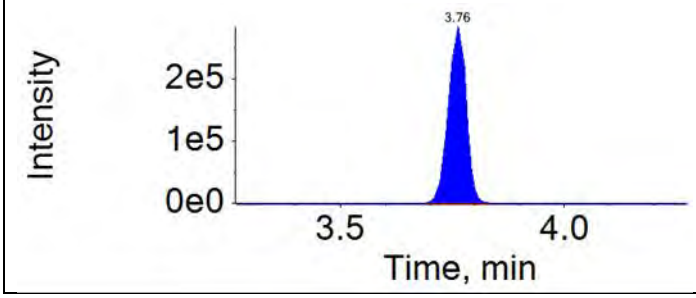
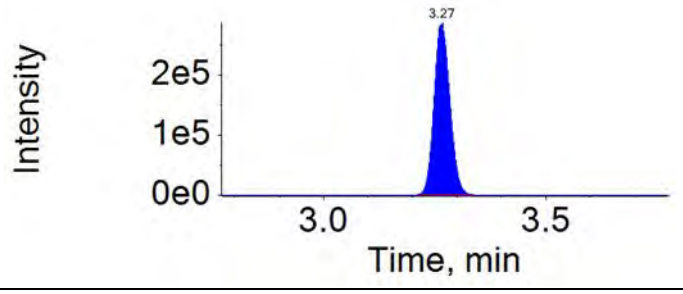
REVIEWED
*By umar at 5:40 pm, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |
|  |  |

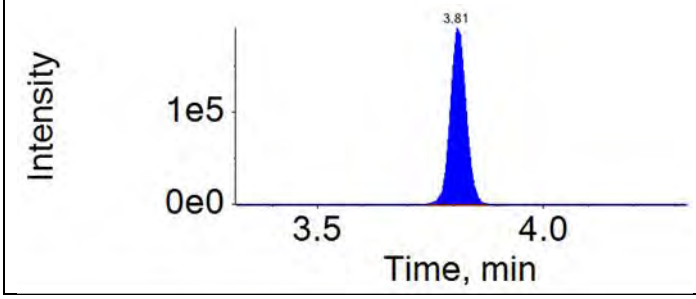
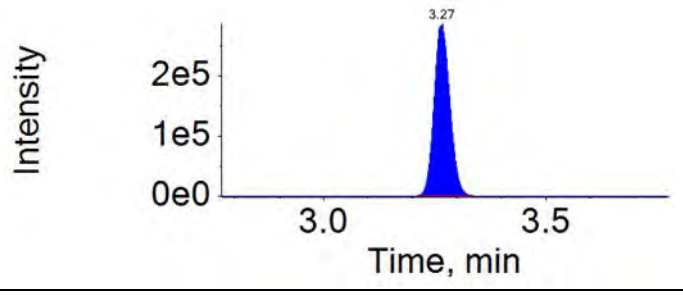




| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |
|  |  |

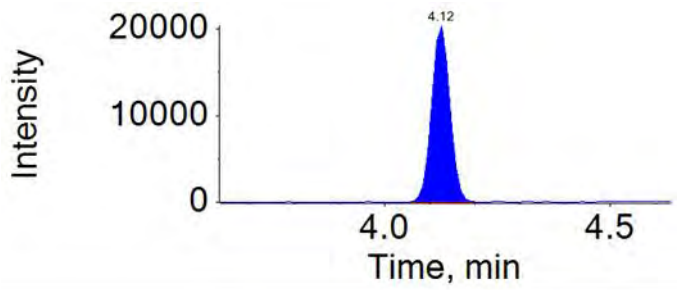
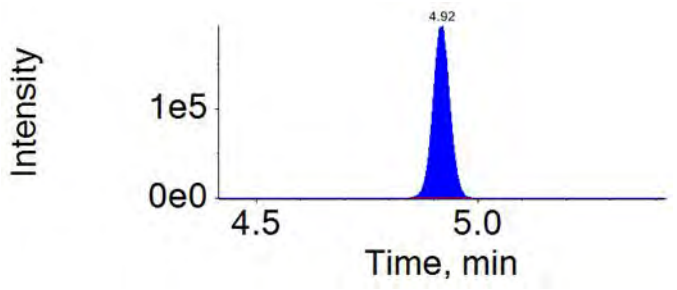




| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |
|  |  |





| Extraction Standard: E13C2-4:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 329.0 / 81.0 | 415.0 / 370.0 |
|  |  |





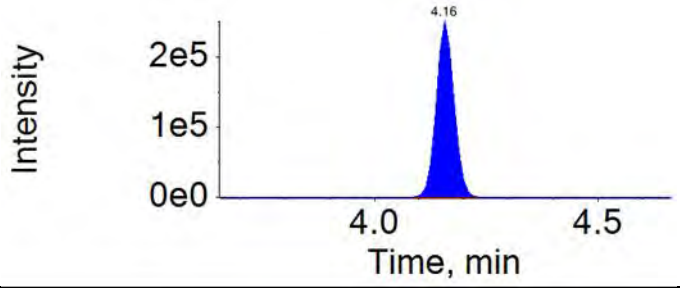
APPROVED
*By JPT at 4:33 pm, 11/13/18*

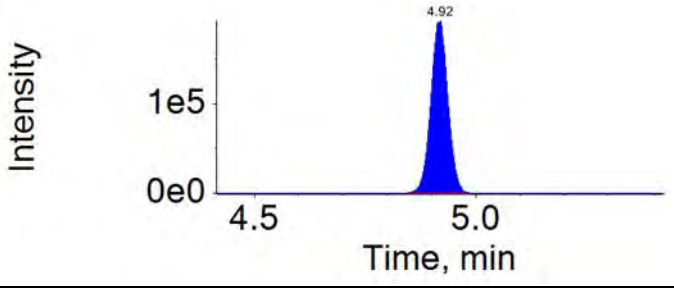


REVIEWED
*By umar at 5:40 pm, 11/13/18*

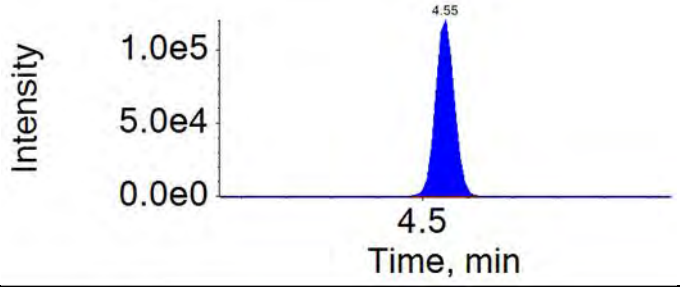
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

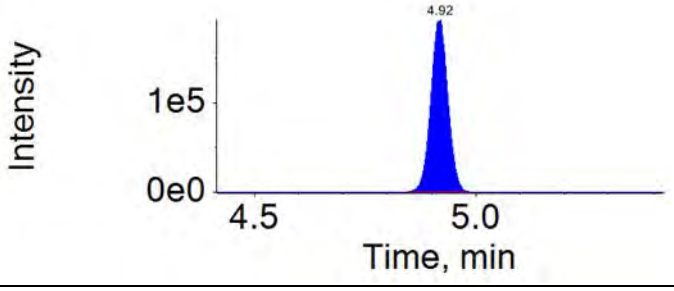
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



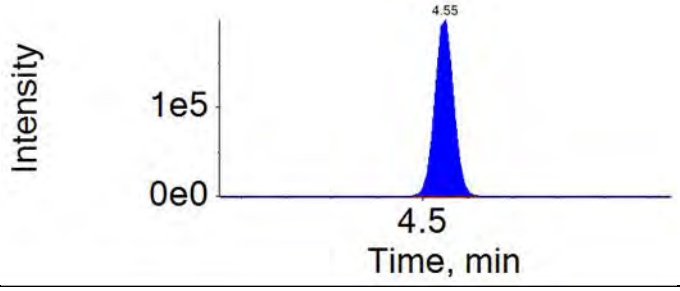



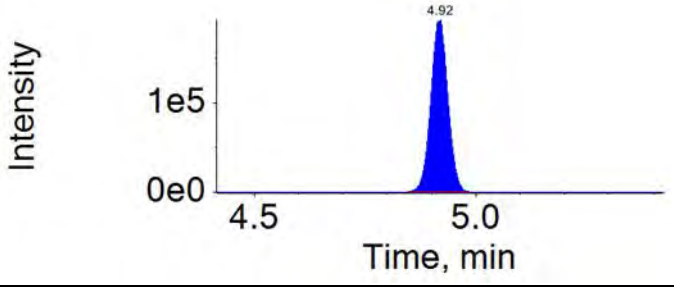

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



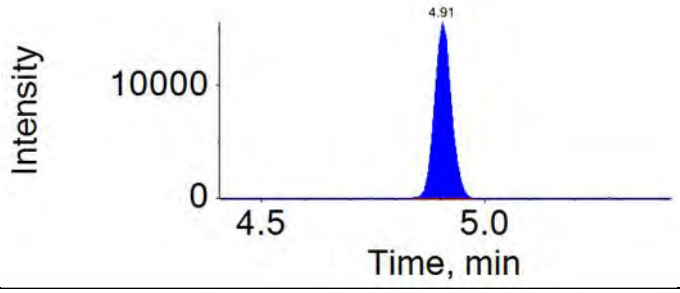



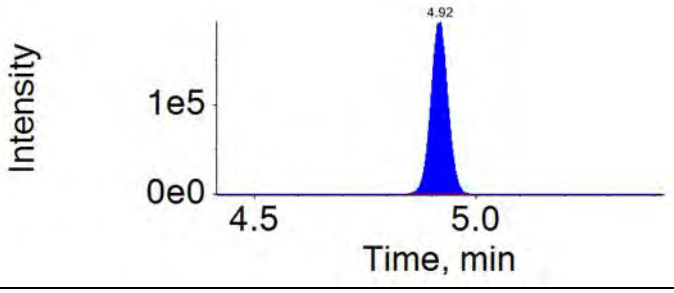

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




| Extraction Standard: E13C2-6:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 429.0 / 81.0 | 415.0 / 370.0 |



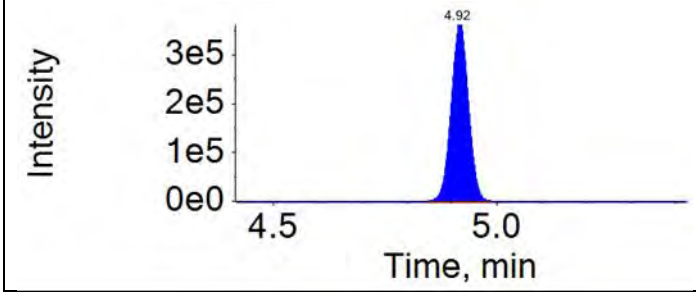
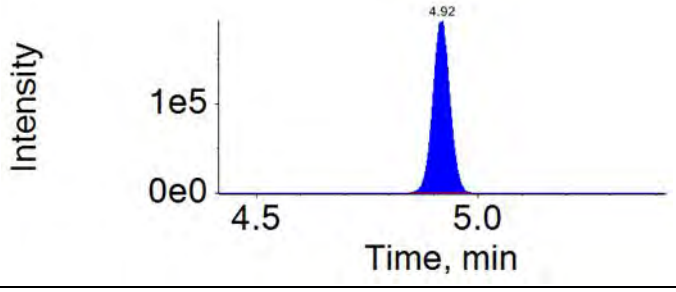




APPROVED
*By JPT at 4:33 pm, 11/13/18*



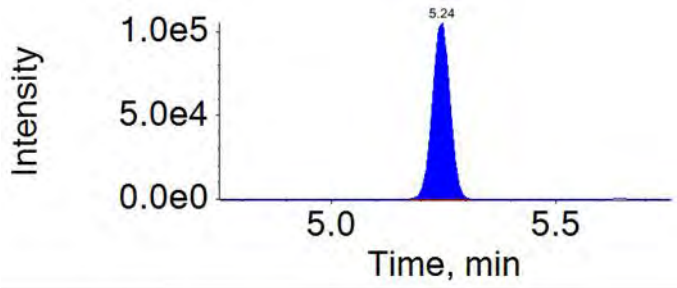
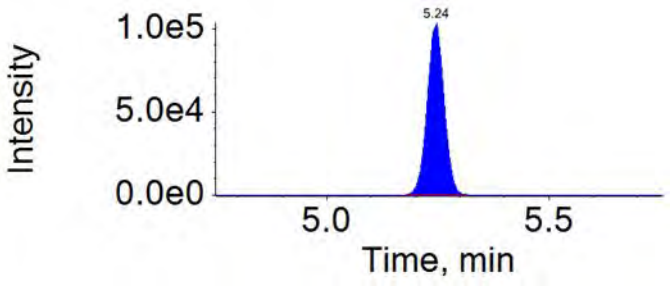
REVIEWED
*By umar at 5:40 pm, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

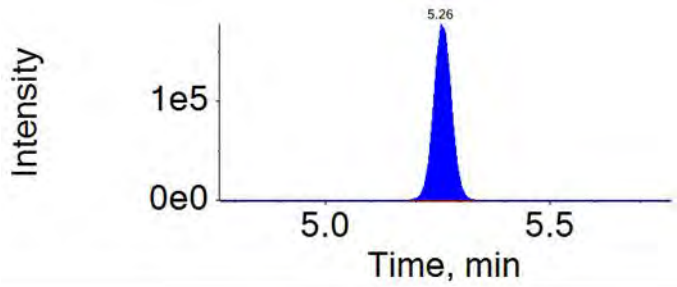
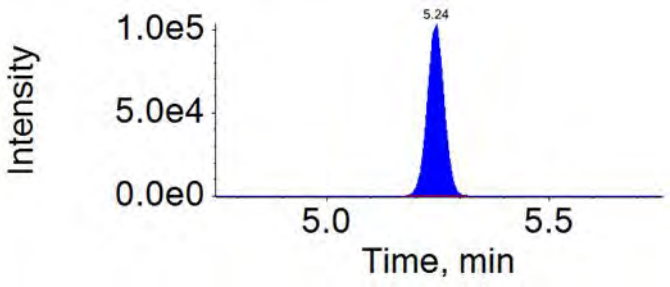




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

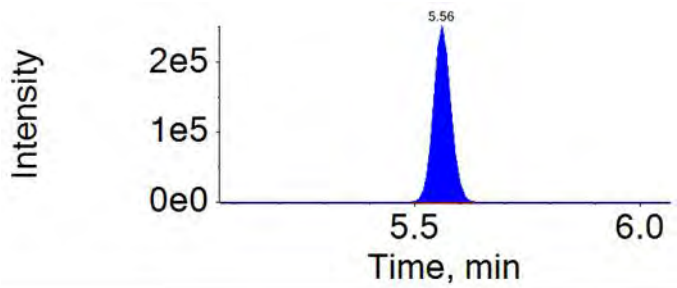
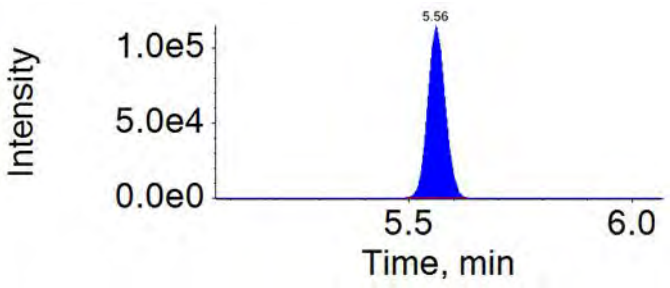




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |



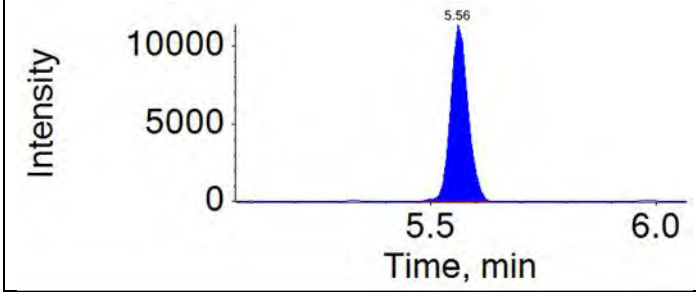
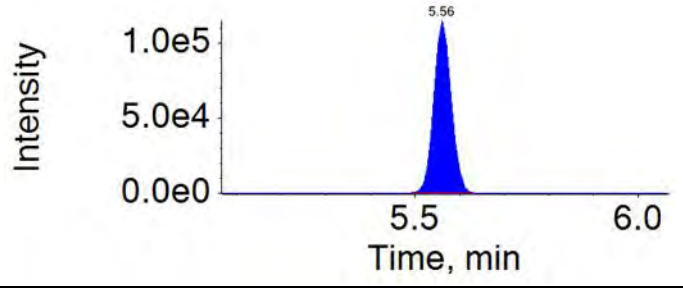


APPROVED
*By JPT at 4:33 pm, 11/13/18*



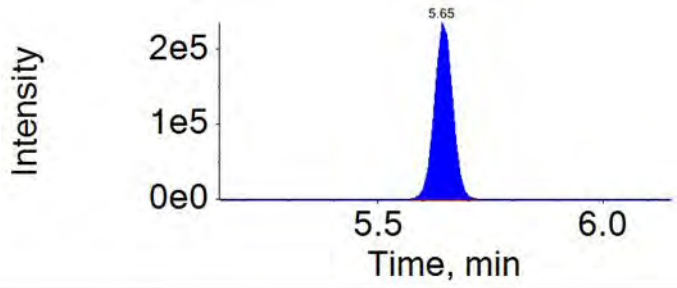
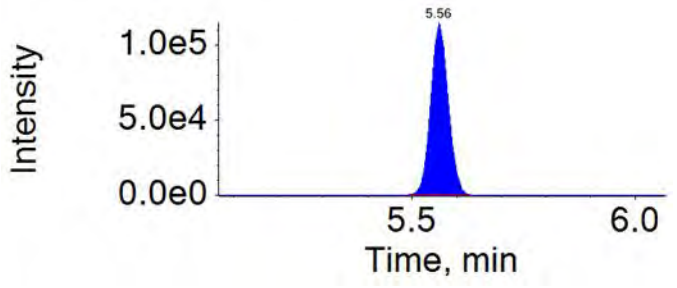
REVIEWED
*By umar at 5:40 pm, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

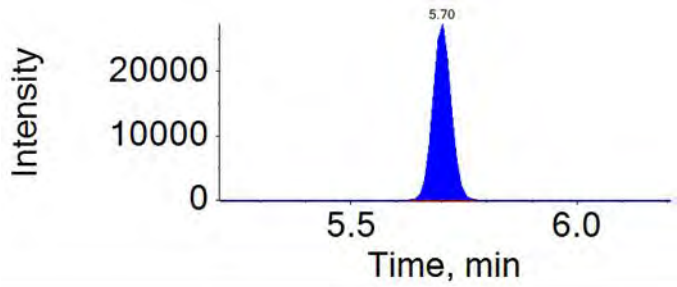
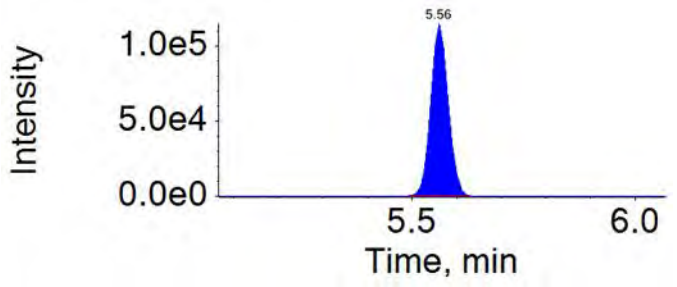




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

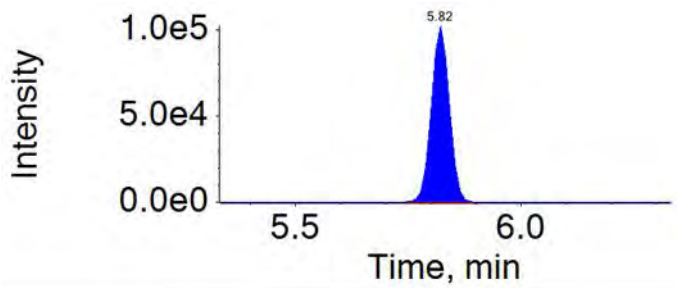
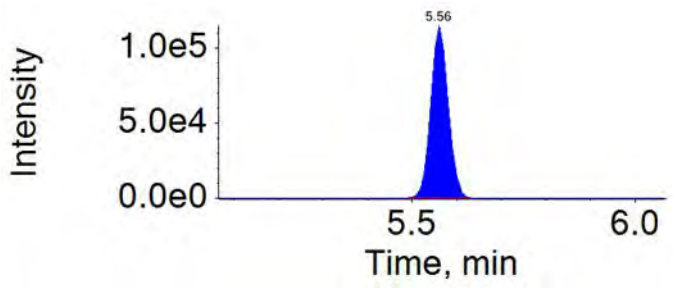




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |





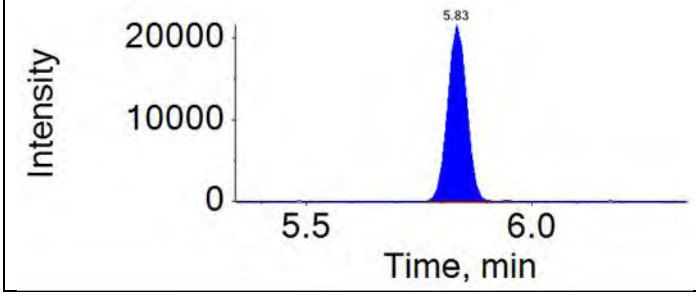
APPROVED
*By JPT at 4:33 pm, 11/13/18*

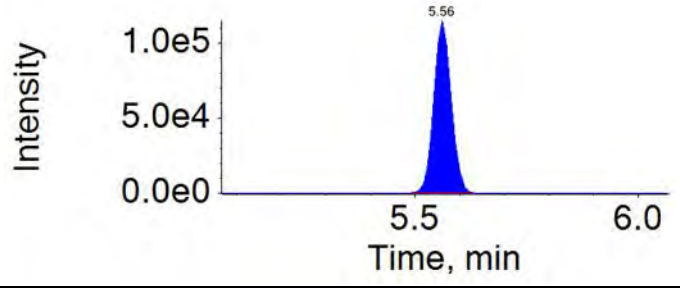


REVIEWED
*By umar at 5:40 pm, 11/13/18*

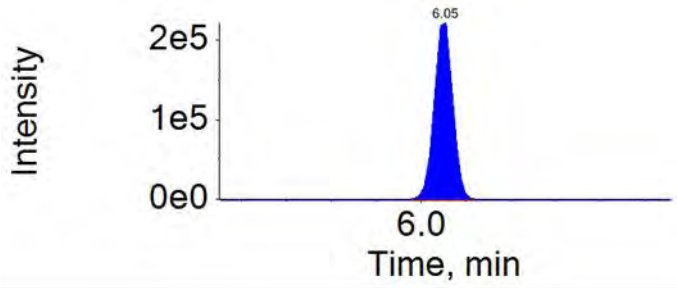
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

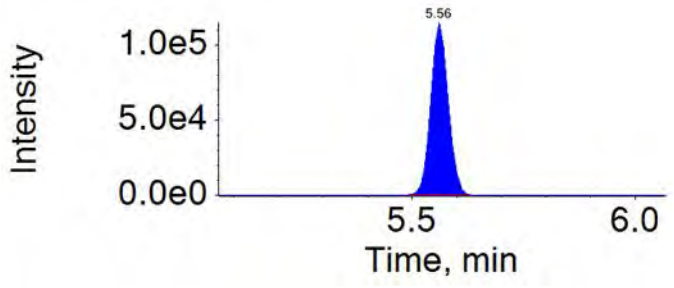
| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |



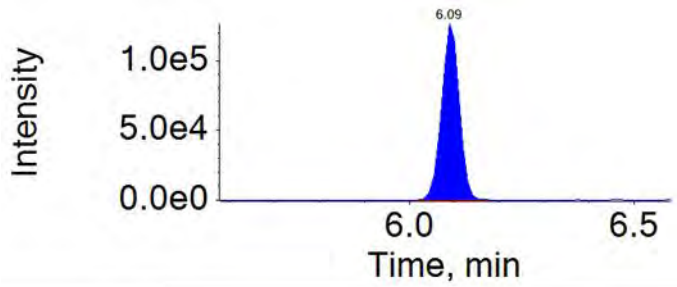



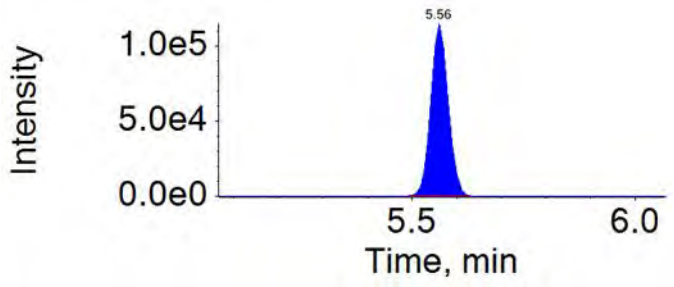

| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |



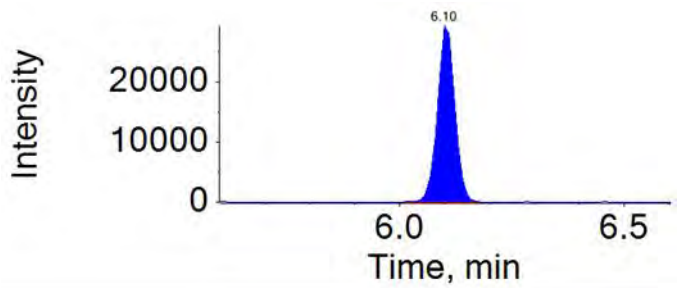



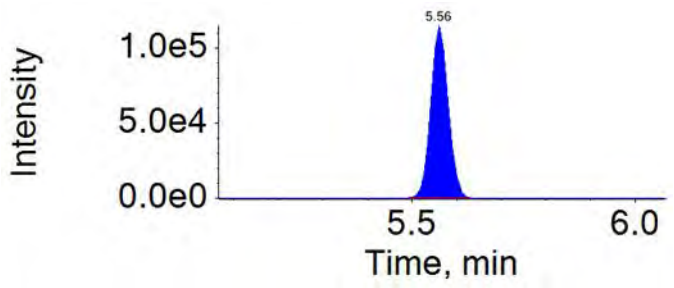

| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |




| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |



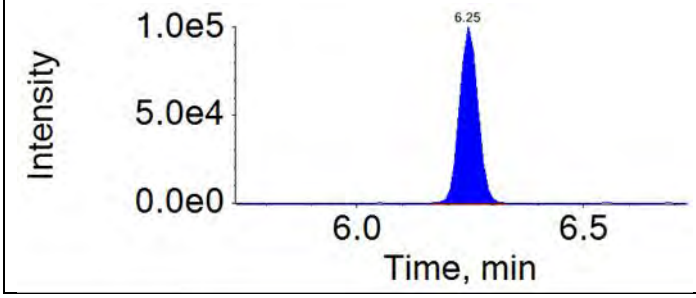

APPROVED
*By JPT at 4:33 pm, 11/13/18*

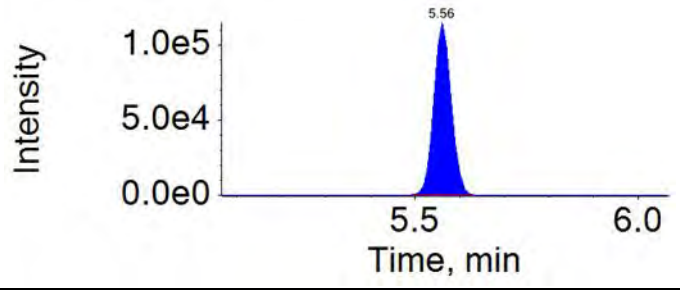


REVIEWED
*By umar at 5:40 pm, 11/13/18*

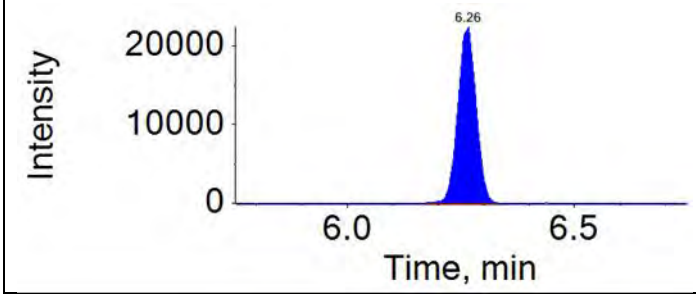
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

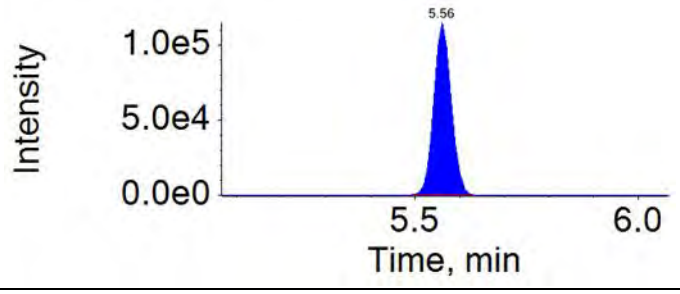
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



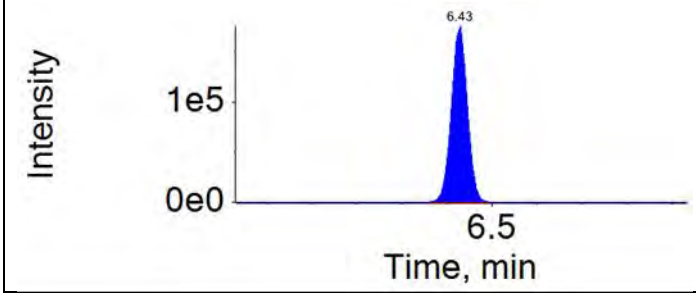



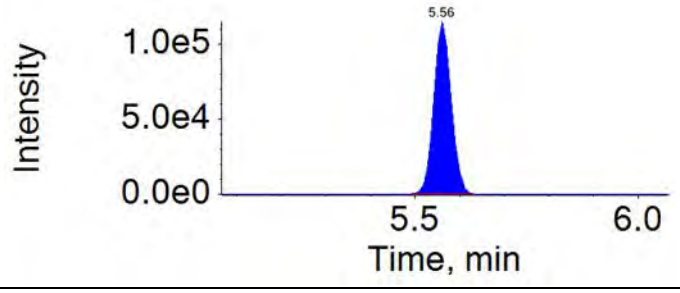

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |



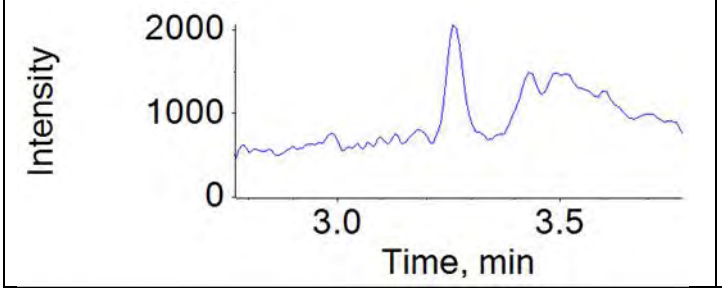

APPROVED
By JPT at 4:33 pm, 11/13/18

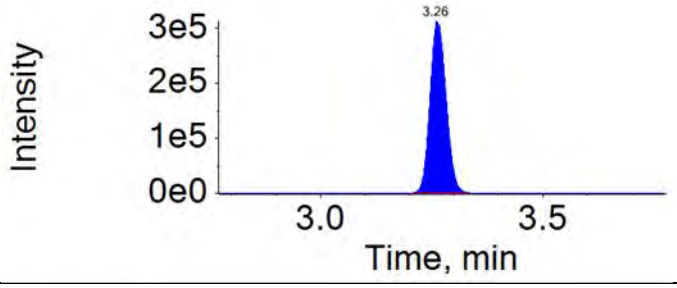


REVIEWED
By umar at 5:40 pm, 11/13/18

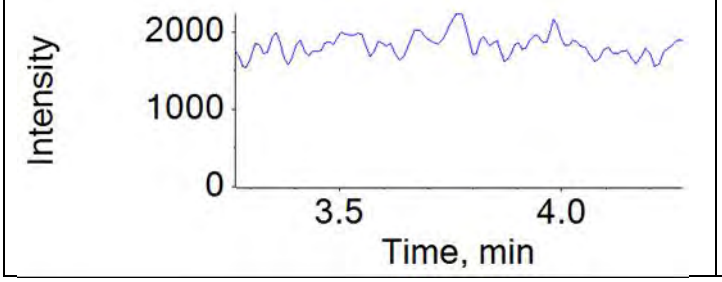
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

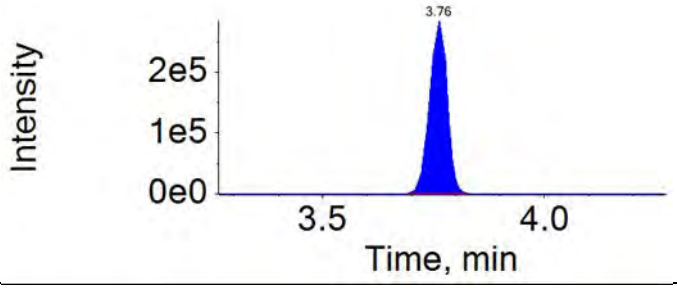
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



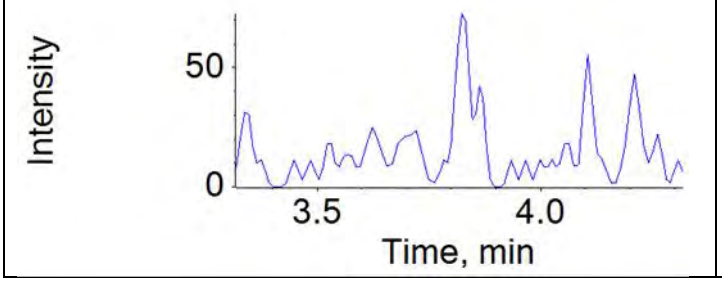



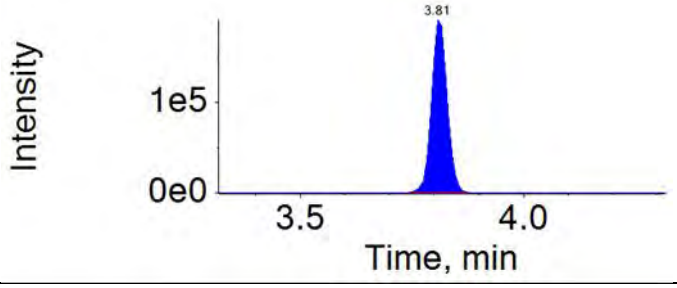

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



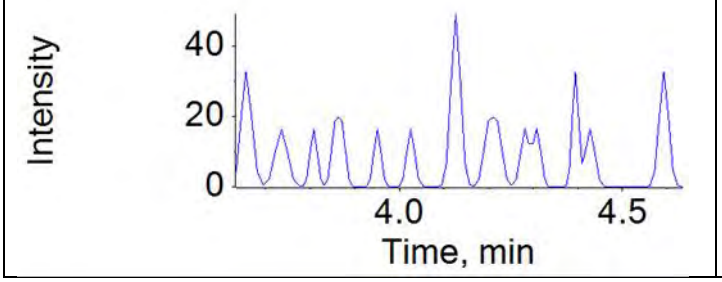



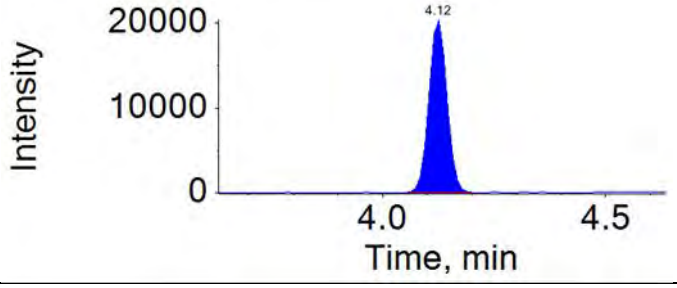

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




| Analyte: 4:2-FTS | Extraction Standard: 13C2-4:2-FTS |
|---|---|
| 327.0 / 307.0 | 329.0 / 81.0 |



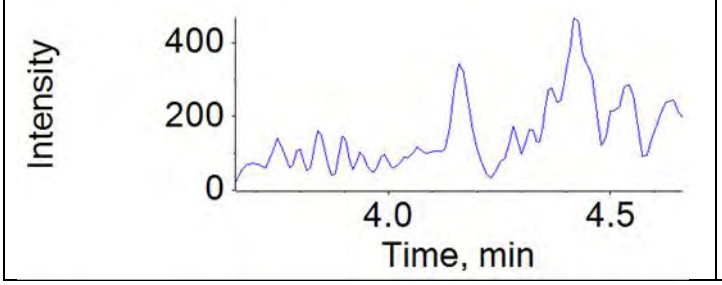

APPROVED
*By JPT at 4:33 pm, 11/13/18*

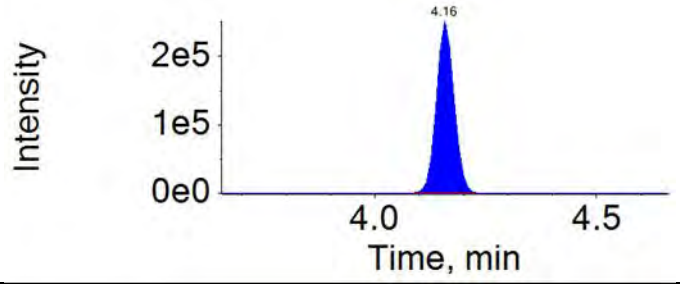


REVIEWED
*By umar at 5:40 pm, 11/13/18*

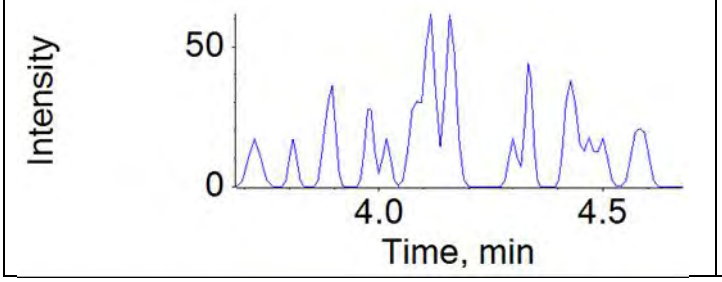
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

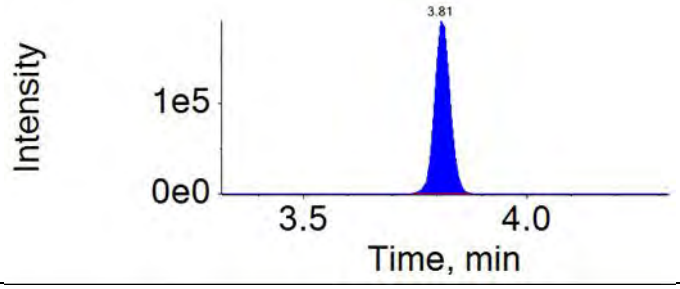
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



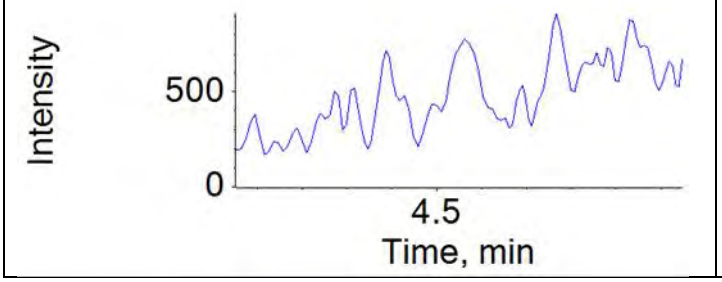



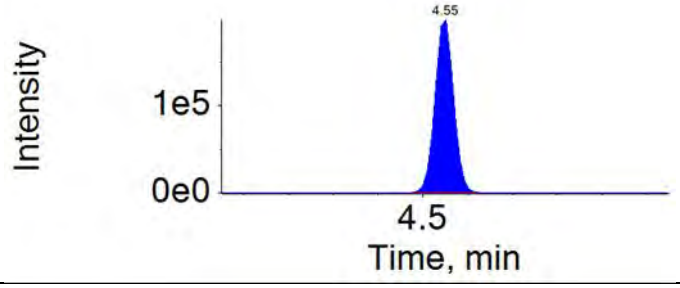

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



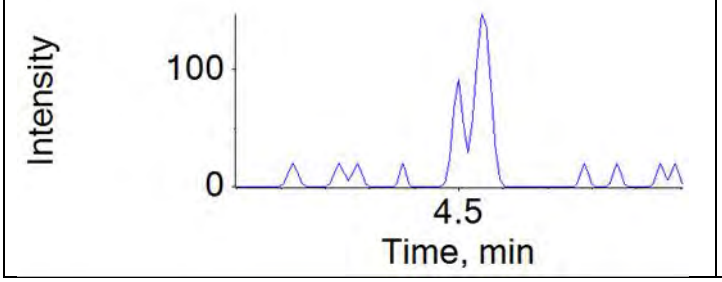



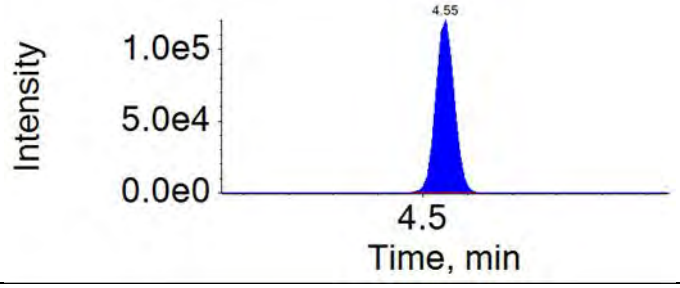

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |



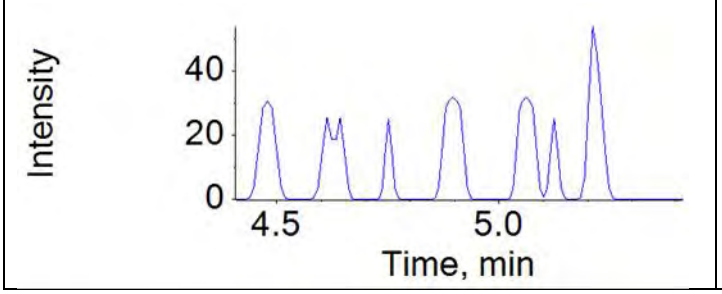

| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |

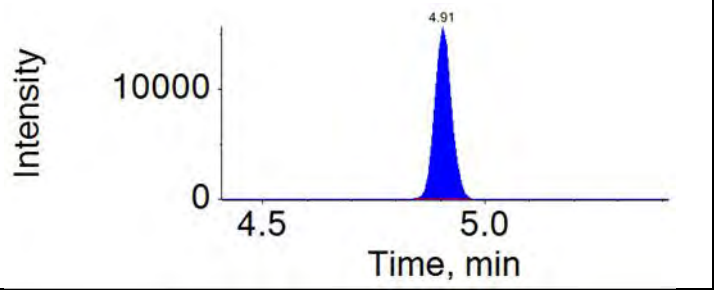


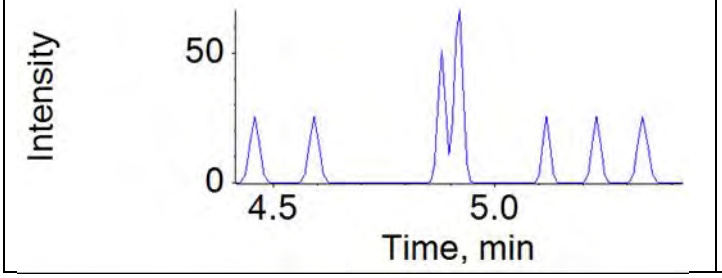
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

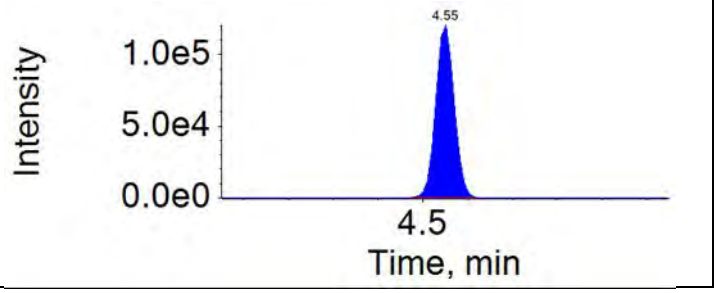
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



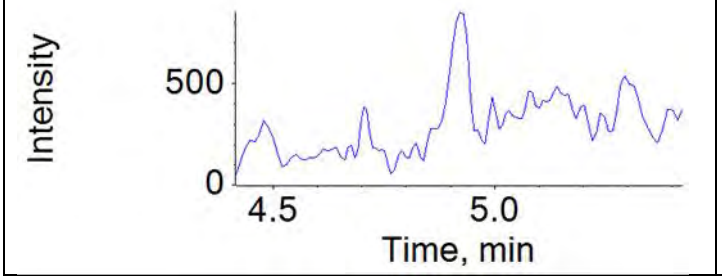



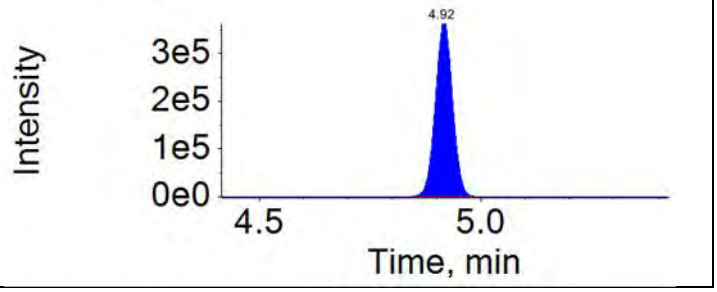

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



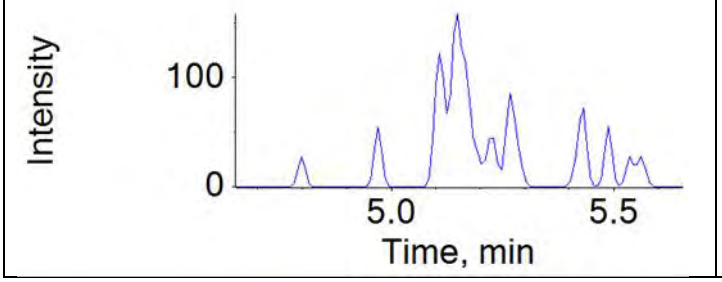



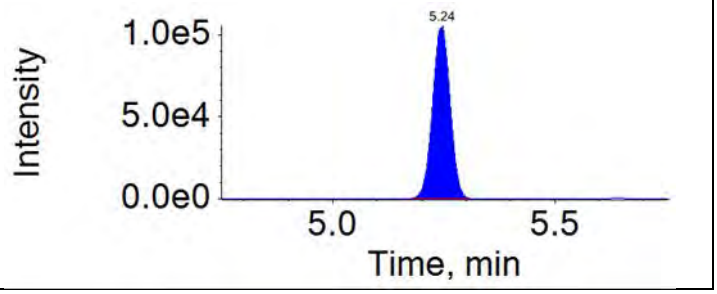

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



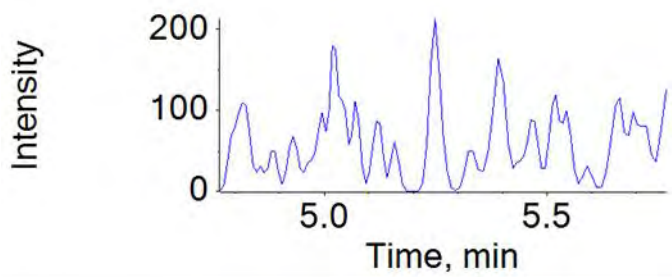

APPROVED
*By JPT at 4:33 pm, 11/13/18*

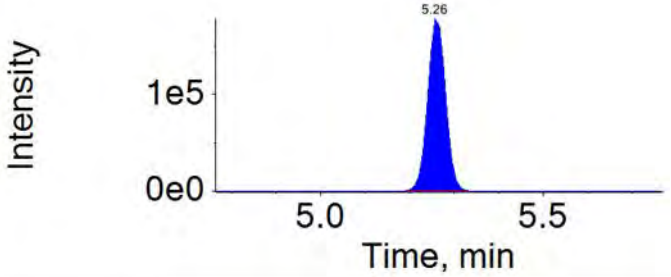


REVIEWED
*By umar at 5:40 pm, 11/13/18*

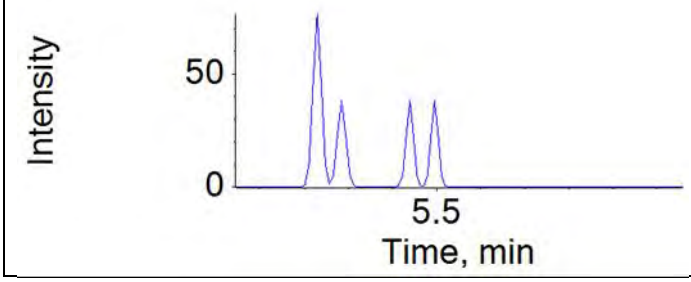
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

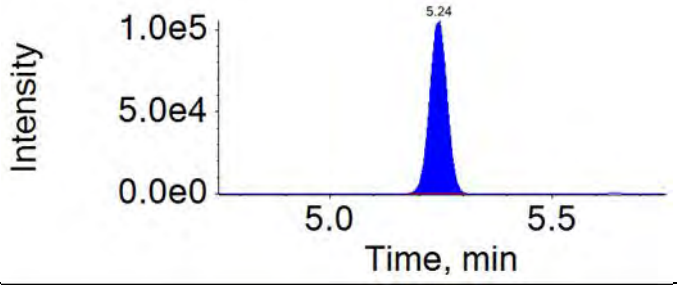
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



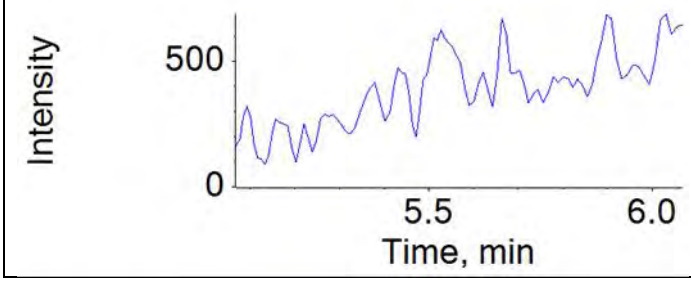



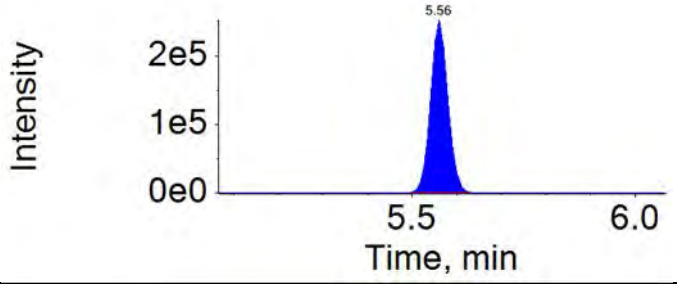

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



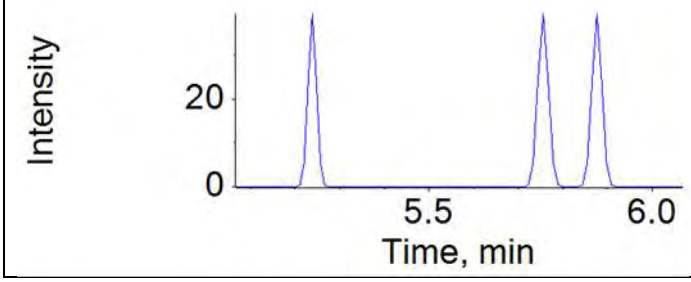



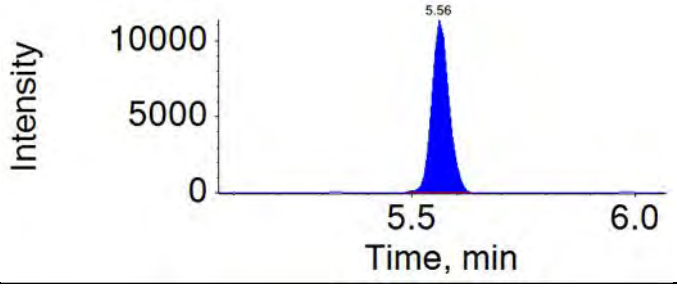

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




| Analyte: 8:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 527.0 / 507.0 | 529.0 / 81.0 |



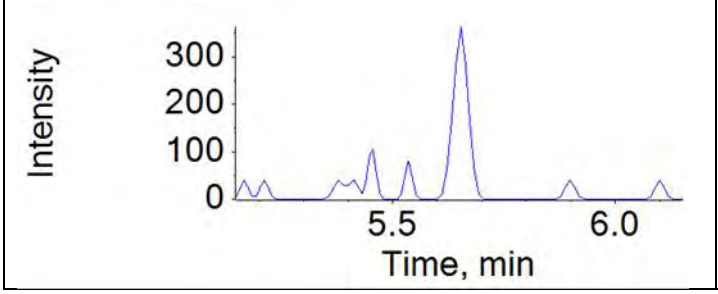

APPROVED
*By JPT at 4:33 pm, 11/13/18*

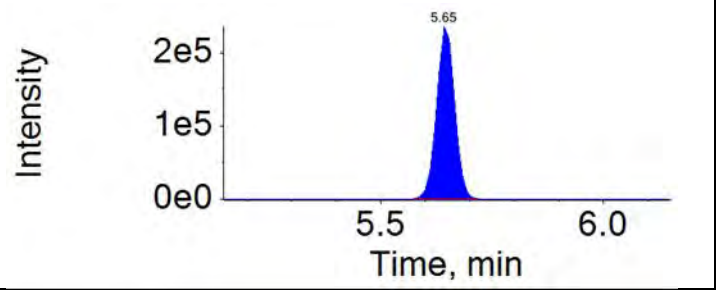


REVIEWED
*By umar at 5:40 pm, 11/13/18*

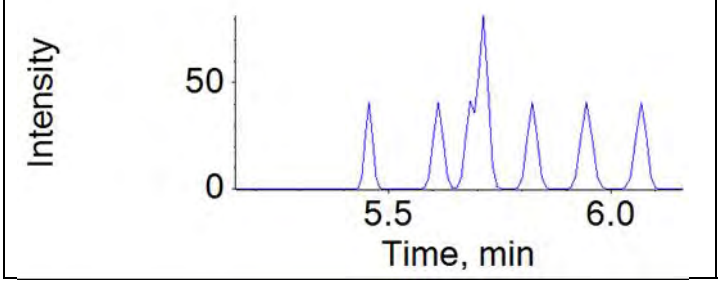
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

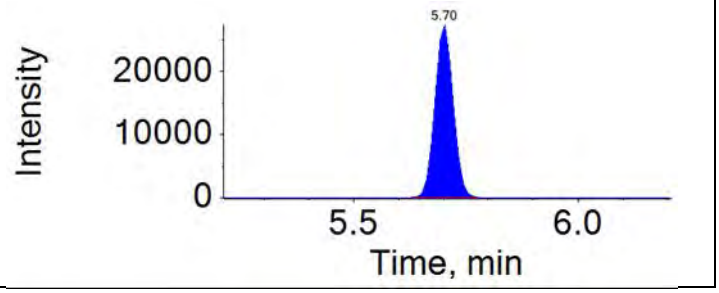
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



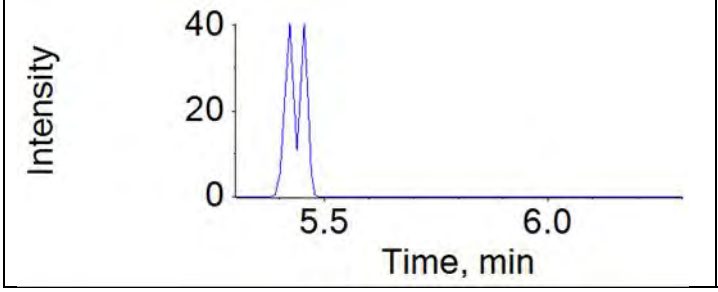



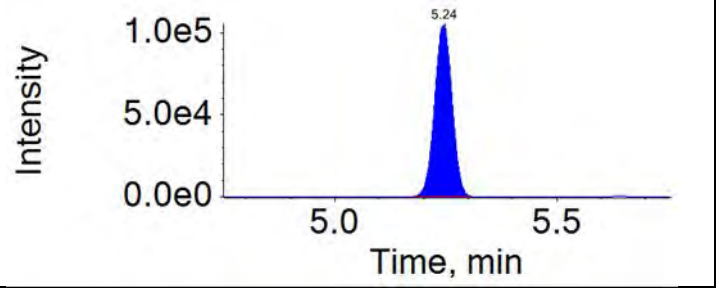

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



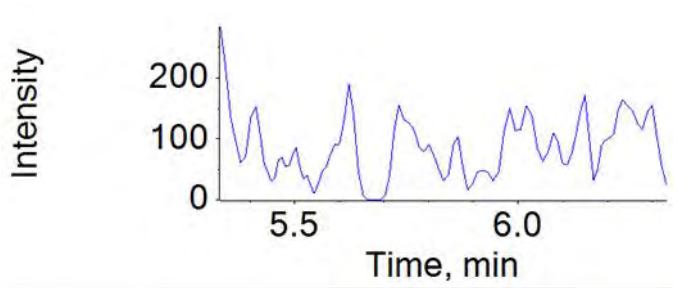



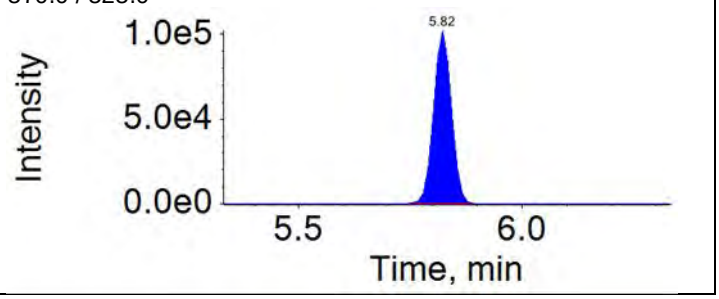

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



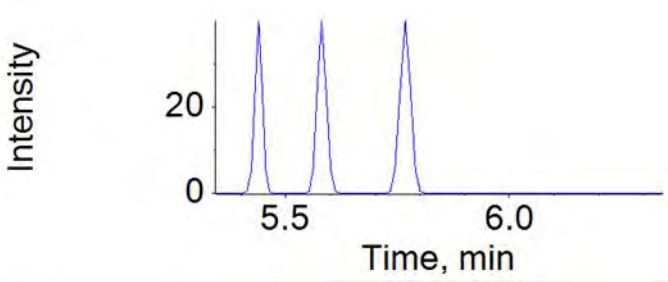
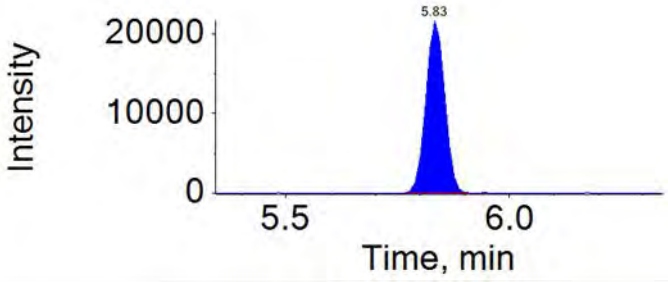




APPROVED
*By JPT at 4:33 pm, 11/13/18*



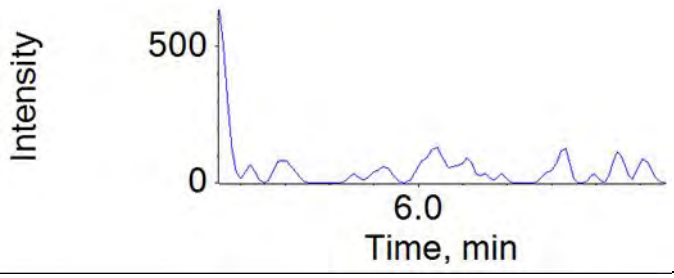
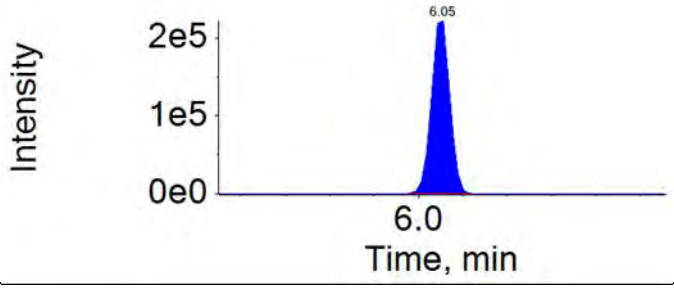
REVIEWED
*By umar at 5:40 pm, 11/13/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |
|  |  |

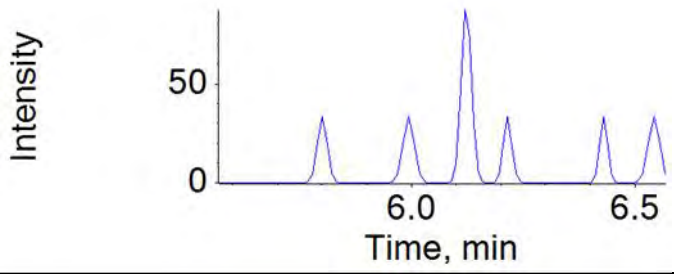
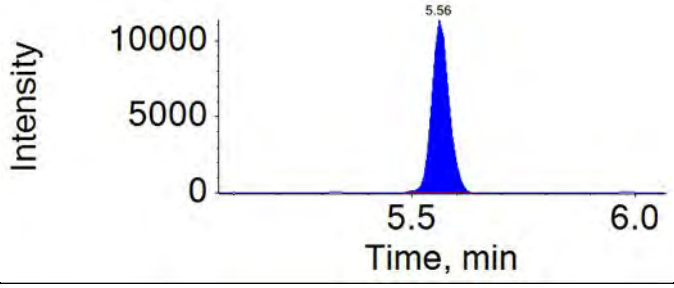




| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |
|  |  |

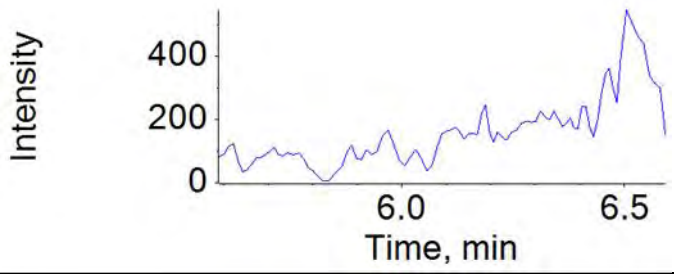
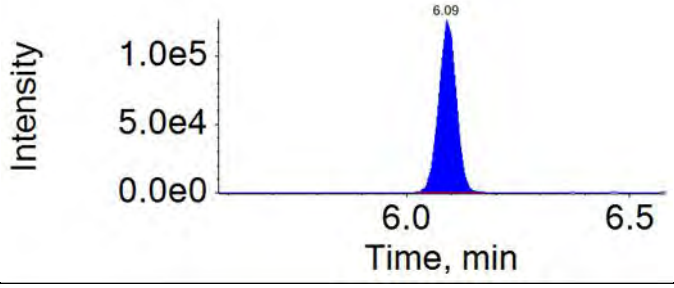




| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |
|  |  |





| Analyte: NMePFOSAE | Extraction Standard: d7-NMePFOSAE |
|---|---|
| 616.0 / 59.0 | 623.0 / 59.0 |
|  |  |





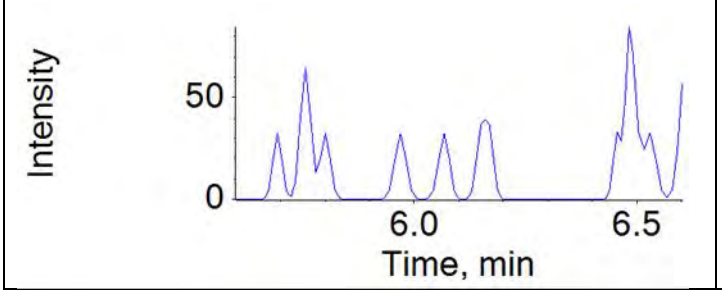
APPROVED
*By JPT at 4:33 pm, 11/13/18*

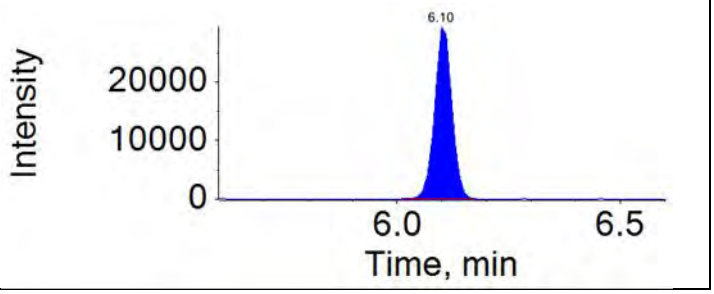


REVIEWED
*By umar at 5:40 pm, 11/13/18*

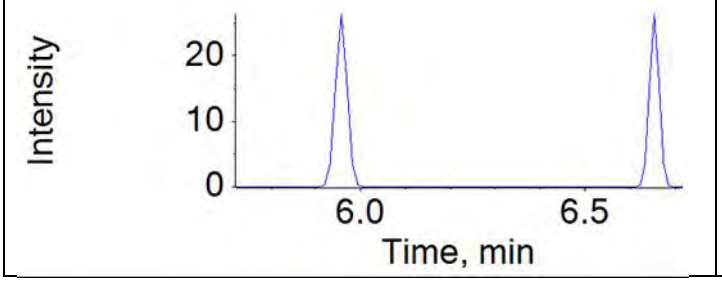
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

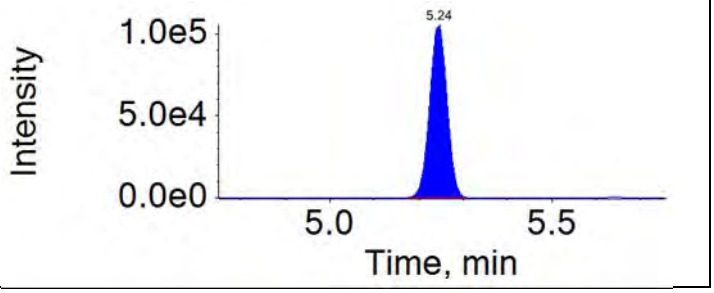
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



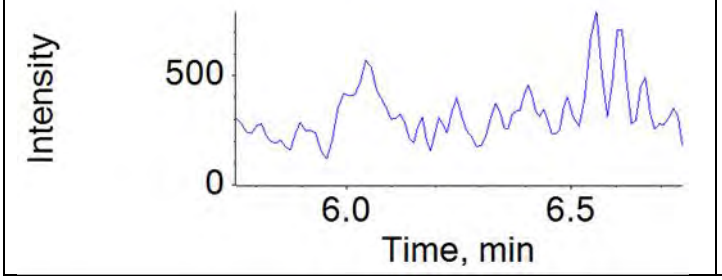



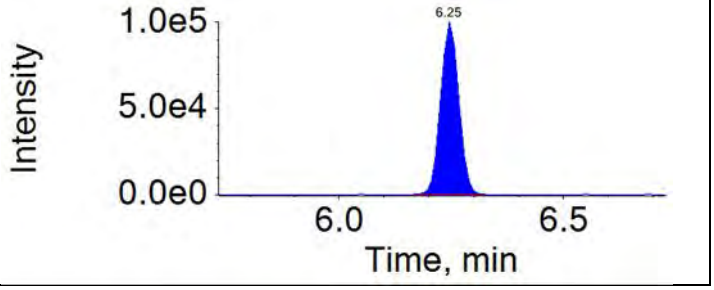

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



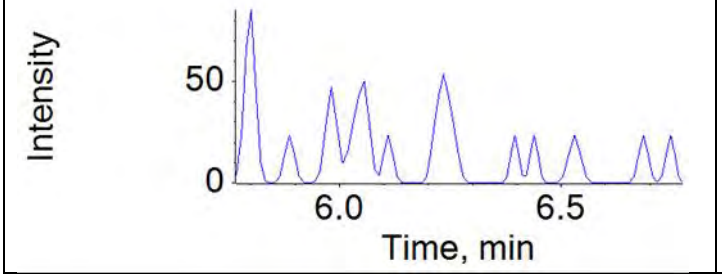



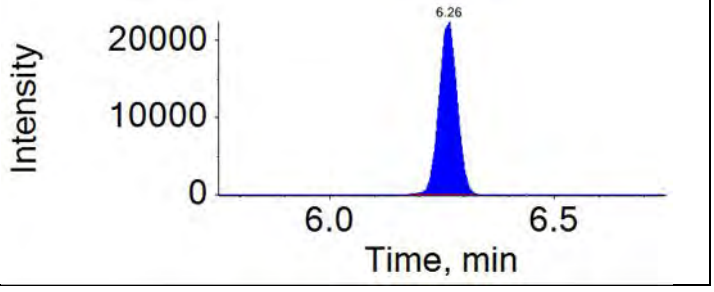

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |



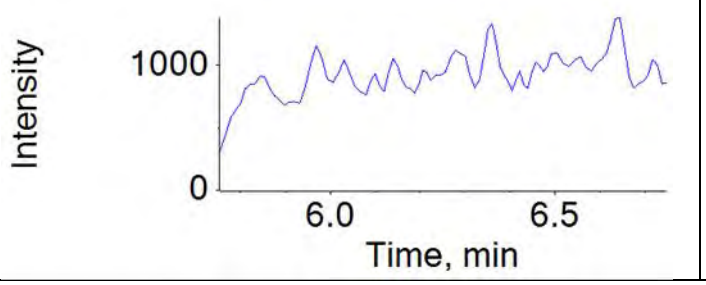

| Analyte: NEtPFOSA | Extraction Standard: d5-NEtPFOSA |
|---|---|
| 526.0 / 169.0 | 531.0 / 169.0 |

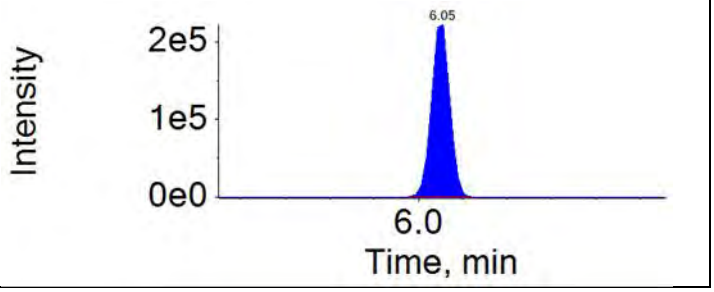


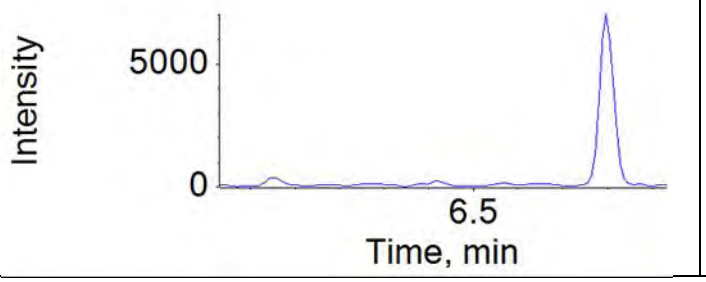
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV1-4 11/13/2018 4:25:30 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

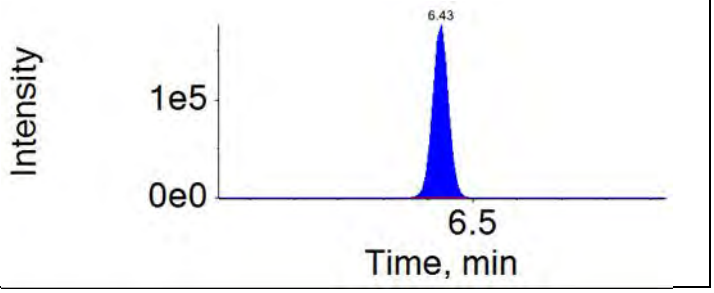
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



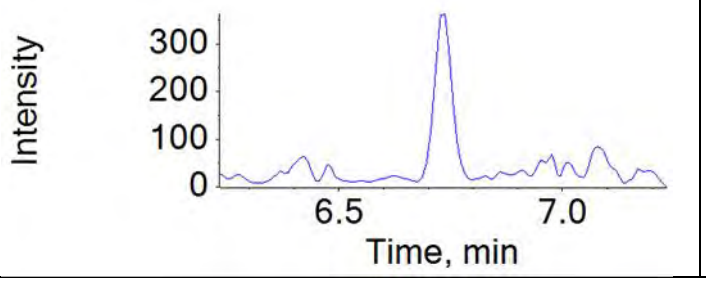



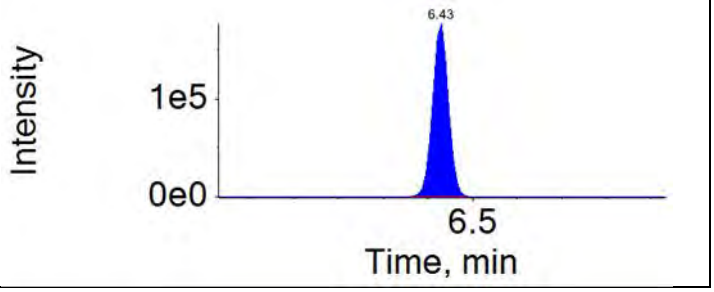

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



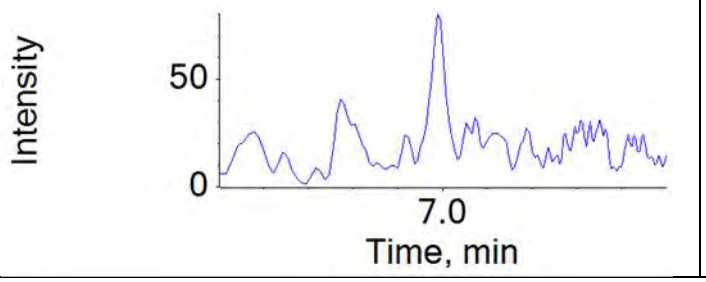



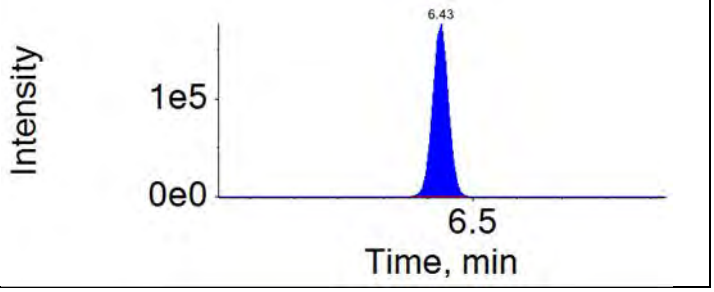

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




| Analyte: PFODA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 913.0 / 869.0 | 715.0 / 670.0 |




APPROVED
*By JPT at 4:33 pm, 11/13/18*



REVIEWED
*By umar at 5:40 pm, 11/13/18*

## Ion Ratio Report

**Sample Name:** INBLK **Instrument Name:** LM27631 **File Name:** 18NOV13D-06.wiff

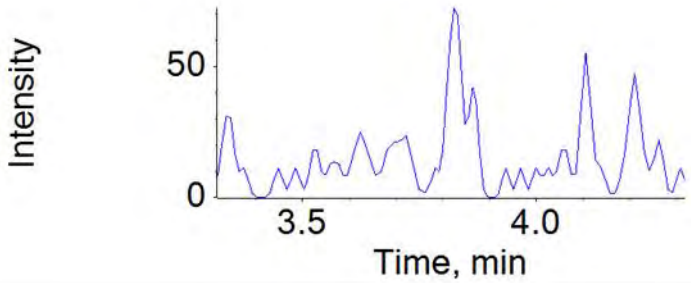
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| 4:2-FTS | 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 | | #NA! | |
| PFHxA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHxA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFPeS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFPeS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHpA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHpA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHxS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| 6:2-FTS | N/A | N/A | N/A | A | N/A | N/A | | | |
| 6:2 FTS_2 | N/A | N/A | N/A | A | N/A | N/A | | #NA! | |
| 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 | | #NA! | |
| 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 | | #NA! | |
| 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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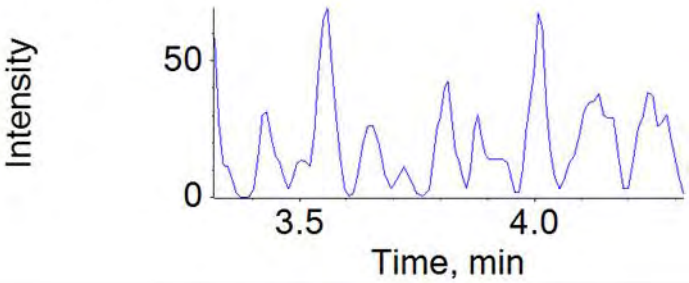


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*By umar at 5:40 pm, 11/13/18*

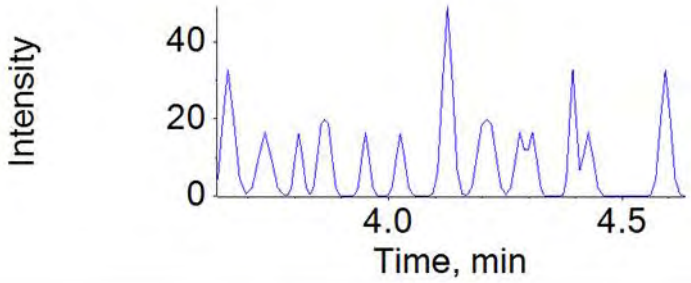
Component: PFBS
Primary Mass: 299.0 / 80.0



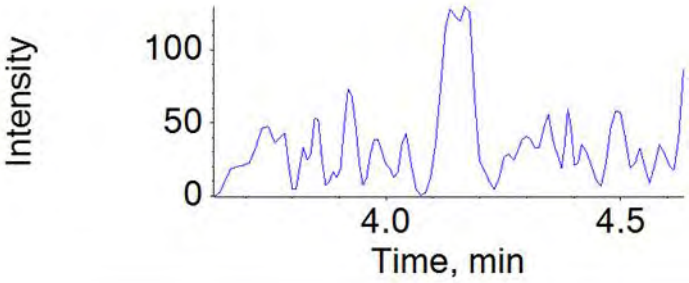

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



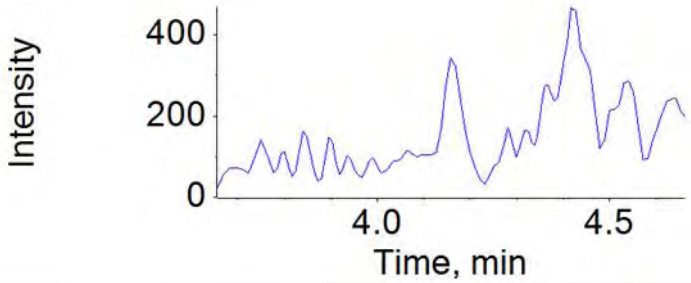

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



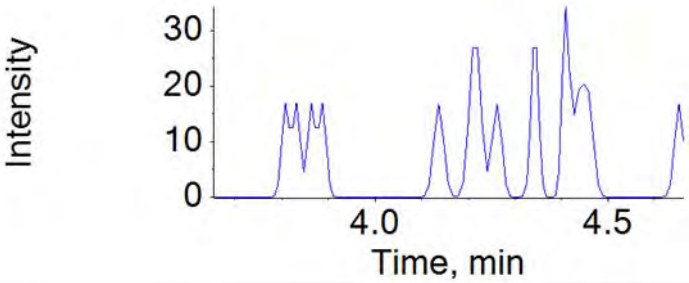

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



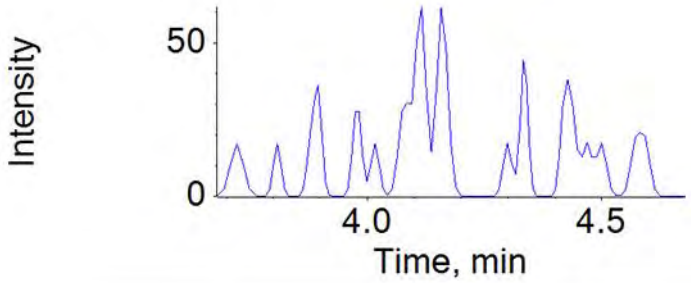

Component: PFHxA
Primary Mass: 313.0 / 269.0



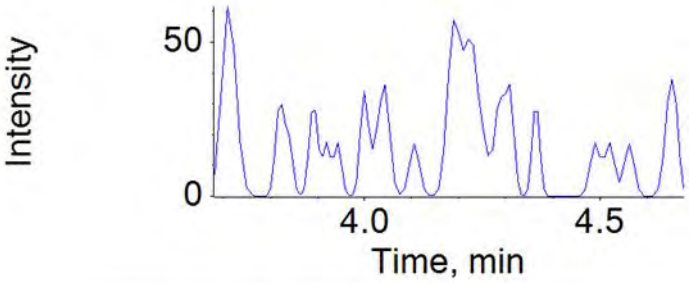

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

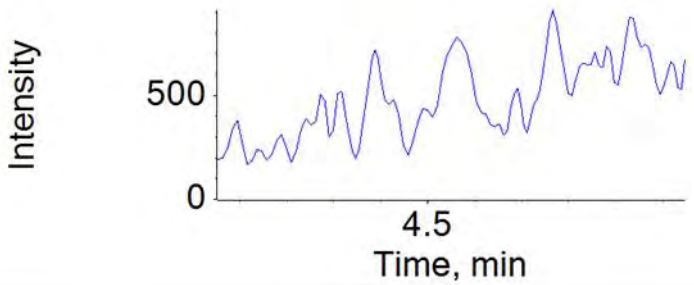



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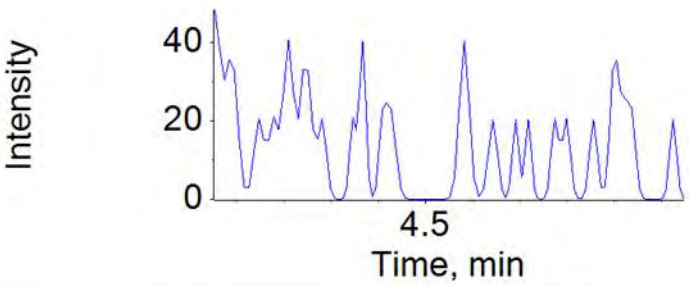


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*By umar at 5:40 pm, 11/13/18*

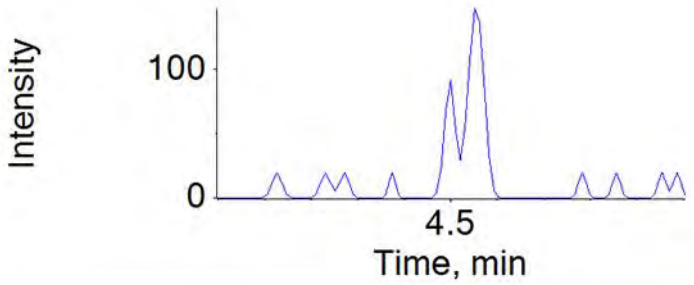
Component: PFHpA
Primary Mass: 363.0 / 319.0



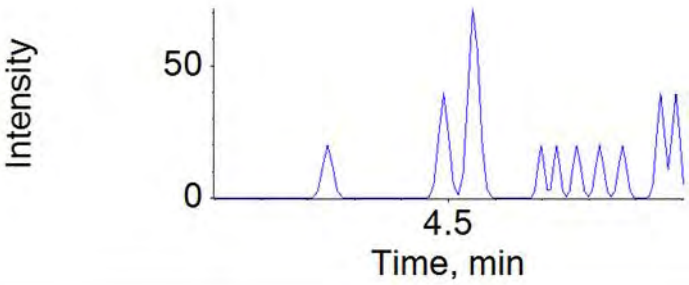

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



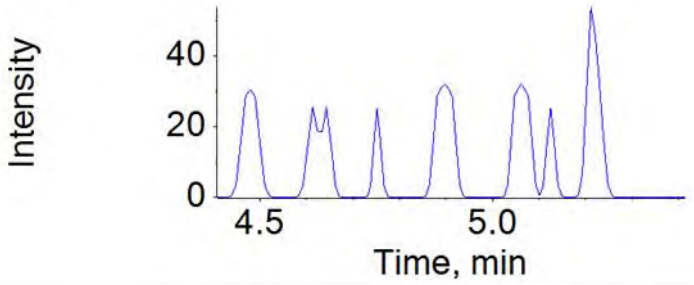

Component: PFHxS
Primary Mass: 399.0 / 80.0



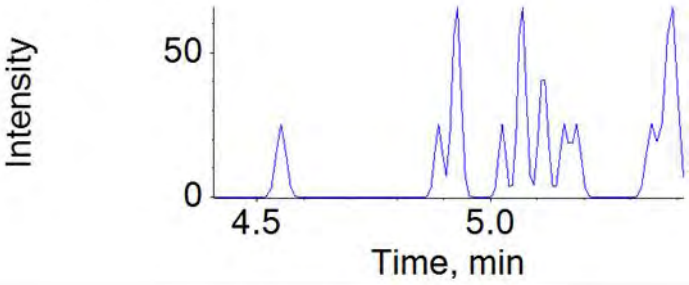

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



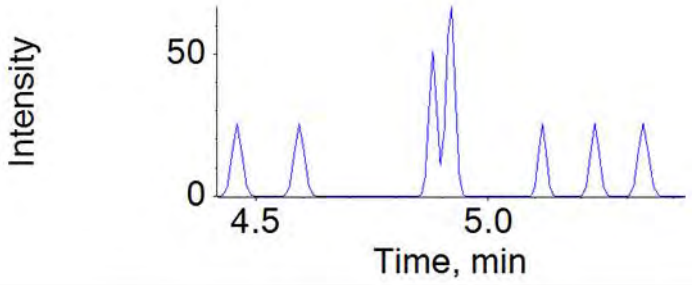

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



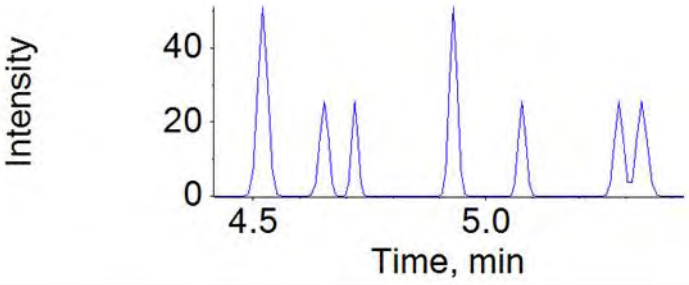

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

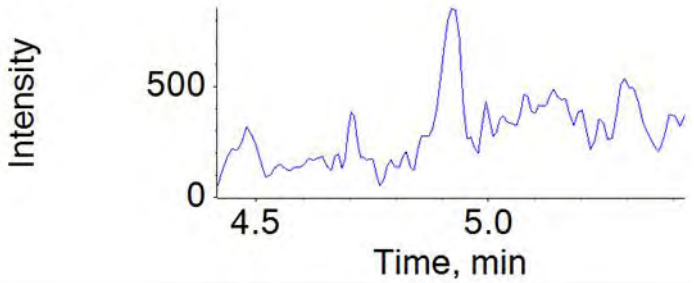



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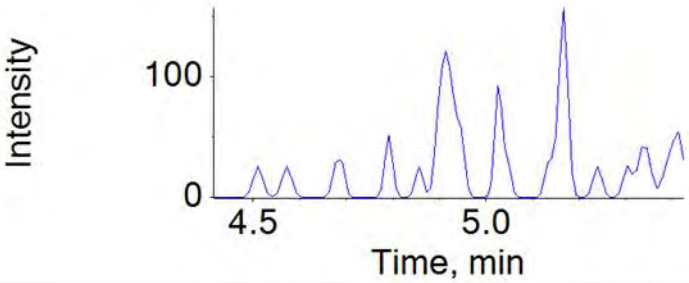


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*By umar at 5:40 pm, 11/13/18*

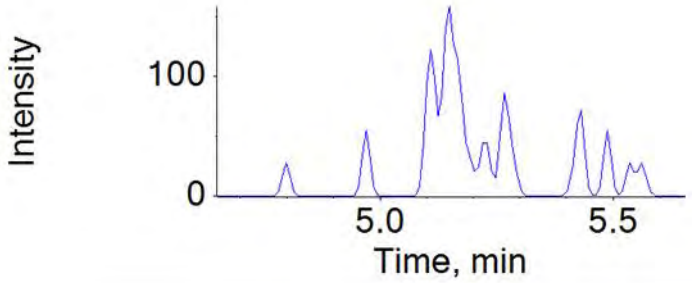
Component: PFOA
Primary Mass: 413.0 / 369.0



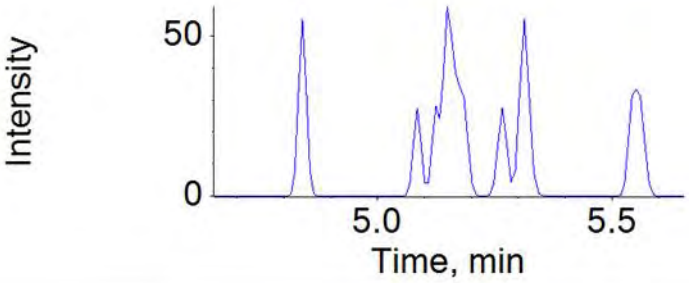

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



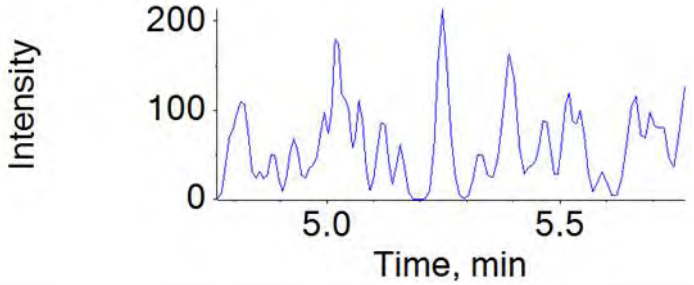

Component: PFOS
Primary Mass: 499.0 / 80.0



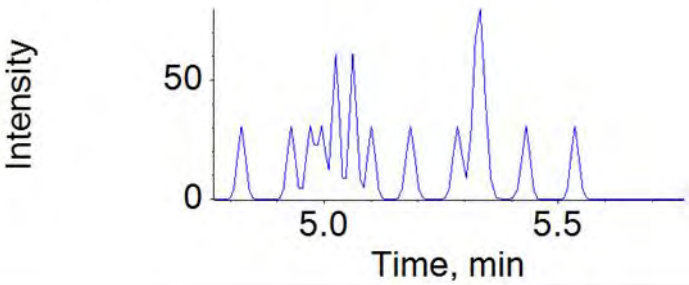

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



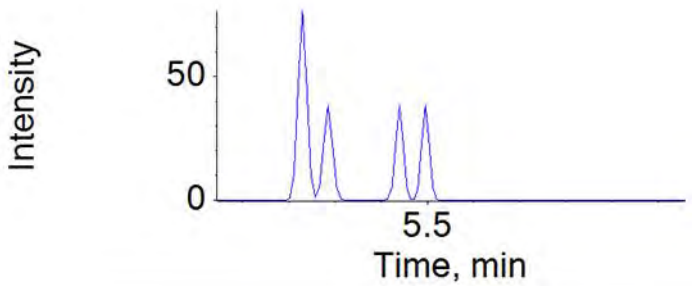

Component: PFNA
Primary Mass: 463.0 / 419.0



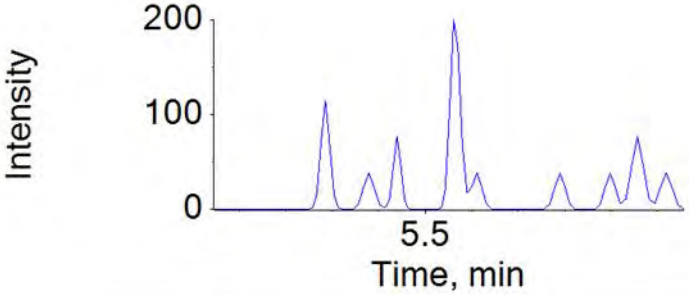

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

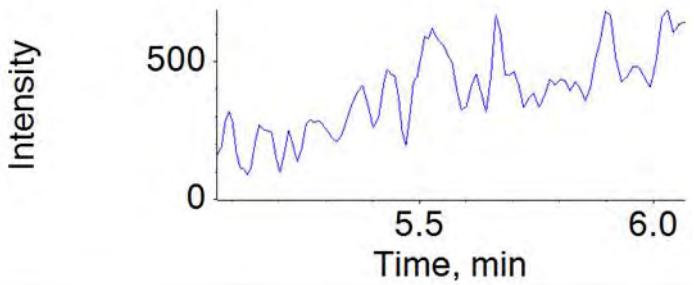



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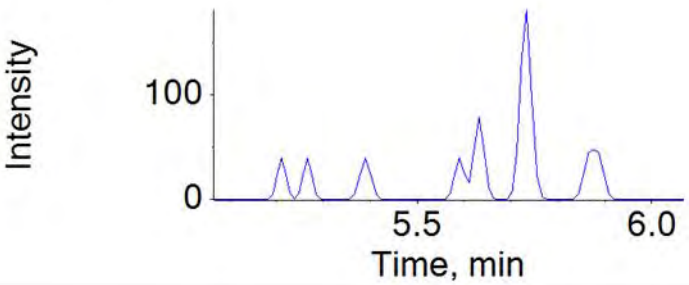


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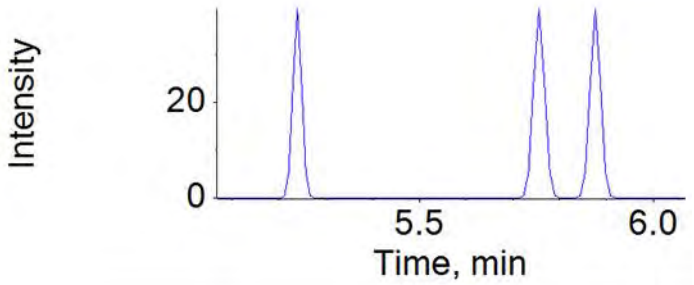
Component: PFDA
Primary Mass: 513.0 / 469.0



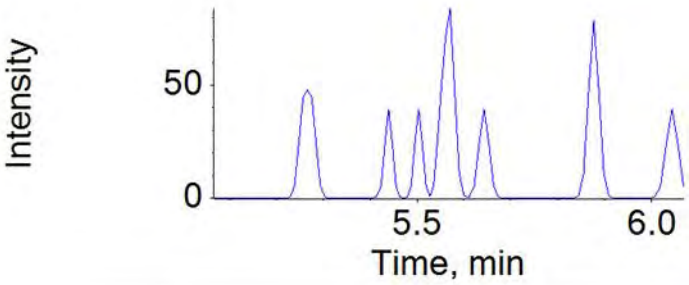

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



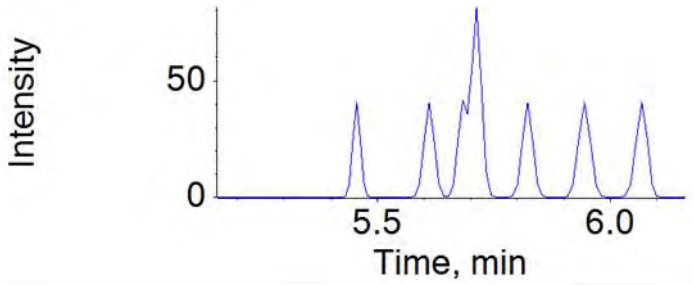

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



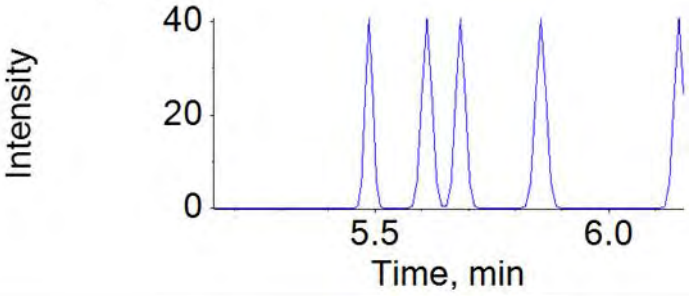

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



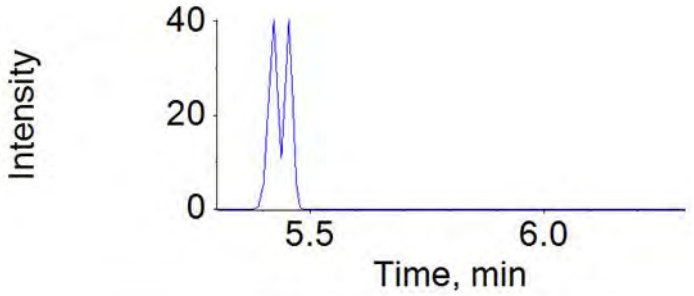

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



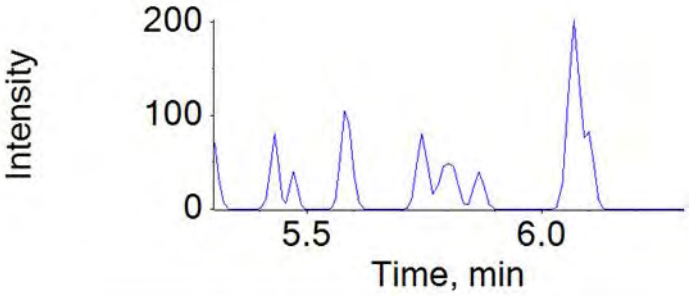

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

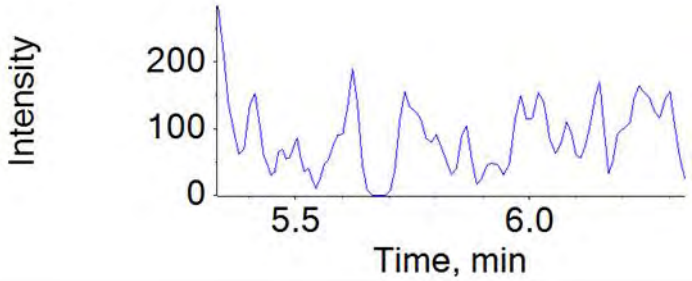



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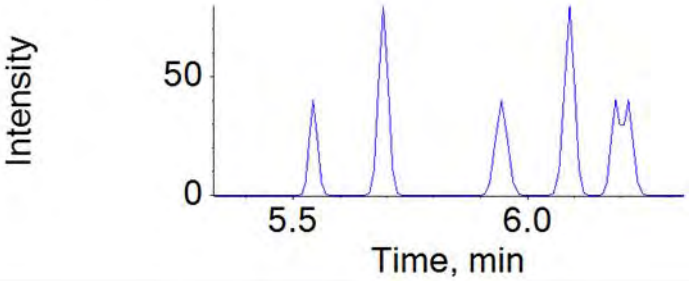


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*By umar at 5:40 pm, 11/13/18*

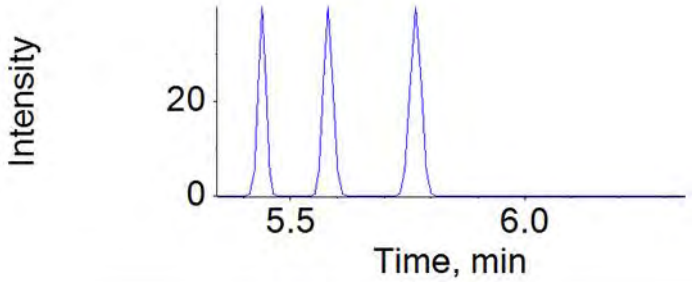
Component: PFUnDA
Primary Mass: 563.0 / 519.0



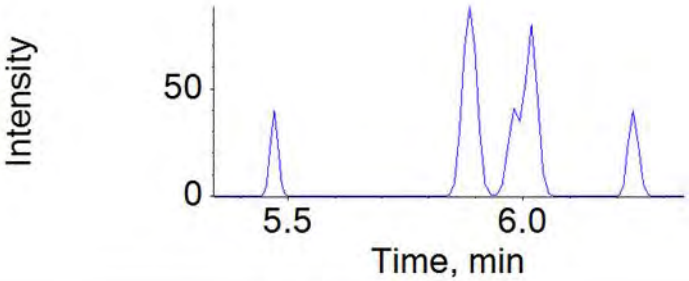

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



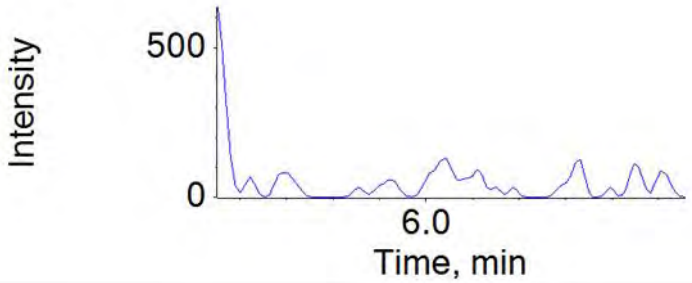

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



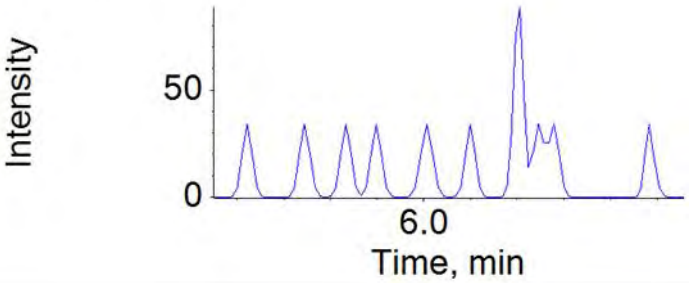

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



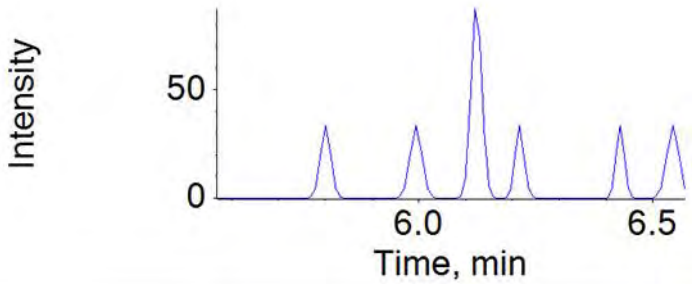

Component: PFDoDA
Primary Mass: 613.0 / 569.0



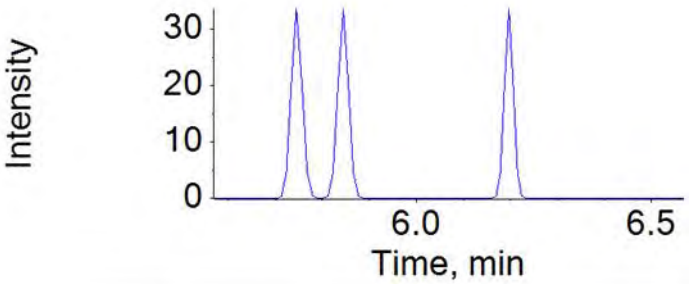

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

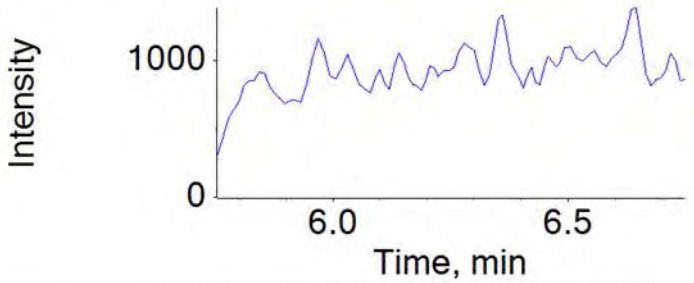



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*By JPT at 4:33 pm, 11/13/18*

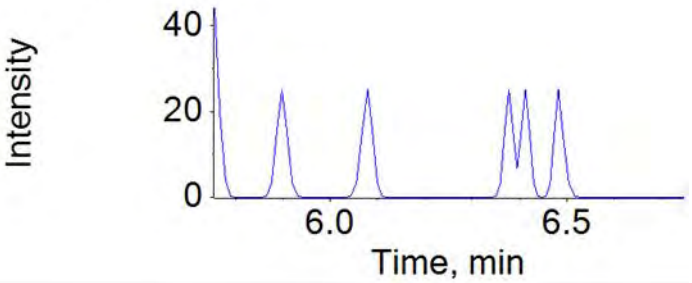


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*By umar at 5:40 pm, 11/13/18*

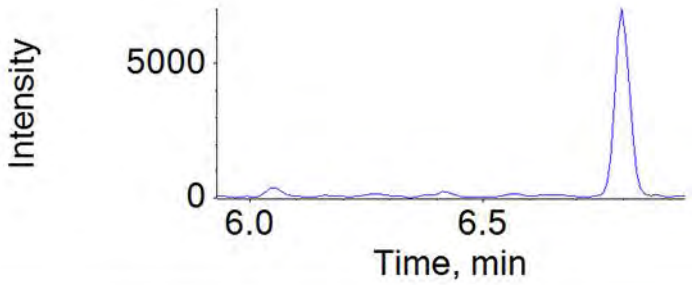
Component: PFTrDA
Primary Mass: 663.0 / 619.0



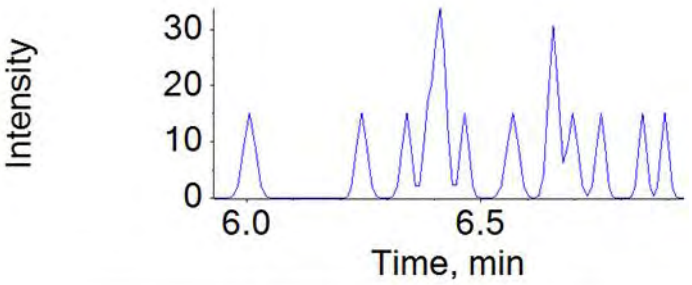

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



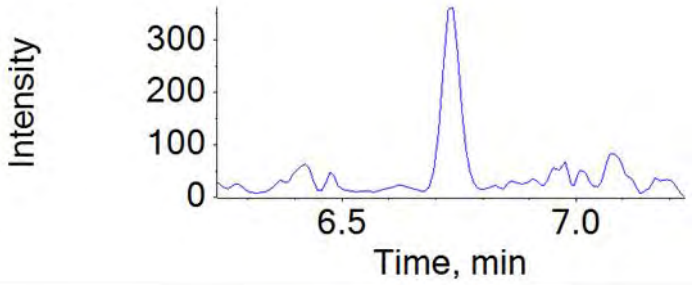

Component: PFTeDA
Primary Mass: 713.0 / 669.0



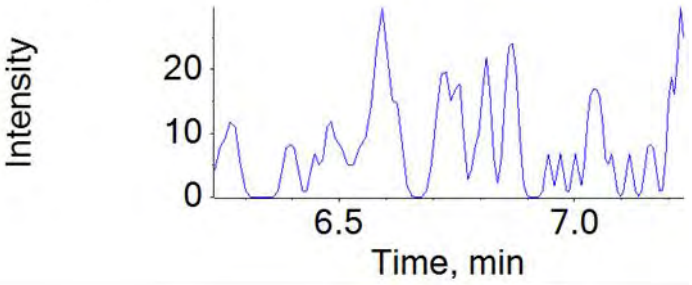

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



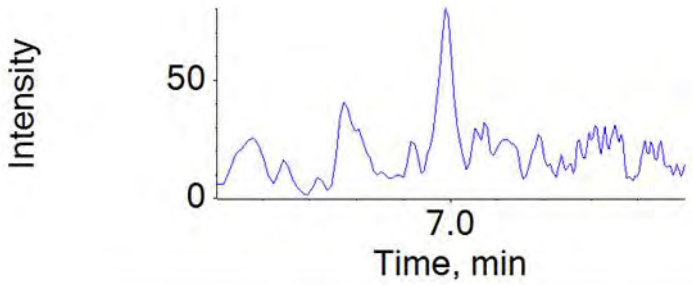

Component: PFHxDA
Primary Mass: 813.0 / 769.0



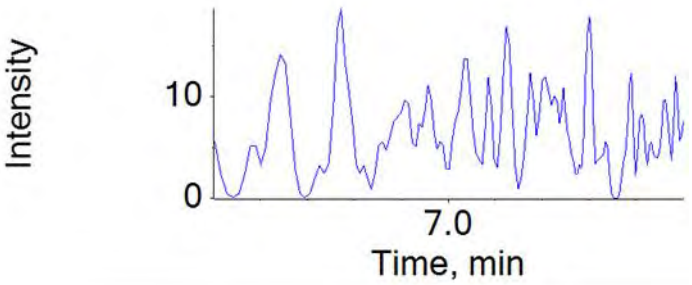

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By JPT at 4:33 pm, 11/13/18*

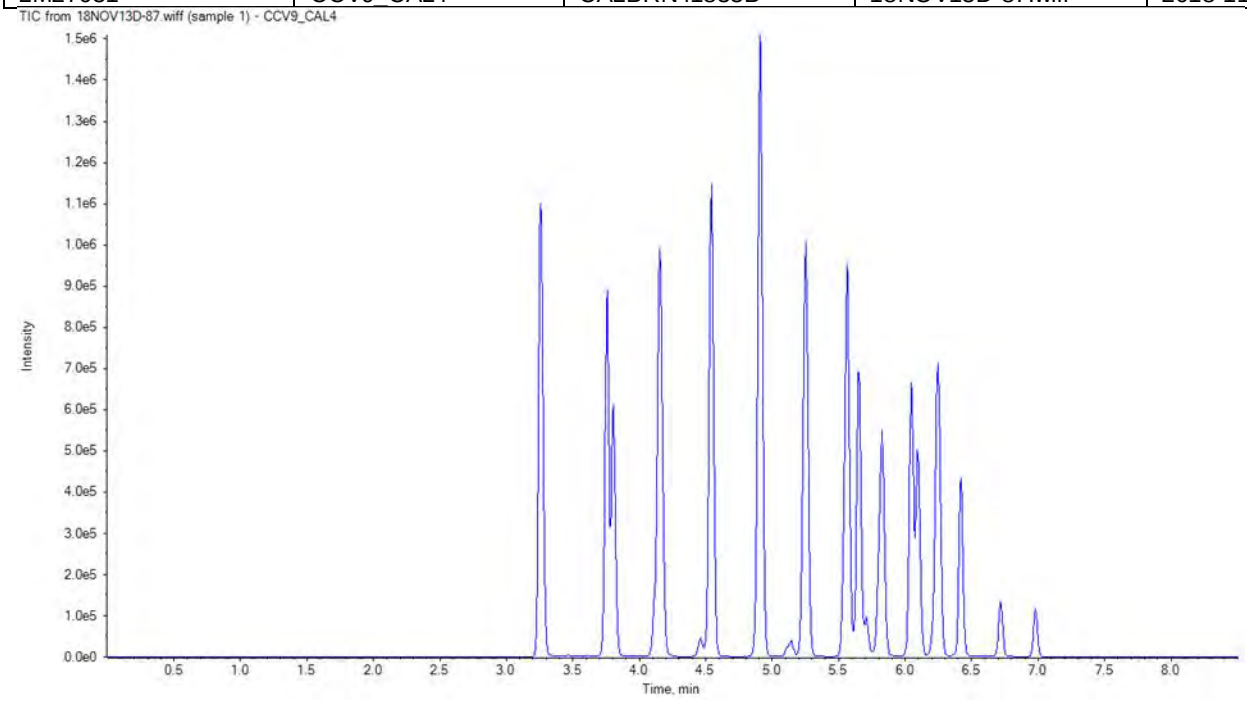


REVIEWED
*By umar at 5:40 pm, 11/13/18*

## Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV9_CAL4 | CALBRN41833B | 18NOV13D-87.wiff | 2018-11-13T22:38:59 |




Injection Standard Area Reference File: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Reference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 690147.8 | 661126.9 | 4 | 50 | |
| 13C2-PFOA | 5.0 | 488777.0 | 466902.6 | 5 | 50 | |
| 13C4-PFOS | 4.8 | 265373.5 | 247446.9 | 7 | 50 | |
| 13C2-PFDA | 5.0 | 293357.8 | 295381.6 | -1 | 50 | |

APPROVED
By JPT at 10:19 am, 11/14/18



REVIEWED
By HMK at 11:03 am, 11/15/18

## Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV9_CAL4 | CALBRN41833B | 18NOV13D-87.wiff | 2018-11-13T22:38:59 |

| 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 | 1112223.3 | 10 | 13C4-PFBA | 756551.9 | 5.0 | 1.470 | 3.26 | 1.000 | 8.000 | 8.144 | 2 | 30 | |
| PFPeA | 1081363.0 | 11 | 13C5-PFPeA | 739929.3 | 5.0 | 1.461 | 3.76 | 1.000 | 8.000 | 8.460 | 6 | 30 | |
| PFBS | 612489.9 | 11 | 13C3-PFBS | 418251.4 | 4.7 | 1.464 | 3.81 | 1.000 | 7.080 | 6.966 | -2 | 30 | |
| 4:2-FTS | 136144.9 | 11 | 13C2-4:2-FTS | 52046.3 | 4.7 | 2.616 | 4.12 | 1.000 | 7.470 | 7.102 | -5 | 30 | |
| PFHxA | 1350925.6 | 11 | 13C5-PFHxA | 672141.1 | 5.0 | 2.010 | 4.15 | 1.000 | 8.000 | 8.392 | 5 | 30 | |
| PFPeS | 313924.4 | 11 | 13C3-PFBS | 418251.4 | 4.7 | 0.751 | 4.17 | 1.100 | 7.500 | 7.287 | -3 | 30 | |
| PFHpA | 1333013.6 | 12 | 13C4-PFHpA | 517067.8 | 5.0 | 2.578 | 4.54 | 1.000 | 8.000 | 8.545 | 7 | 30 | |
| PFHxS | 472675.8 | 19 | 13C3-PFHxS | 310608.1 | 4.7 | 1.522 | 4.54 | 1.000 | 7.300 | 7.379 | 1 | 30 | |
| 6:2-FTS | 106444.9 | 11 | 13C2-6:2-FTS | 32887.8 | 4.8 | 3.237 | 4.90 | 1.000 | 7.580 | 7.832 | 3 | 30 | |
| PFHpS | 467233.5 | 11 | 13C3-PFHxS | 310608.1 | 4.7 | 1.504 | 4.90 | 1.080 | 7.610 | 7.918 | 4 | 30 | |
| PFOA | 1329657.8 | 11 | 13C8-PFOA | 882083.7 | 5.0 | 1.507 | 4.91 | 1.000 | 8.000 | 8.051 | 1 | 30 | |
| PFOS | 450726.1 | 22 | 13C8-PFOS | 282129.7 | 4.8 | 1.598 | 5.24 | 1.000 | 7.400 | 6.986 | -6 | 30 | |
| PFNA | 1144678.1 | 11 | 13C9-PFNA | 468220.9 | 5.0 | 2.445 | 5.26 | 1.000 | 8.000 | 8.816 | 10 | 30 | |
| PFNS | 290730.6 | 11 | 13C8-PFOS | 282129.7 | 4.8 | 1.030 | 5.54 | 1.060 | 7.680 | 7.210 | -6 | 30 | |
| PFDA | 926038.5 | 11 | 13C6-PFDA | 597713.3 | 5.0 | 1.549 | 5.56 | 1.000 | 8.000 | 8.214 | 3 | 30 | |
| 8:2-FTS | 88095.7 | 11 | 13C2-8:2-FTS | 23981.2 | 4.8 | 3.674 | 5.57 | 1.000 | 7.660 | 8.565 | 12 | 30 | |
| PFOSA | 993745.2 | 11 | 13C8-PFOSA | 633301.9 | 5.0 | 1.569 | 5.65 | 1.000 | 8.000 | 7.664 | -4 | 30 | |
| NMeFOSAA | 109827.8 | 18 | d3-NMeFOSAA | 75436.1 | 5.0 | 1.456 | 5.71 | 1.000 | 8.000 | 8.228 | 3 | 30 | |
| PFDS | 245198.7 | 11 | 13C8-PFOS | 282129.7 | 4.8 | 0.869 | 5.80 | 1.110 | 7.700 | 7.875 | 2 | 30 | |
| PFUnDA | 757355.4 | 11 | 13C7-PFUnDA | 244941.1 | 5.0 | 3.092 | 5.83 | 1.000 | 8.000 | 8.083 | 1 | 30 | |
| NEtFOSAA | 98288.7 | 21 | d5-NEtFOSAA | 66804.3 | 5.0 | 1.471 | 5.84 | 1.000 | 8.000 | 7.713 | -4 | 30 | |
| PFDoDA | 854564.1 | 11 | 13C2-PFDoDA | 541325.3 | 5.0 | 1.579 | 6.05 | 1.000 | 8.000 | 8.039 | 0 | 30 | |
| 10:2-FTS | 60995.0 | 11 | 13C2-8:2-FTS | 23981.2 | 4.8 | 2.543 | 6.06 | 1.090 | 7.710 | 8.472 | 10 | 30 | |
| NMePFOSAE | 646596.6 | 11 | d7-NMePFOSAE | 323518.8 | 5.0 | 1.999 | 6.10 | 1.000 | 8.000 | 8.318 | 4 | 30 | |
| NMePFOSA | 119142.3 | 11 | d3-NMePFOSA | 76957.0 | 5.0 | 1.548 | 6.10 | 1.000 | 8.000 | 7.638 | -5 | 30 | |
| PFDoS | 112141.3 | 11 | 13C8-PFOS | 282129.7 | 4.8 | 0.397 | 6.21 | 1.190 | 7.740 | 6.962 | -10 | 30 | |
| NEtPFOSAE | 681108.2 | 11 | d9-NEtPFOSAE | 277776.6 | 5.0 | 2.452 | 6.25 | 1.000 | 8.000 | 7.867 | -2 | 30 | |
| NEtPFOSA | 100038.5 | 11 | d5-NEtPFOSA | 60850.8 | 5.0 | 1.644 | 6.26 | 1.000 | 8.000 | 7.550 | -6 | 30 | |
| PFTrDA | 724225.3 | 11 | 13C2-PFDoDA | 541325.3 | 5.0 | 1.338 | 6.24 | 1.030 | 8.000 | 8.444 | 6 | 30 | |
| PFTeDA | 544053.5 | 11 | 13C2-PFTeDA | 386437.2 | 5.0 | 1.408 | 6.42 | 1.000 | 8.000 | 7.892 | -1 | 30 | |
| PFHxDA | 274012.8 | 11 | 13C2-PFTeDA | 386437.2 | 5.0 | 0.709 | 6.72 | 1.050 | 8.000 | 8.448 | 6 | 30 | |
| PFODA | 242380.9 | 10 | 13C2-PFTeDA | 386437.2 | 5.0 | 0.627 | 6.98 | 1.090 | 8.000 | 8.735 | 9 | 30 | |

APPROVED
*By JPT at 10:19 am, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam

APPROVED
*By JPT at 10:19 am, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CCV9_CAL4 | | | **Data File:** | | 18NOV13D-87.wiff |
| **Sample ID:** | CALBRN41833B | | | **Acquis Date:** | | 2018-11-13T22:38:59 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 6 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV13DCCV6-10 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 690147.8 | 661126.9 | 4 | 50 | |
| 13C2-PFOA | 5.0 | 488777.0 | 466902.6 | 5 | 50 | |
| 13C4-PFOS | 4.8 | 265373.5 | 247446.9 | 7 | 50 | |
| 13C2-PFDA | 5.0 | 293357.8 | 295381.6 | -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 | 756551.9 | 13C3-PFBA | 690147.8 | 1.096 | 5.000 | 4.915 | 98 | 70-130 | |
| E13C5-PFPeA | 739929.3 | 13C3-PFBA | 690147.8 | 1.072 | 5.000 | 4.809 | 96 | 70-130 | |
| E13C3-PFBS | 418251.4 | 13C3-PFBA | 690147.8 | 0.606 | 4.650 | 4.278 | 92 | 70-130 | |
| E13C2-4:2-FTS | 52046.3 | 13C2-PFOA | 488777.0 | 0.106 | 4.670 | 4.743 | 102 | 70-130 | |
| E13C5-PFHxA | 672141.1 | 13C2-PFOA | 488777.0 | 1.375 | 5.000 | 4.967 | 99 | 70-130 | |
| E13C3-PFHxS | 310608.1 | 13C2-PFOA | 488777.0 | 0.635 | 4.730 | 4.361 | 92 | 70-130 | |
| E13C4-PFHpA | 517067.8 | 13C2-PFOA | 488777.0 | 1.058 | 5.000 | 4.766 | 95 | 70-130 | |
| E13C2-6:2-FTS | 32887.8 | 13C2-PFOA | 488777.0 | 0.067 | 4.750 | 4.502 | 95 | 70-130 | |
| E13C8-PFOA | 882083.7 | 13C2-PFOA | 488777.0 | 1.805 | 5.000 | 4.972 | 99 | 70-130 | |
| E13C8-PFOS | 282129.7 | 13C4-PFOS | 265373.5 | 1.063 | 4.780 | 4.711 | 99 | 70-130 | |
| E13C9-PFNA | 468220.9 | 13C4-PFOS | 265373.5 | 1.764 | 5.000 | 4.919 | 98 | 70-130 | |
| E13C6-PFDA | 597713.3 | 13C2-PFDA | 293357.8 | 2.037 | 5.000 | 4.755 | 95 | 70-130 | |
| E13C2-8:2-FTS | 23981.2 | 13C2-PFDA | 293357.8 | 0.082 | 4.790 | 4.077 | 85 | 70-130 | |
| E13C8-PFOSA | 633301.9 | 13C2-PFDA | 293357.8 | 2.159 | 5.000 | 4.786 | 96 | 70-130 | |
| Ed3-NMeFOSAA | 75436.1 | 13C2-PFDA | 293357.8 | 0.257 | 5.000 | 4.642 | 93 | 70-130 | |
| E13C7-PFUnDA | 244941.1 | 13C2-PFDA | 293357.8 | 0.835 | 5.000 | 4.848 | 97 | 70-130 | |
| Ed5-NEtFOSAA | 66804.3 | 13C2-PFDA | 293357.8 | 0.228 | 5.000 | 4.818 | 96 | 70-130 | |
| E13C2-PFDoDA | 541325.3 | 13C2-PFDA | 293357.8 | 1.845 | 5.000 | 4.791 | 96 | 70-130 | |
| Ed7-NMePFOSAE | 323518.8 | 13C2-PFDA | 293357.8 | 1.103 | 5.000 | 4.772 | 95 | 70-130 | |
| Ed3-NMePFOSA | 76957.0 | 13C2-PFDA | 293357.8 | 0.262 | 5.000 | 4.766 | 95 | 70-130 | |
| Ed9-NEtPFOSAE | 277776.6 | 13C2-PFDA | 293357.8 | 0.947 | 5.000 | 4.925 | 98 | 70-130 | |
| Ed5-NEtPFOSA | 60850.8 | 13C2-PFDA | 293357.8 | 0.207 | 5.000 | 4.866 | 97 | 70-130 | |
| E13C2-PFTeDA | 386437.2 | 13C2-PFDA | 293357.8 | 1.317 | 5.000 | 4.625 | 92 | 70-130 | |

APPROVED
By JPT at 10:19 am, 11/14/18



REVIEWED
By HMK at 11:03 am, 11/15/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

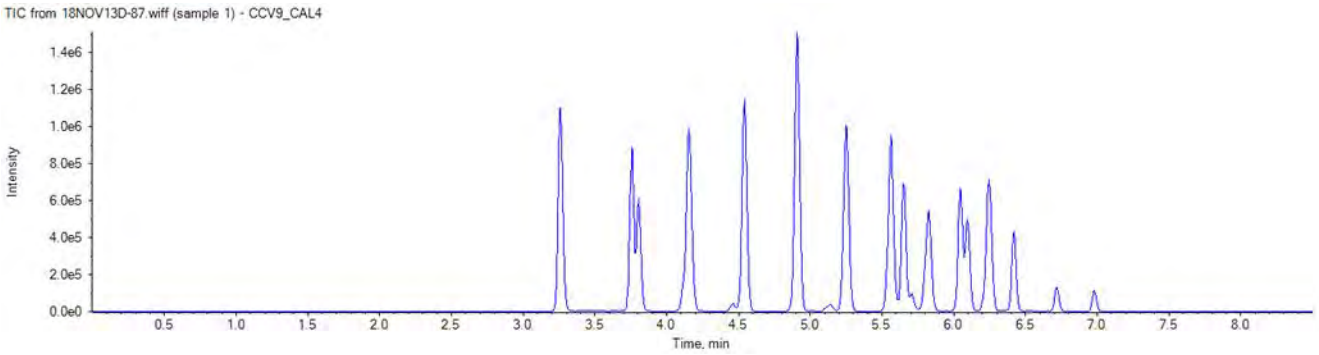
## Analyte Quantitation Peak Table

**Sample Name:** CCV9_CAL4 **Instrument Name:** LM27631 **File Name:** 18NOV13D-87.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 | 1112223.3 | | A | 13C4-PFBA | 3.26 | 756551.9 | 1.470 | 8.144 |
| PFPeA | 3.76 | 1.000 | 1081363.0 | | A | 13C5-PFPeA | 3.76 | 739929.3 | 1.461 | 8.460 |
| PFBS | 3.81 | 1.000 | 612489.9 | | A | 13C3-PFBS | 3.81 | 418251.4 | 1.464 | 6.966 |
| 4:2-FTS | 4.12 | 1.000 | 136144.9 | | A | 13C2-4:2-FTS | 4.12 | 52046.3 | 2.616 | 7.102 |
| PFHxA | 4.15 | 1.000 | 1350925.6 | | A | 13C5-PFHxA | 4.15 | 672141.1 | 2.010 | 8.392 |
| PFPeS | 4.17 | 1.100 | 313924.4 | | A | 13C3-PFBS | 3.81 | 418251.4 | 0.751 | 7.287 |
| PFHpA | 4.54 | 1.000 | 1333013.6 | | A | 13C4-PFHpA | 4.54 | 517067.8 | 2.578 | 8.545 |
| PFHxS | 4.54 | 1.000 | 472675.8 | | M | 13C3-PFHxS | 4.54 | 310608.1 | 1.522 | 7.379 |
| 6:2-FTS | 4.90 | 1.000 | 106444.9 | | A | 13C2-6:2-FTS | 4.90 | 32887.8 | 3.237 | 7.832 |
| PFHpS | 4.90 | 1.080 | 467233.5 | | A | 13C3-PFHxS | 4.54 | 310608.1 | 1.504 | 7.918 |
| PFOA | 4.91 | 1.000 | 1329657.8 | | A | 13C8-PFOA | 4.91 | 882083.7 | 1.507 | 8.051 |
| PFOS | 5.24 | 1.000 | 450726.1 | | M | 13C8-PFOS | 5.24 | 282129.7 | 1.598 | 6.986 |
| PFNA | 5.26 | 1.000 | 1144678.1 | | A | 13C9-PFNA | 5.26 | 468220.9 | 2.445 | 8.816 |
| PFNS | 5.54 | 1.060 | 290730.6 | | A | 13C8-PFOS | 5.24 | 282129.7 | 1.030 | 7.210 |
| PFDA | 5.56 | 1.000 | 926038.5 | | A | 13C6-PFDA | 5.56 | 597713.3 | 1.549 | 8.214 |
| 8:2-FTS | 5.57 | 1.000 | 88095.7 | | A | 13C2-8:2-FTS | 5.57 | 23981.2 | 3.674 | 8.565 |
| PFOSA | 5.65 | 1.000 | 993745.2 | | A | 13C8-PFOSA | 5.65 | 633301.9 | 1.569 | 7.664 |
| NMeFOSAA | 5.71 | 1.000 | 109827.8 | | M | d3-NMeFOSAA | 5.71 | 75436.1 | 1.456 | 8.228 |
| PFDS | 5.80 | 1.110 | 245198.7 | | A | 13C8-PFOS | 5.24 | 282129.7 | 0.869 | 7.875 |
| PFUnDA | 5.83 | 1.000 | 757355.4 | | A | 13C7-PFUnDA | 5.83 | 244941.1 | 3.092 | 8.083 |
| NEtFOSAA | 5.84 | 1.000 | 98288.7 | | A | d5-NEtFOSAA | 5.84 | 66804.3 | 1.471 | 7.713 |
| PFDoDA | 6.05 | 1.000 | 854564.1 | | A | 13C2-PFDoDA | 6.05 | 541325.3 | 1.579 | 8.039 |
| 10:2-FTS | 6.06 | 1.090 | 60995.0 | | A | 13C2-8:2-FTS | 5.57 | 23981.2 | 2.543 | 8.472 |
| NMePFOSAE | 6.10 | 1.000 | 646596.6 | | A | d7-NMePFOSAE | 6.09 | 323518.8 | 1.999 | 8.318 |
| NMePFOSA | 6.10 | 1.000 | 119142.3 | | A | d3-NMePFOSA | 6.10 | 76957.0 | 1.548 | 7.638 |
| PFDoS | 6.21 | 1.190 | 112141.3 | | A | 13C8-PFOS | 5.24 | 282129.7 | 0.397 | 6.962 |
| NEtPFOSAE | 6.25 | 1.000 | 681108.2 | | A | d9-NEtPFOSAE | 6.24 | 277776.6 | 2.452 | 7.867 |
| NEtPFOSA | 6.26 | 1.000 | 100038.5 | | A | d5-NEtPFOSA | 6.26 | 60850.8 | 1.644 | 7.550 |
| PFTrDA | 6.24 | 1.030 | 724225.3 | | A | 13C2-PFDoDA | 6.05 | 541325.3 | 1.338 | 8.444 |
| PFTeDA | 6.42 | 1.000 | 544053.5 | | A | 13C2-PFTeDA | 6.42 | 386437.2 | 1.408 | 7.892 |
| PFHxDA | 6.72 | 1.050 | 274012.8 | | A | 13C2-PFTeDA | 6.42 | 386437.2 | 0.709 | 8.448 |
| PFODA | 6.98 | 1.090 | 242380.9 | | A | 13C2-PFTeDA | 6.42 | 386437.2 | 0.627 | 8.735 |

## Total Ion Chromatogram



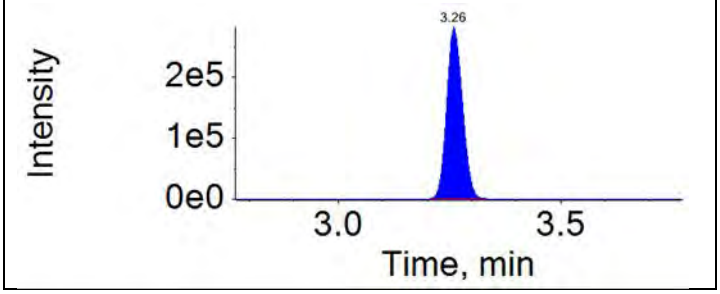

APPROVED
*By JPT at 10:19 am, 11/14/18*



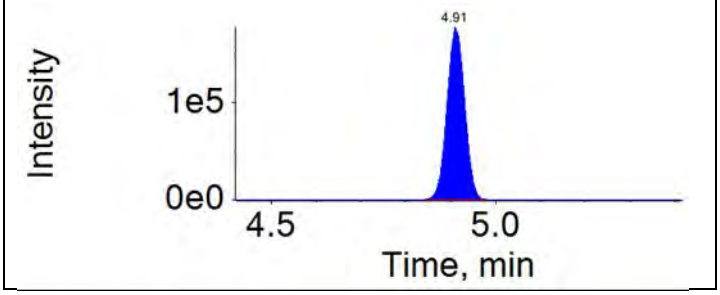
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

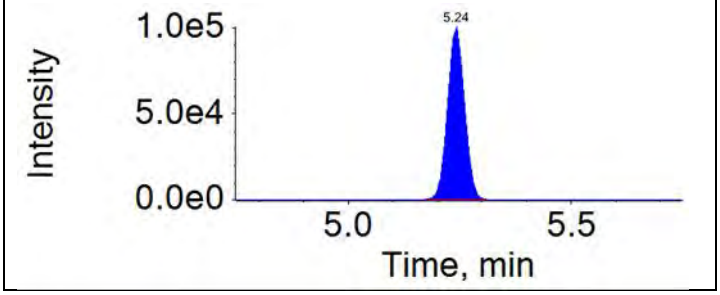
Injection Standard: 13C3-PFBA
216.0 / 172.0



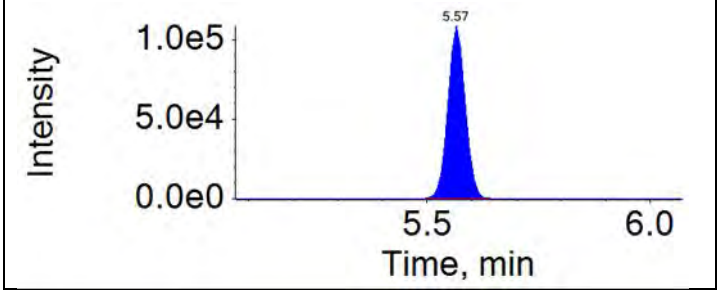

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



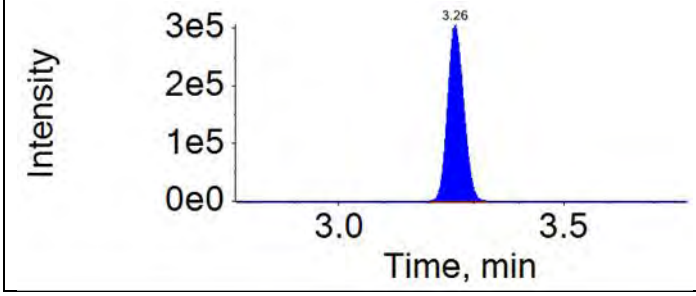

APPROVED
*By JPT at 10:19 am, 11/14/18*

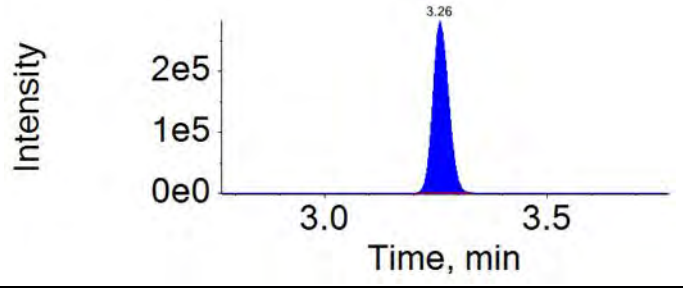


REVIEWED
*By HMK at 11:03 am, 11/15/18*

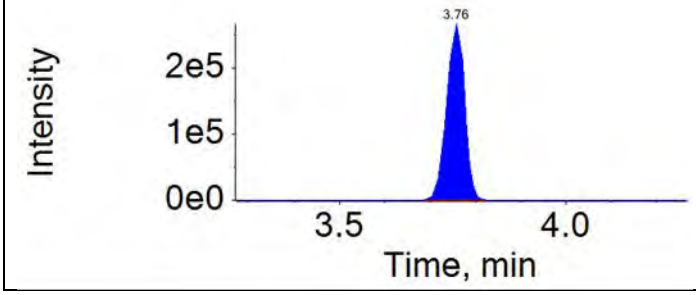
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

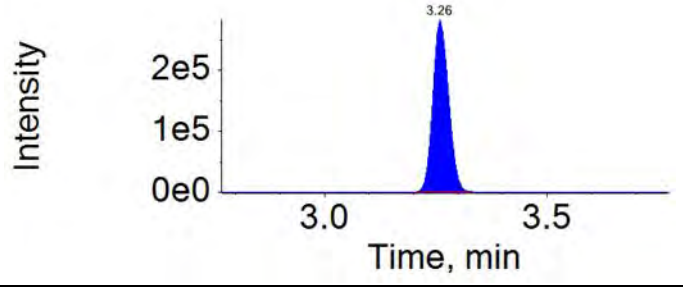
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



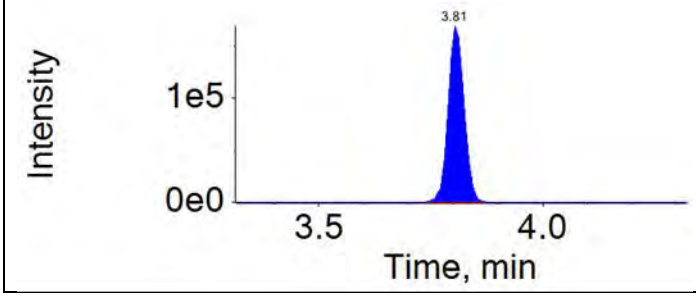



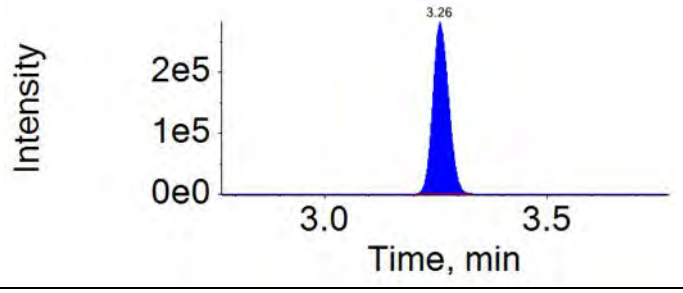

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



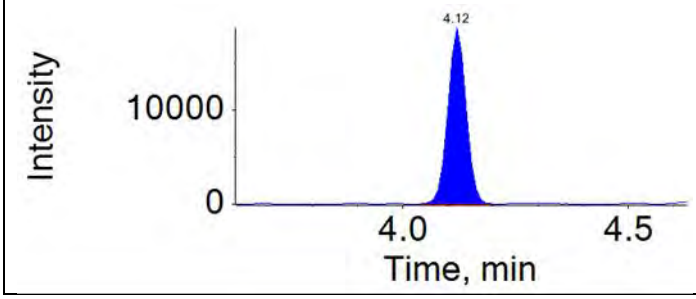



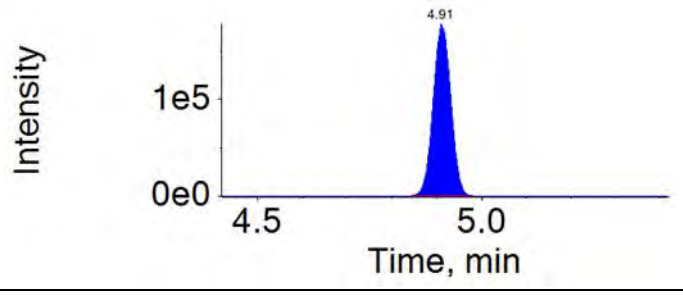

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |



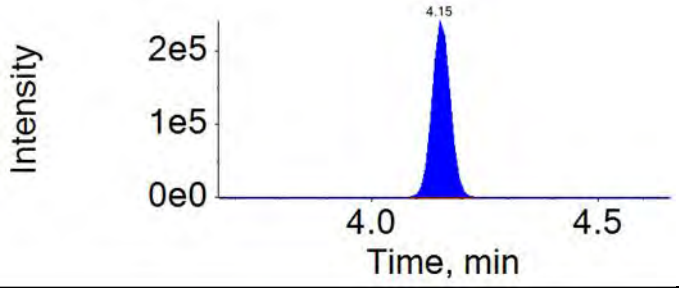
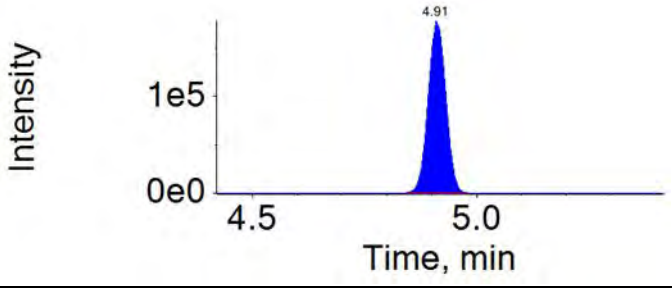




| Extraction Standard: E13C2-4:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 329.0 / 81.0 | 415.0 / 370.0 |



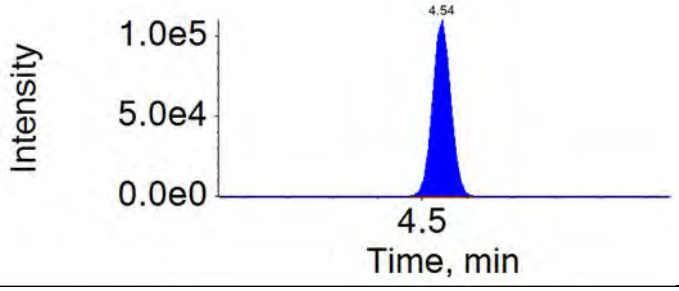
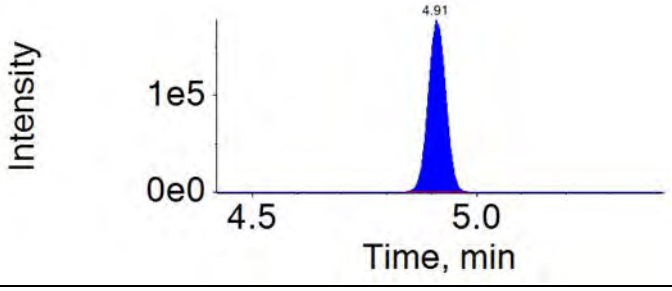



**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |
|  |  |

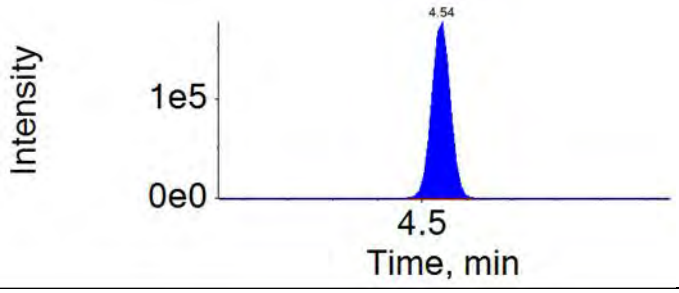
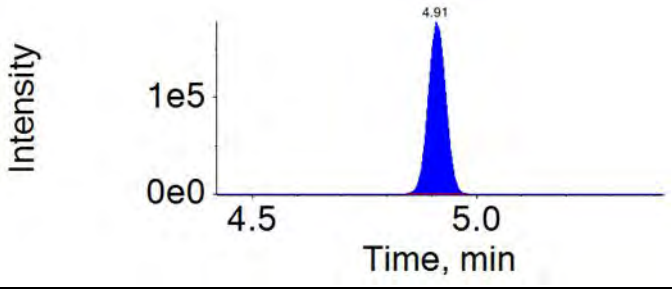




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |

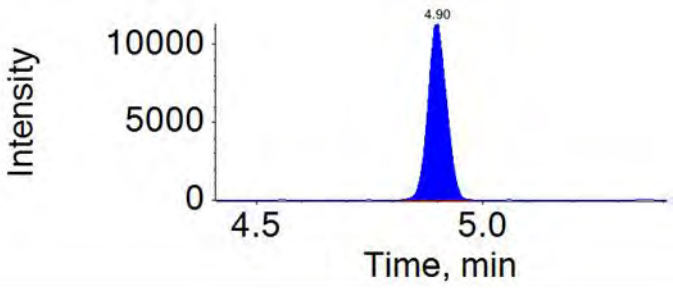
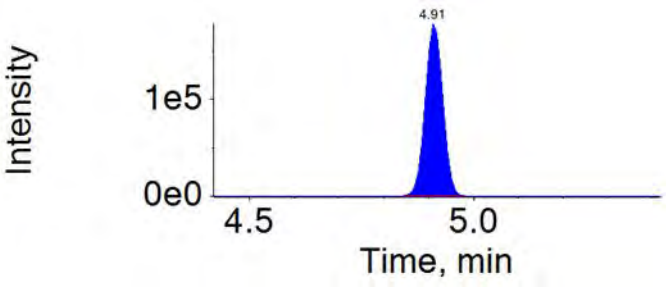




| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |
|  |  |





| Extraction Standard: E13C2-6:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 429.0 / 81.0 | 415.0 / 370.0 |
|  |  |



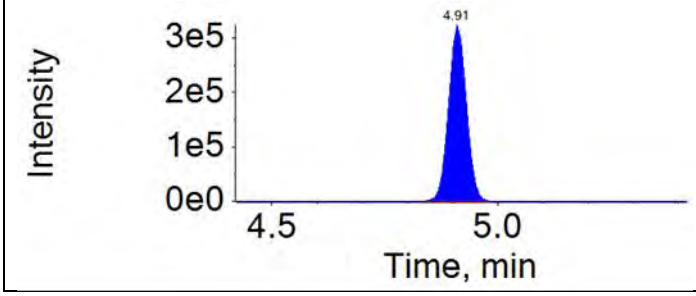
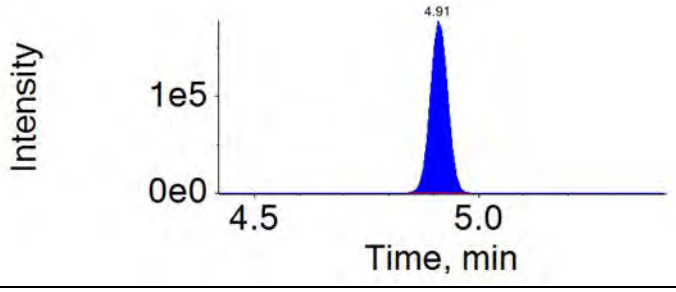


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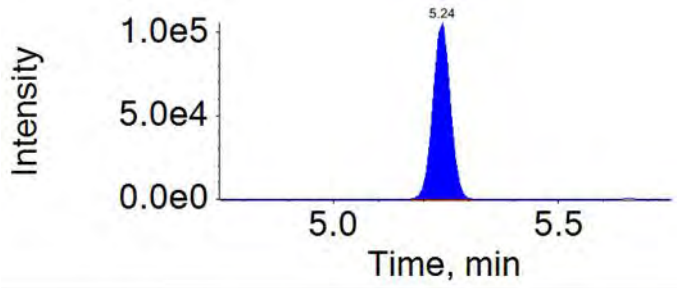
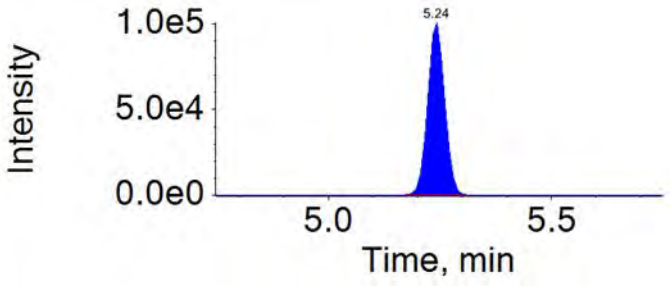
REVIEWED
By HMK at 11:03 am, 11/15/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

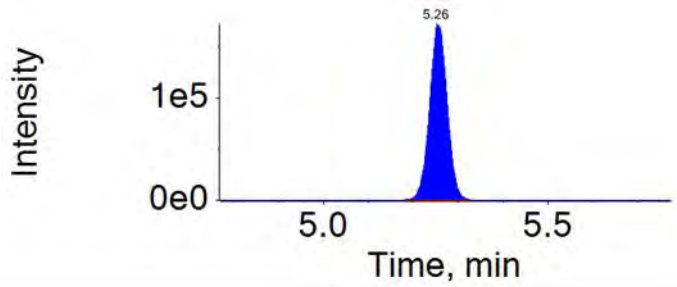
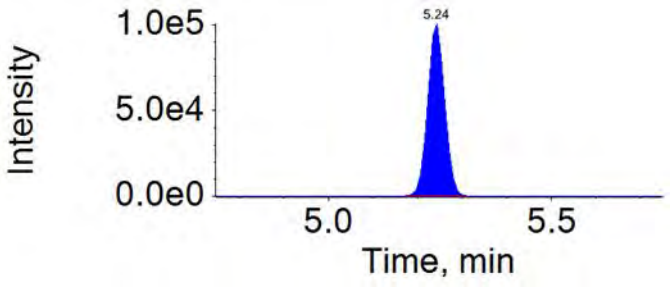




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

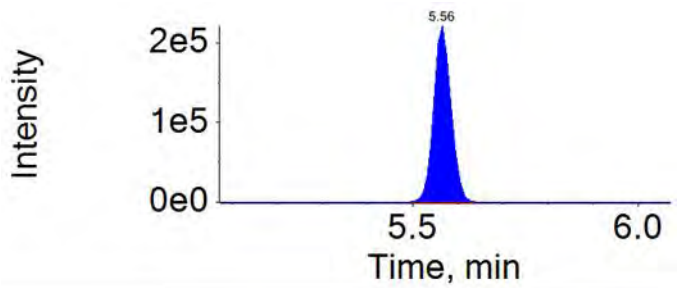
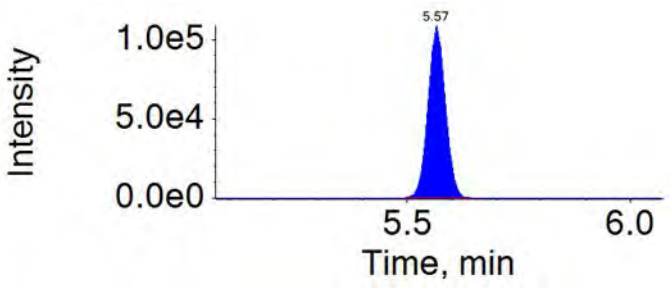




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |

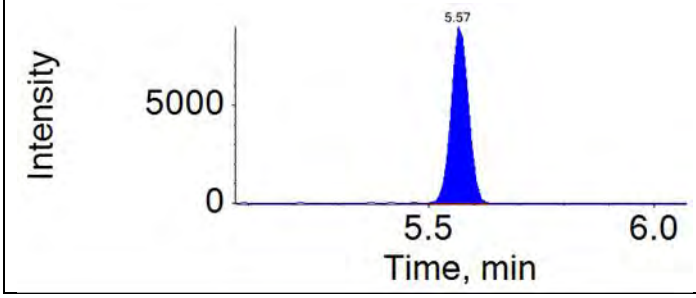


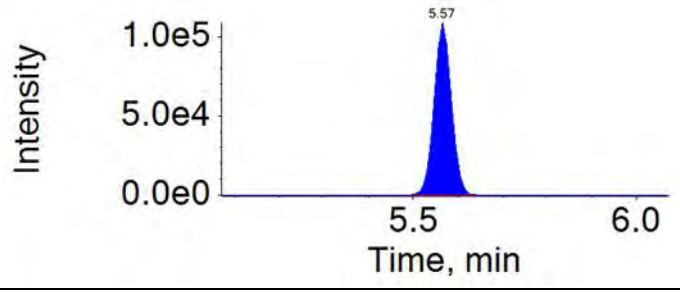


| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

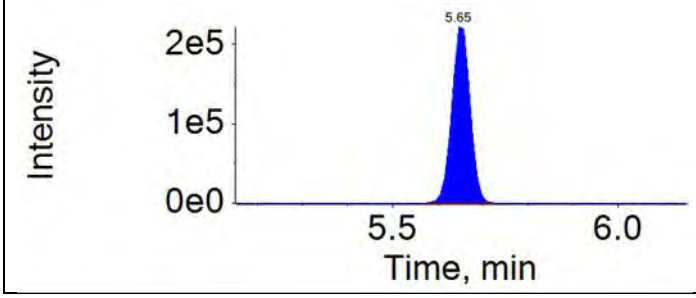
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

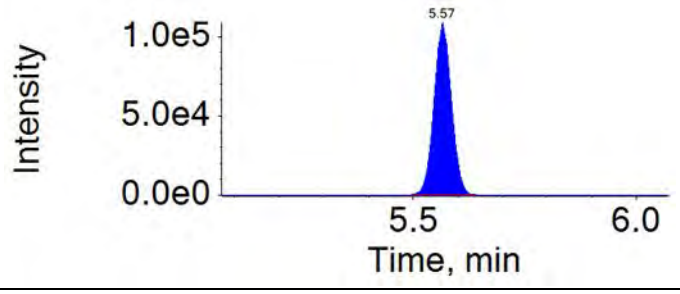
| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |



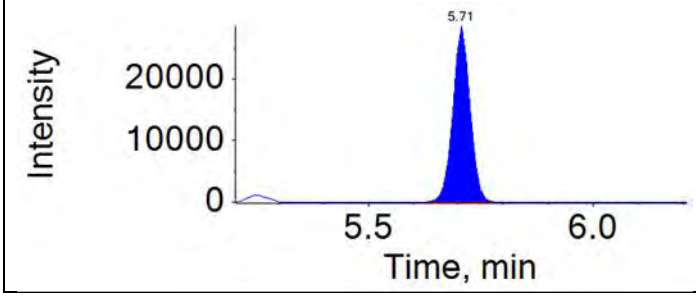



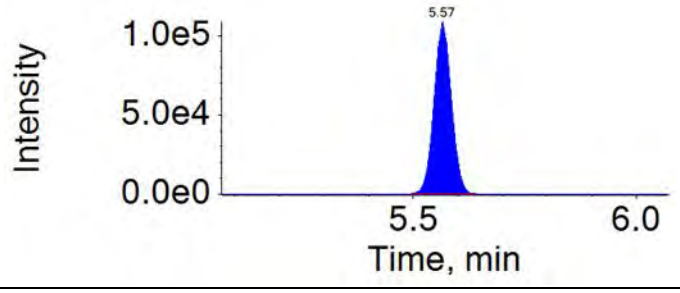

| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |



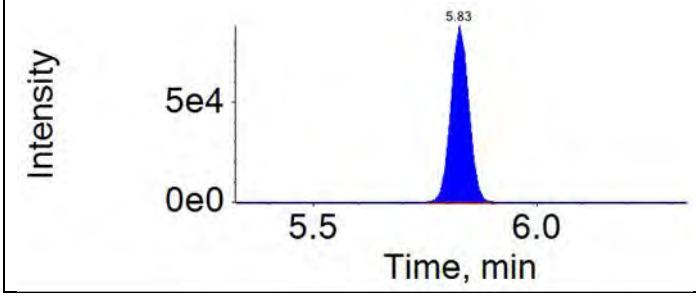



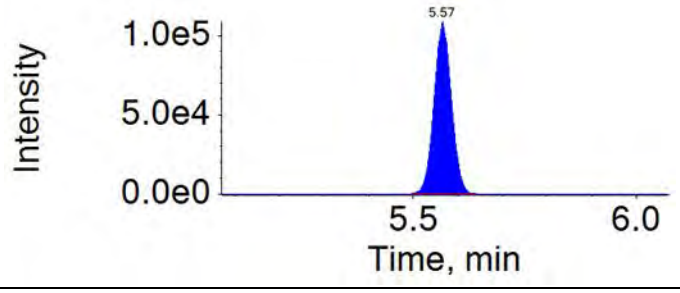

| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |




| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |



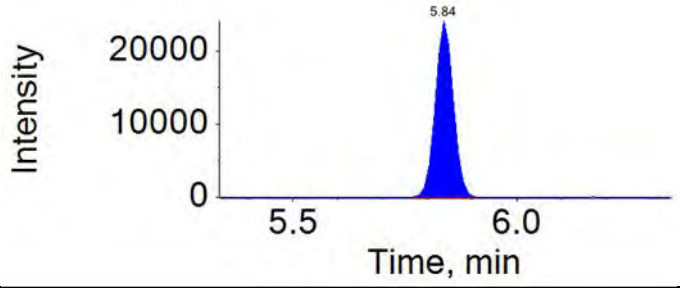
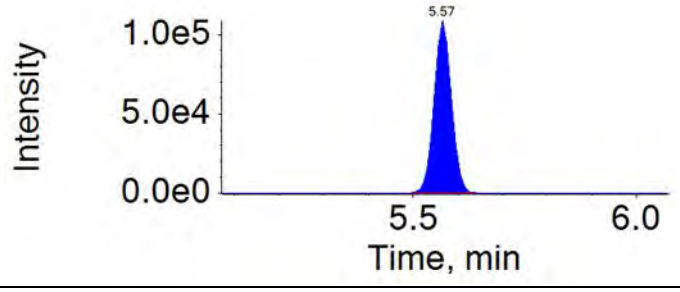




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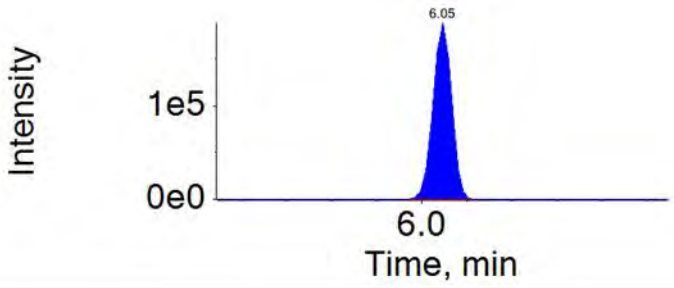
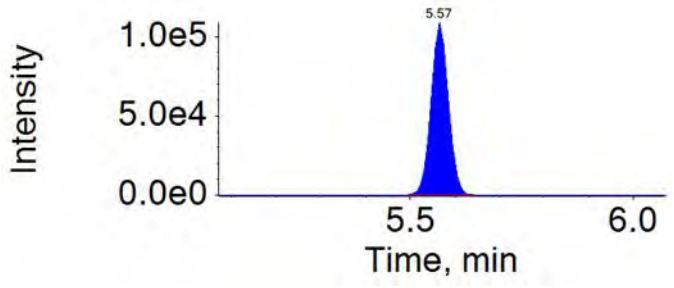
REVIEWED
By HMK at 11:03 am, 11/15/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |

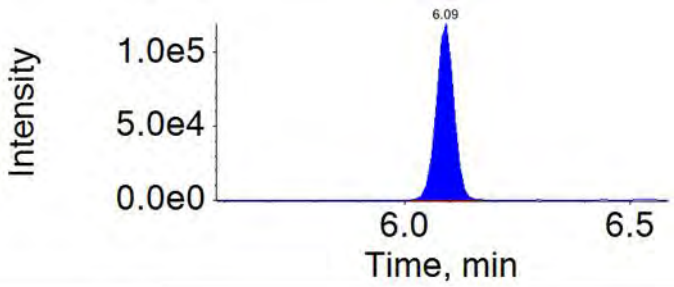
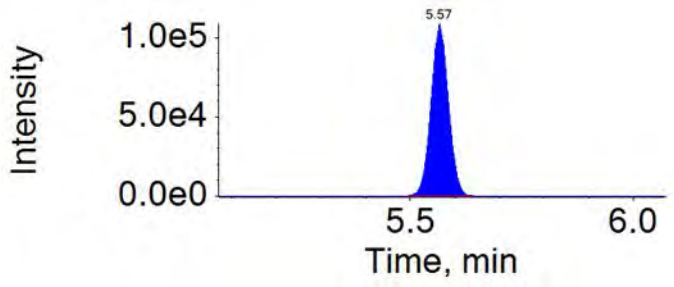




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

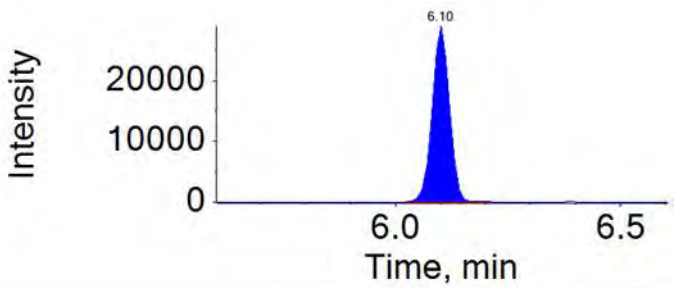
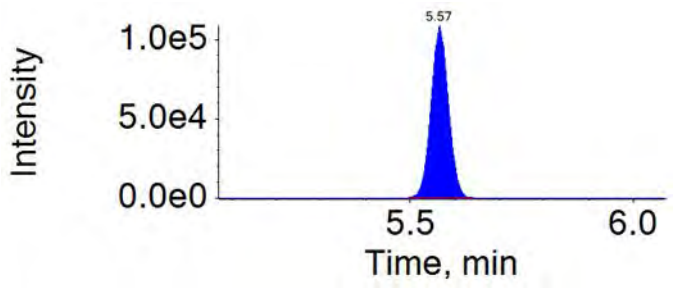




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |

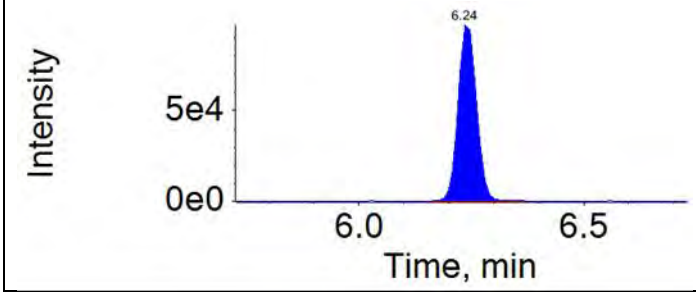


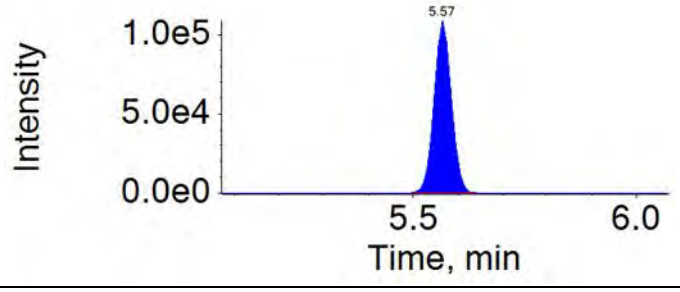


| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |
|  |  |

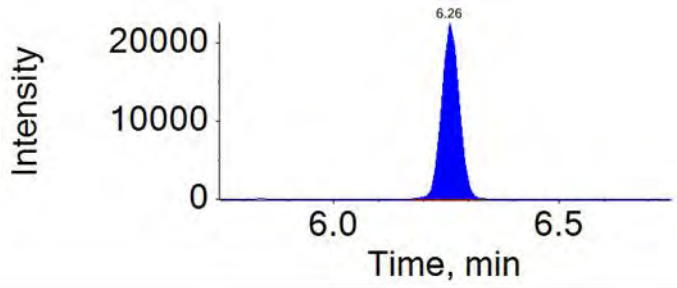
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

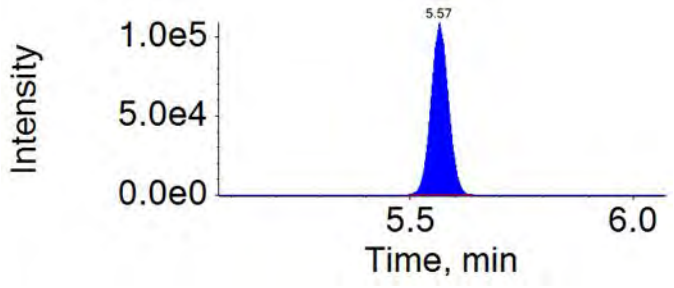
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|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



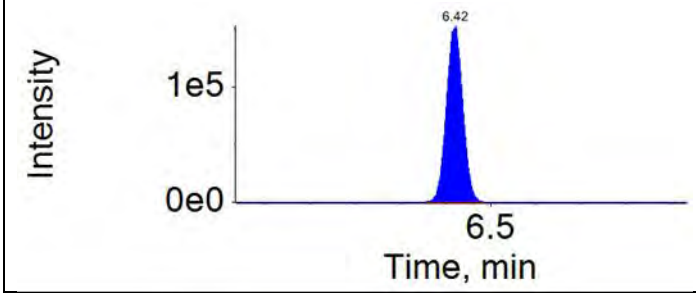



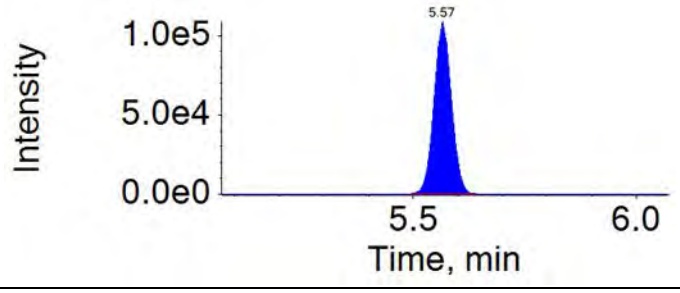

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |



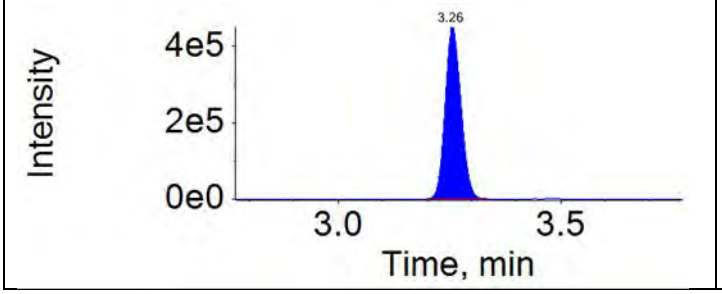

| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |

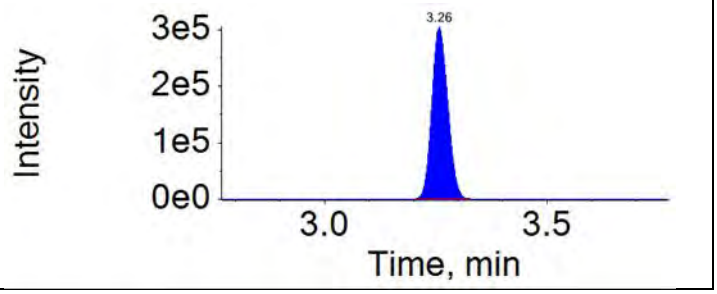


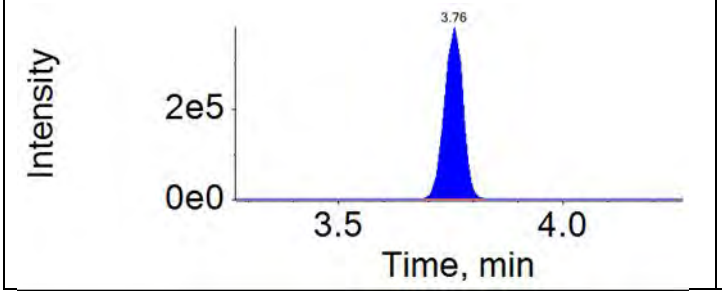
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

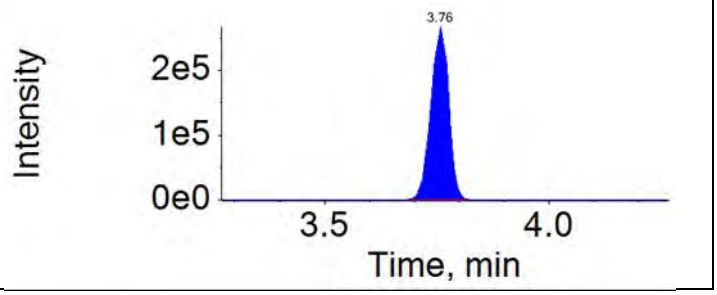
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



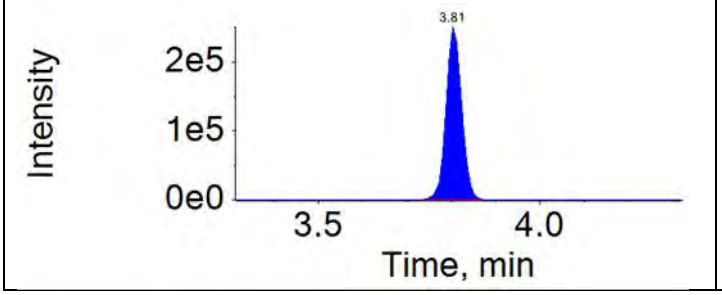



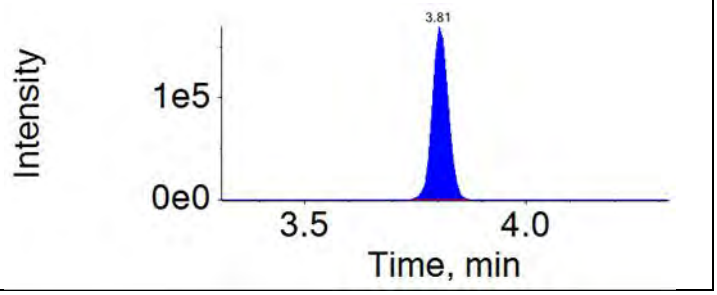

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



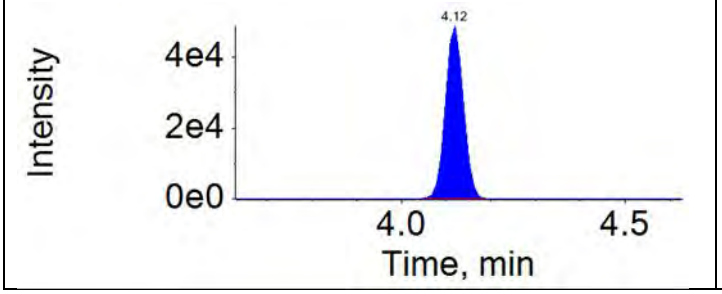



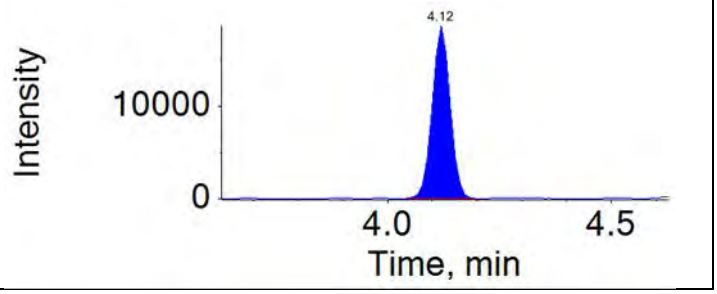

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




| Analyte: 4:2-FTS | Extraction Standard: 13C2-4:2-FTS |
|---|---|
| 327.0 / 307.0 | 329.0 / 81.0 |



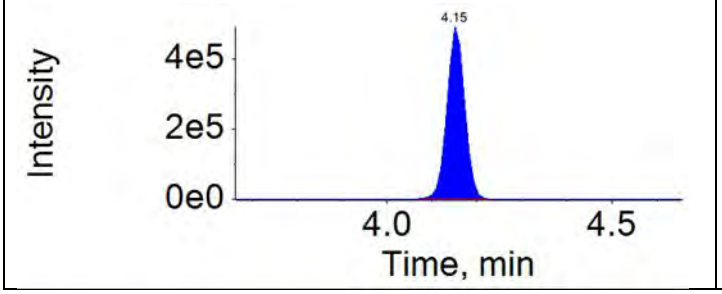

APPROVED
*By JPT at 10:19 am, 11/14/18*

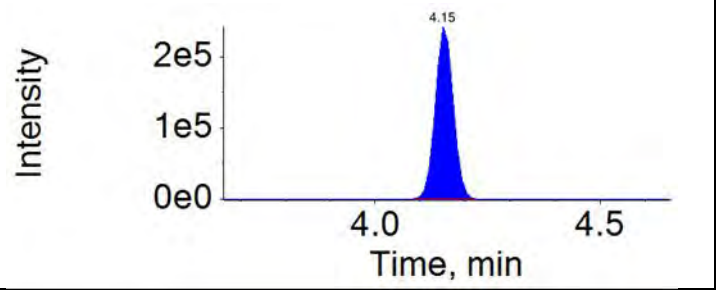


REVIEWED
*By HMK at 11:03 am, 11/15/18*

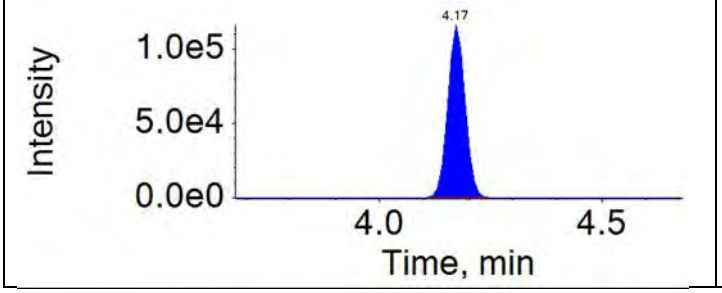
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

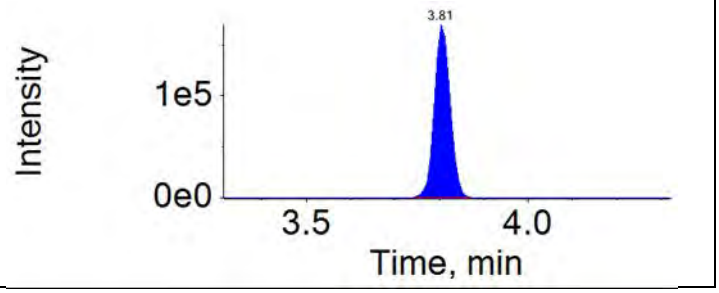
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



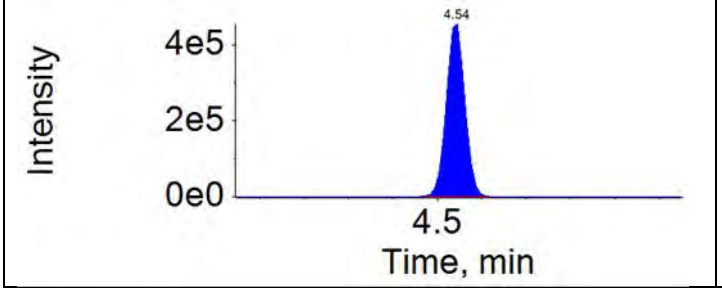



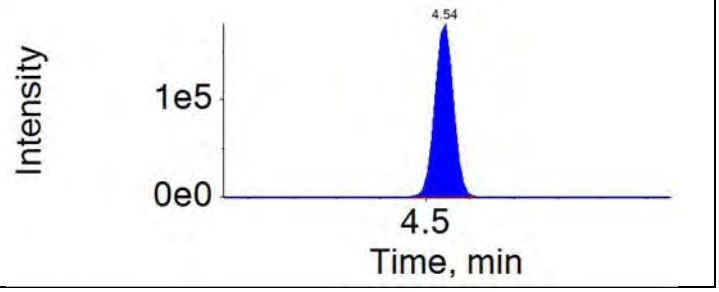

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



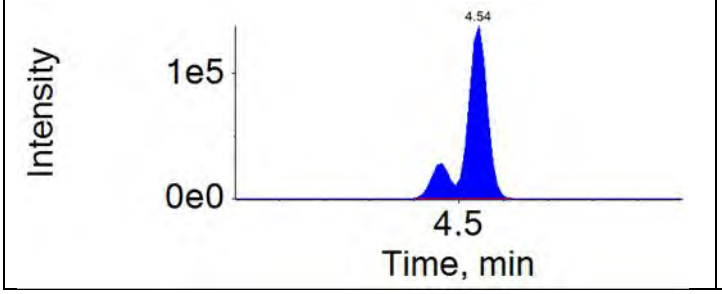



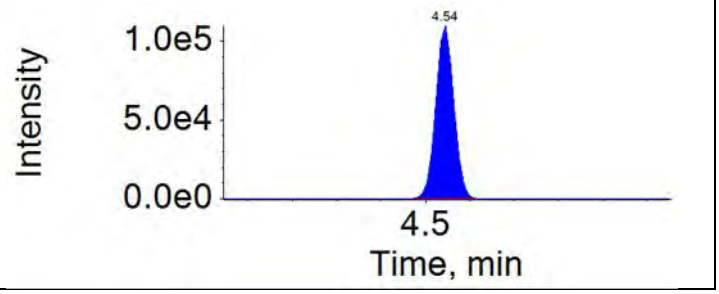

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |



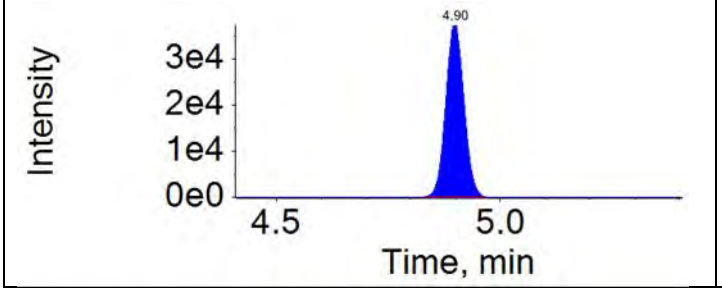

APPROVED
By JPT at 10:19 am, 11/14/18

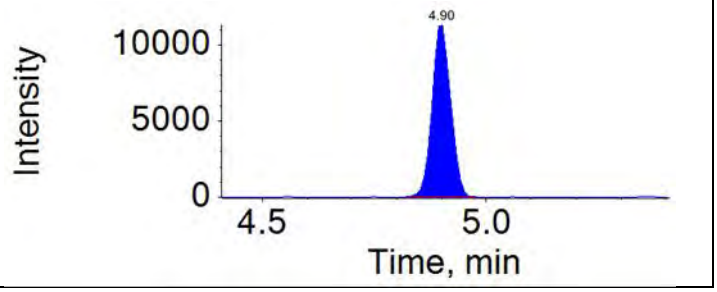


REVIEWED
By HMK at 11:03 am, 11/15/18

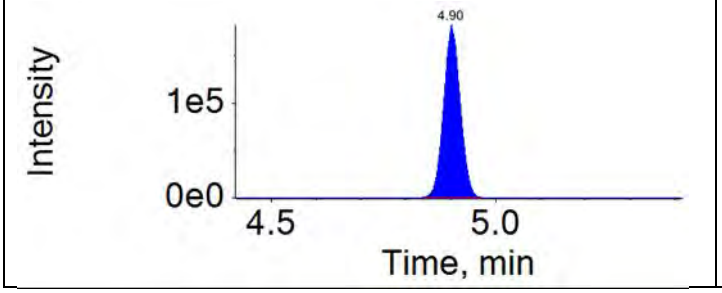
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

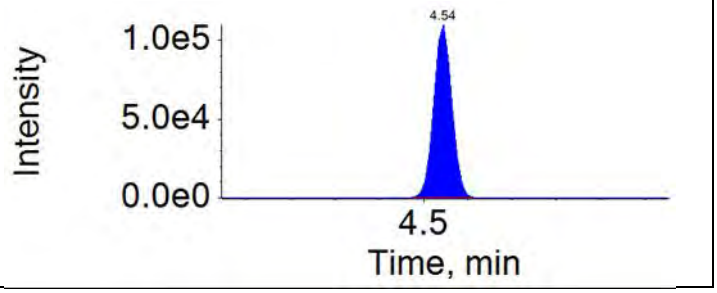
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



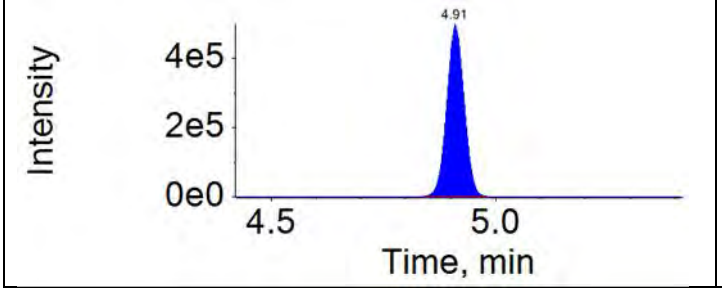



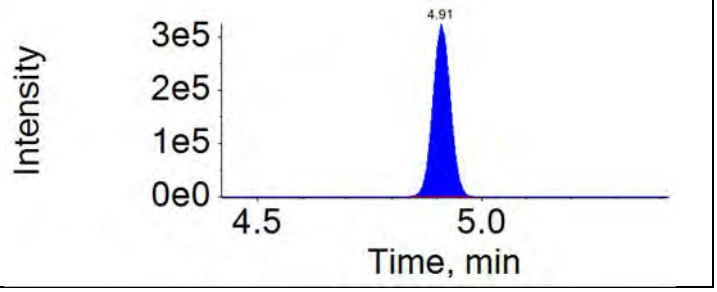

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



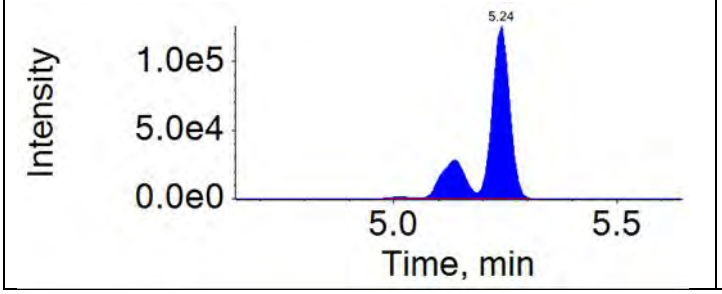



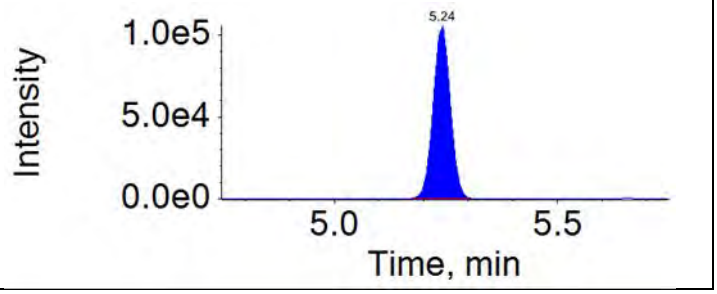

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



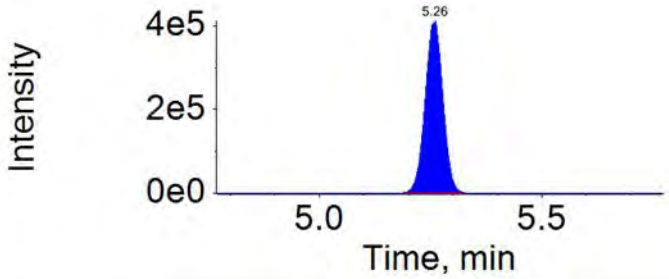

APPROVED
*By JPT at 10:19 am, 11/14/18*

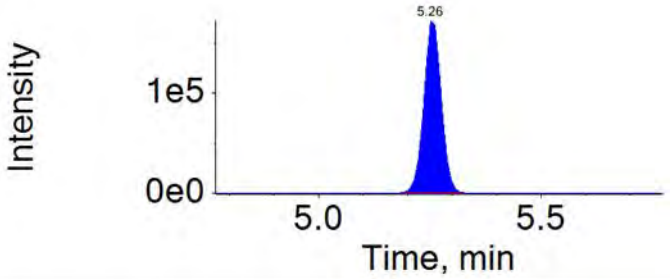


REVIEWED
*By HMK at 11:03 am, 11/15/18*

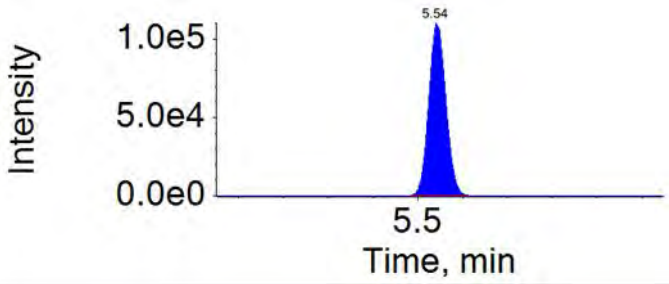
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

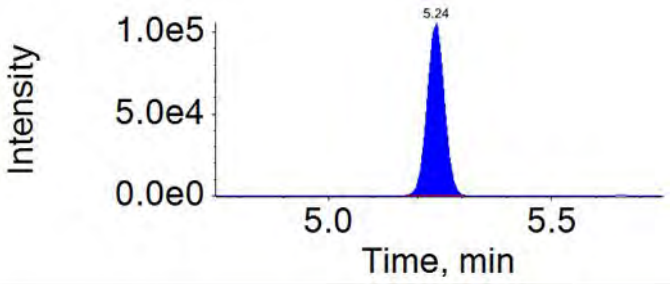
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



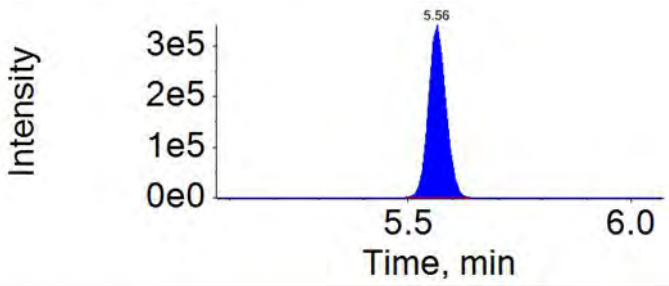



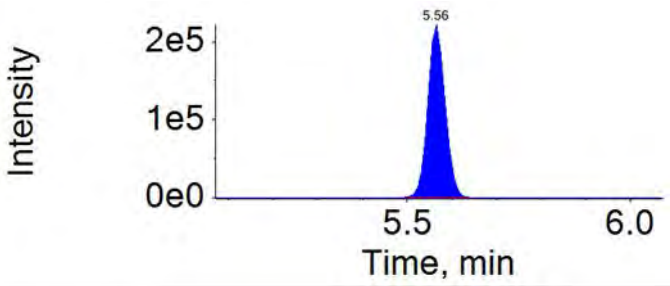

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



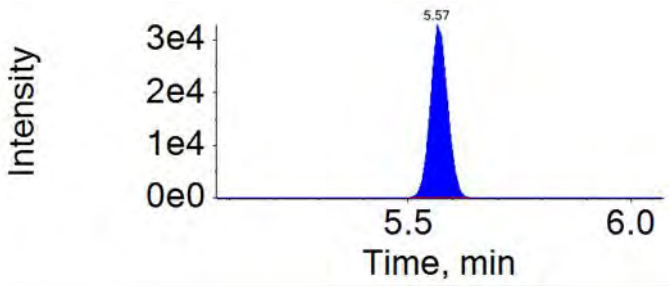



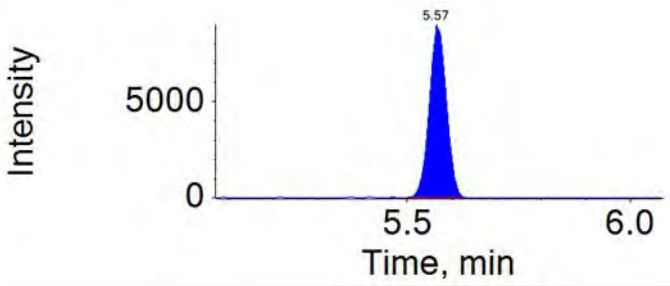

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




| Analyte: 8:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 527.0 / 507.0 | 529.0 / 81.0 |



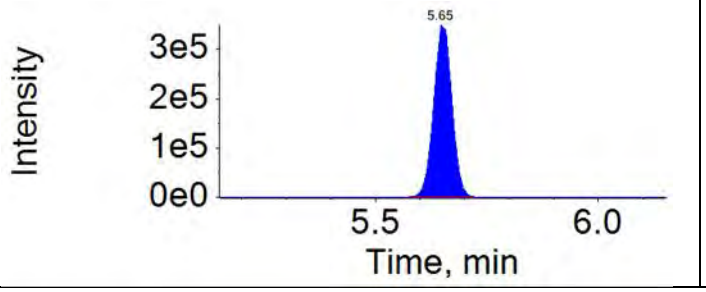

APPROVED
*By JPT at 10:19 am, 11/14/18*

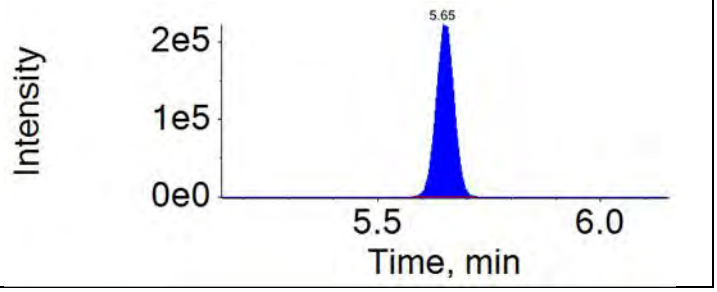


REVIEWED
*By HMK at 11:03 am, 11/15/18*

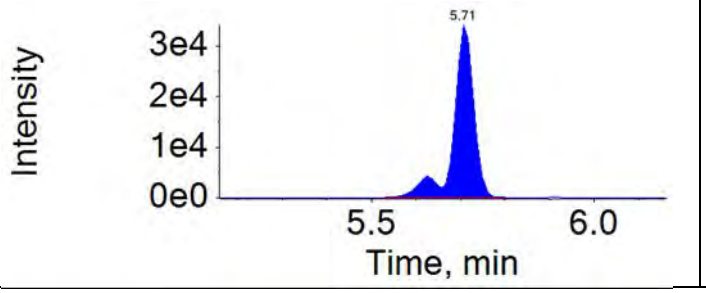
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

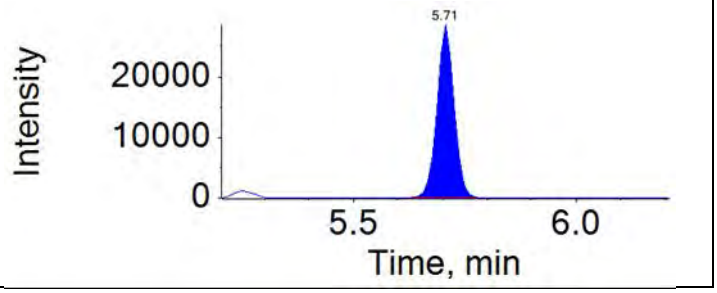
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



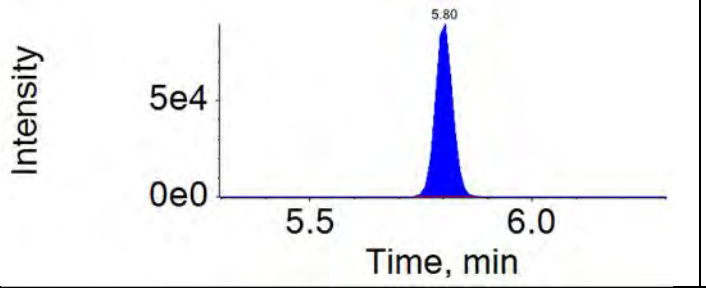



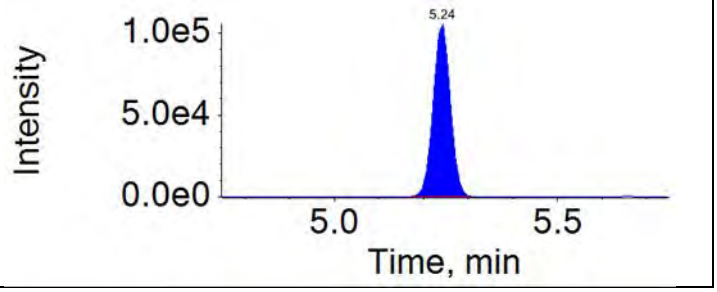

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



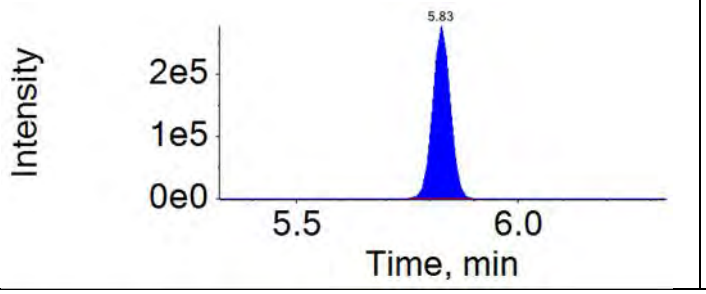



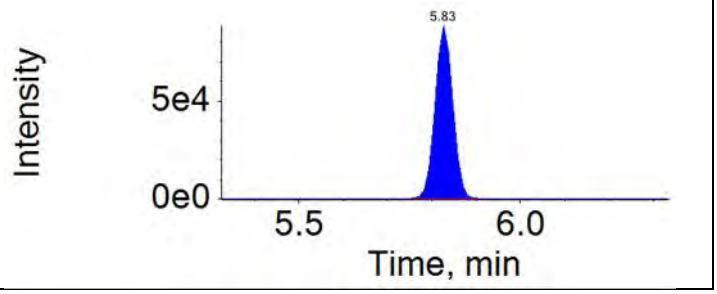

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



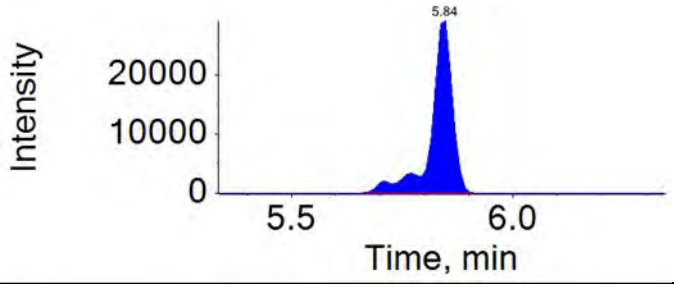
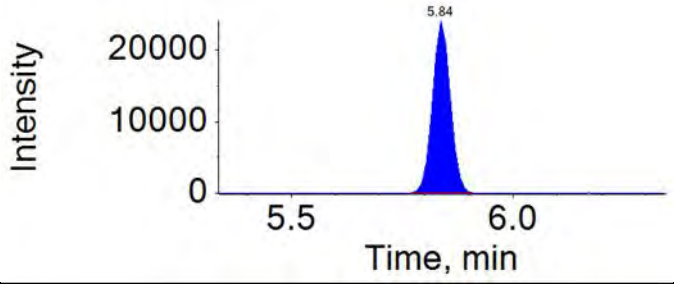




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*By JPT at 10:19 am, 11/14/18*

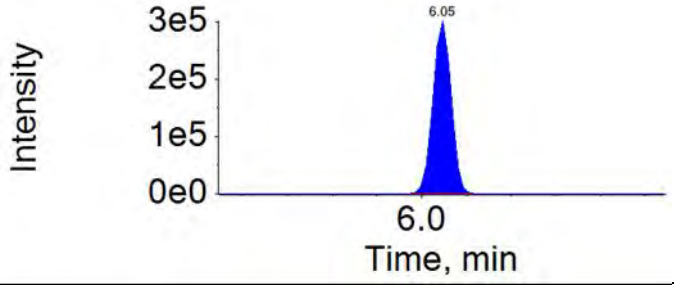
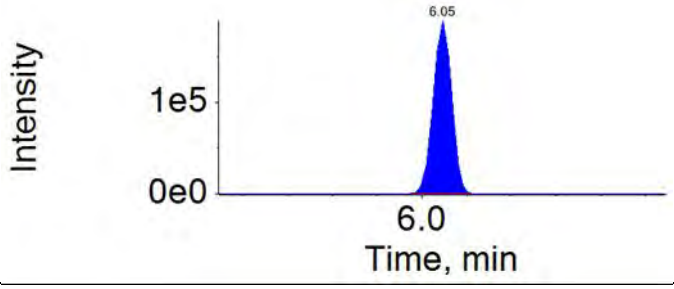


REVIEWED
*By HMK at 11:03 am, 11/15/18*

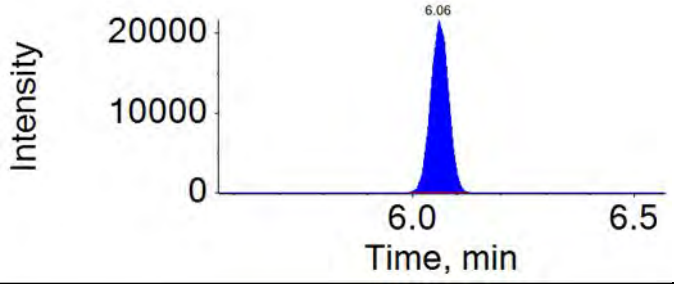
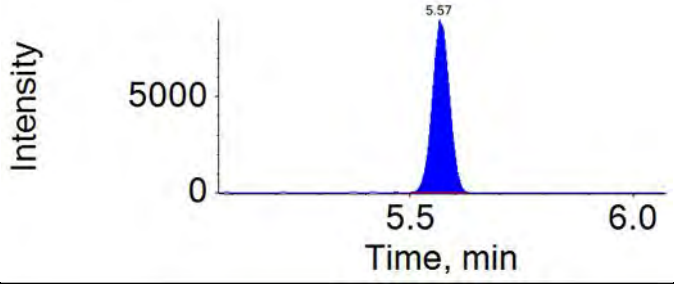
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |
|  |  |

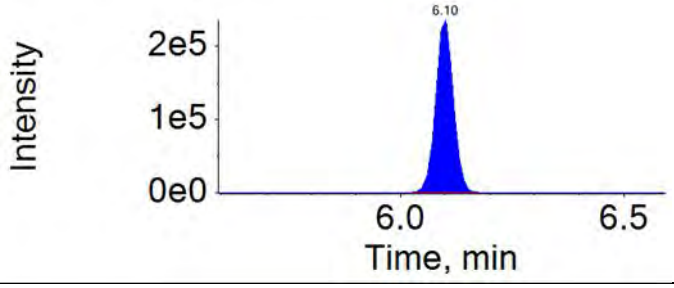
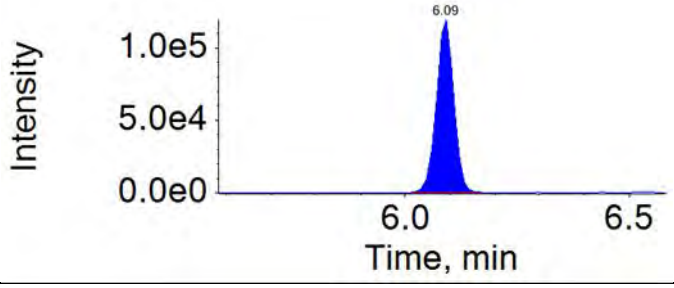


| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |
|  |  |



| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |
|  |  |



| Analyte: NMePFOSAE | Extraction Standard: d7-NMePFOSAE |
|---|---|
| 616.0 / 59.0 | 623.0 / 59.0 |
|  |  |



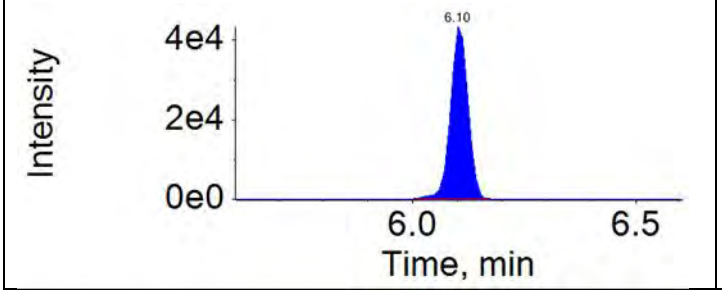
APPROVED
*By JPT at 10:19 am, 11/14/18*

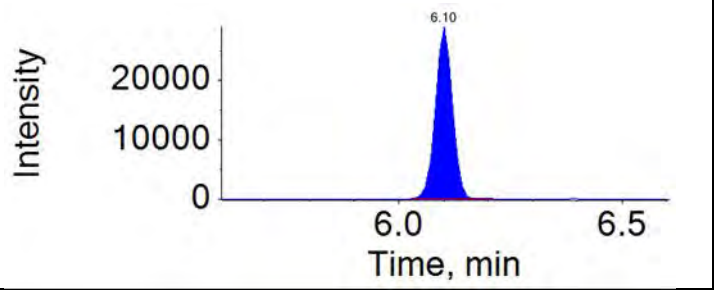


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*By HMK at 11:03 am, 11/15/18*

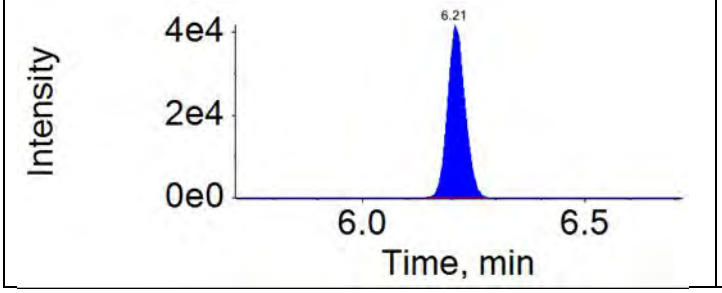
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

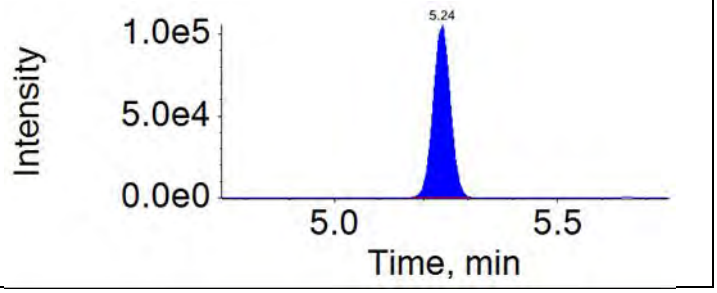
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



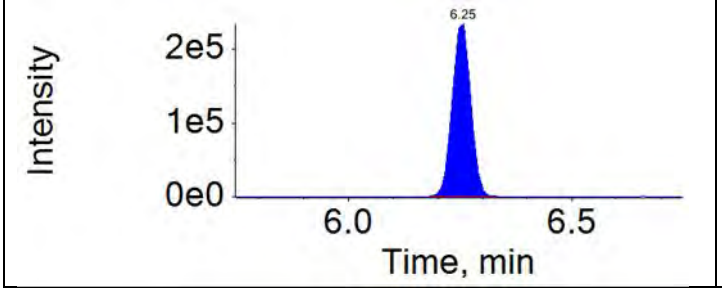



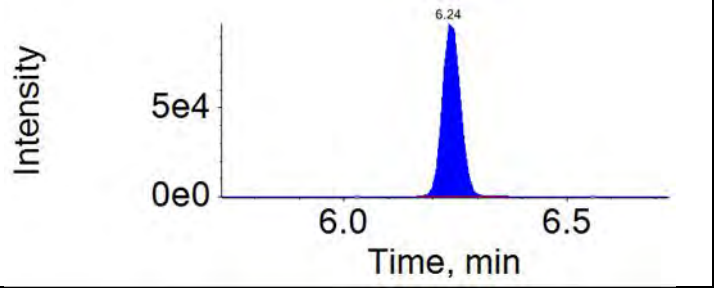

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



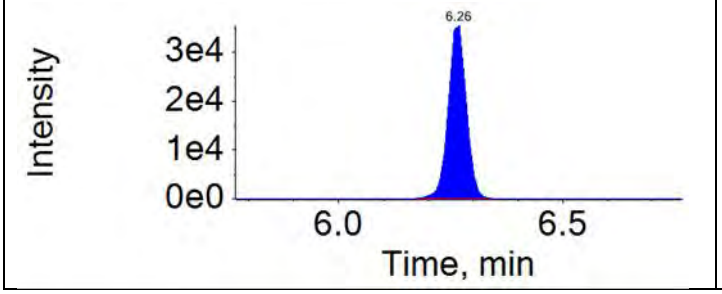



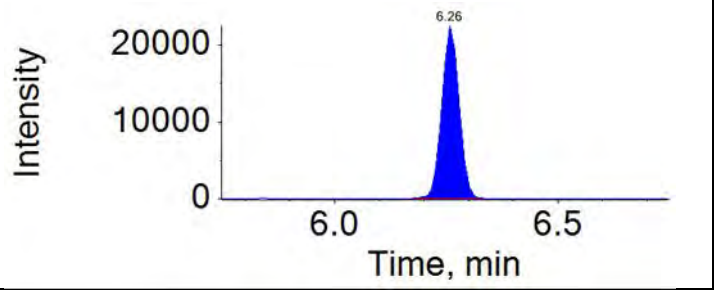

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




| Analyte: NEtPFOSA | Extraction Standard: d5-NEtPFOSA |
|---|---|
| 526.0 / 169.0 | 531.0 / 169.0 |



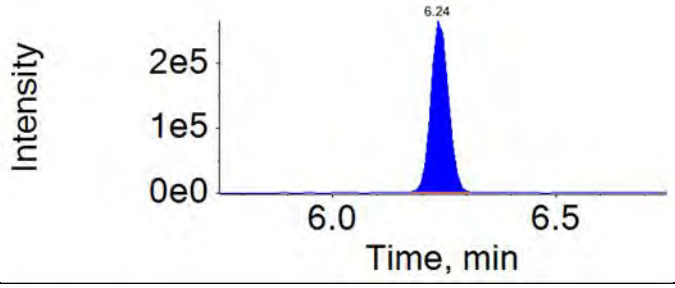
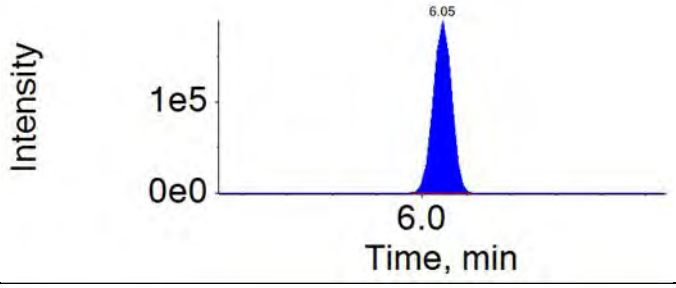




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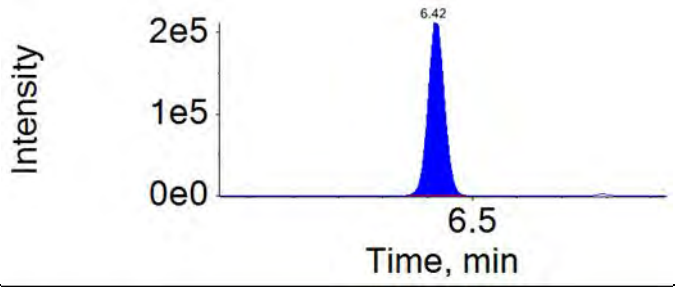
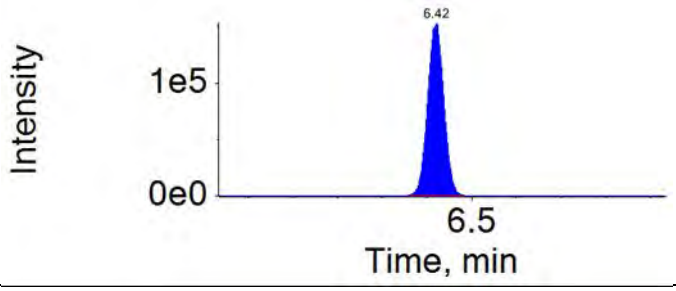
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |
|  |  |

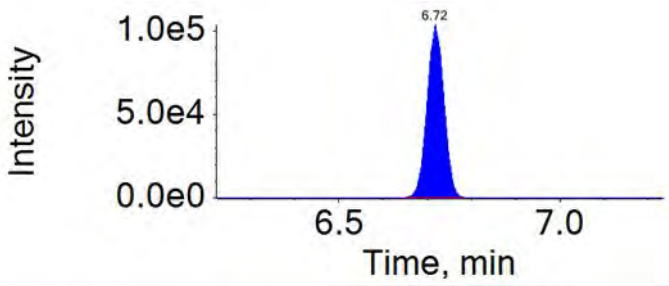
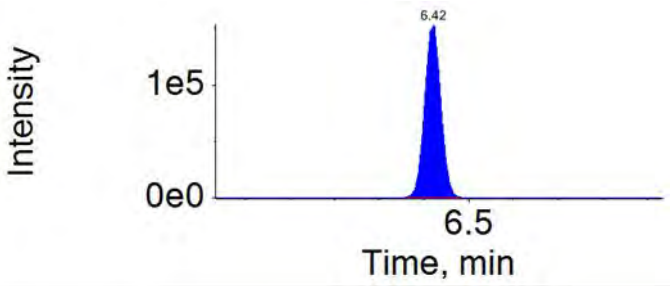




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

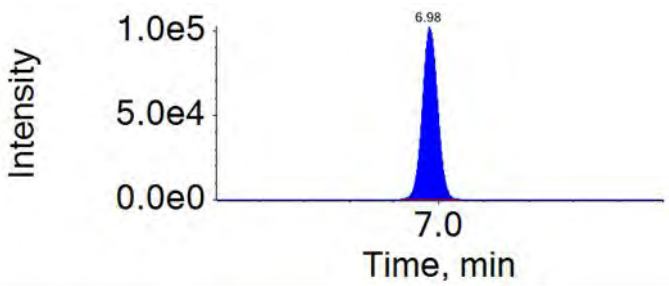
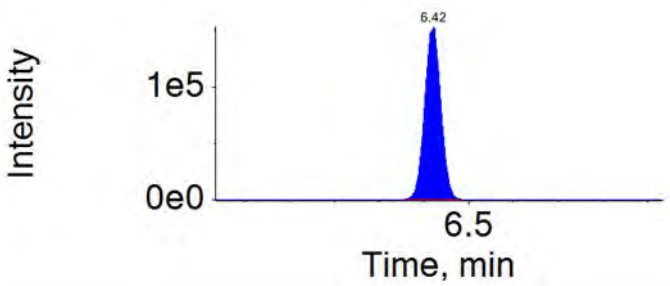




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





| Analyte: PFODA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 913.0 / 869.0 | 715.0 / 670.0 |
|  |  |



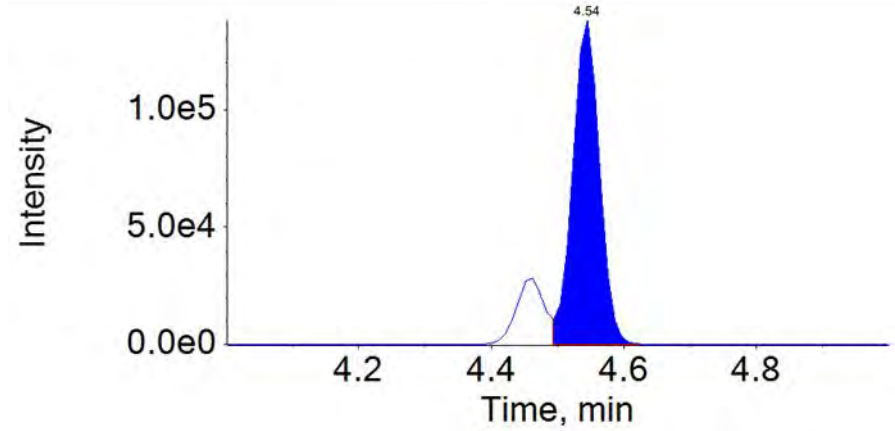


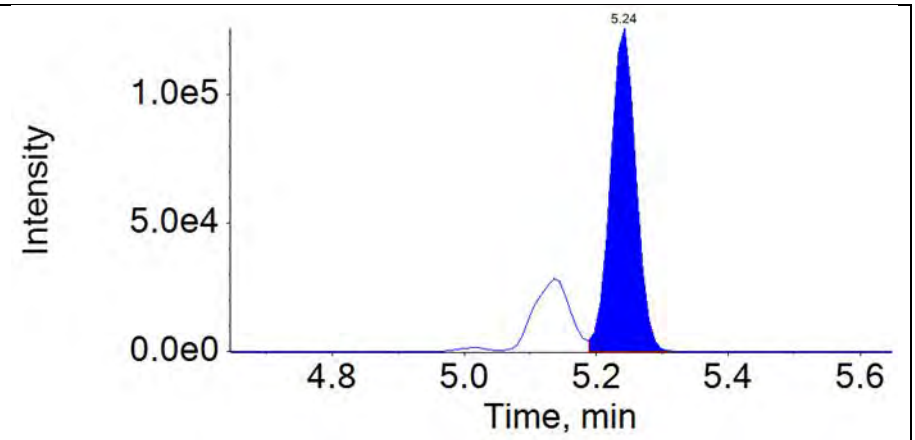
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*By JPT at 10:19 am, 11/14/18*

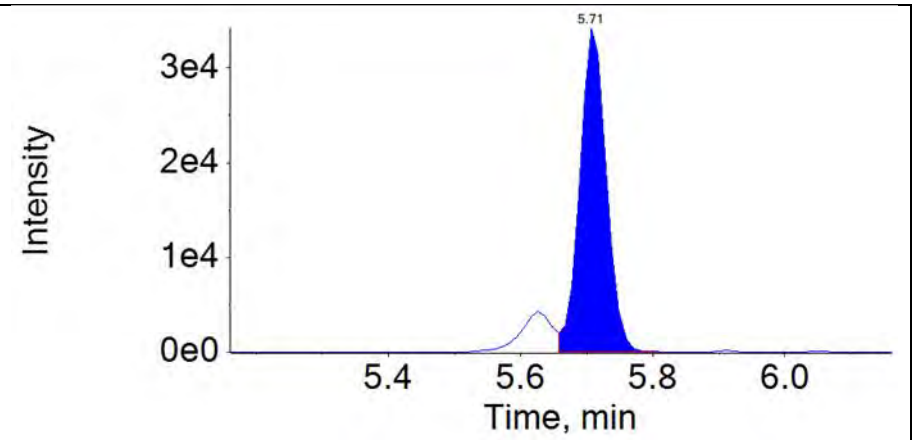


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*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFHxS<br>**RT (min.):** 4.54<br>**Peak Area:** 390146.9<br>**Mass Range:** 399.0 / 80.0<br>**File Name:** 18NOV13D-87.wiff<br>**Sample Name:** CCV9_CAL4 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS<br>**RT (min.):** 5.24<br>**Peak Area:** 337320.5<br>**Mass Range:** 499.0 / 80.0<br>**File Name:** 18NOV13D-87.wiff<br>**Sample Name:** CCV9_CAL4 | <br>**Integration Comment:** incorrect integration |

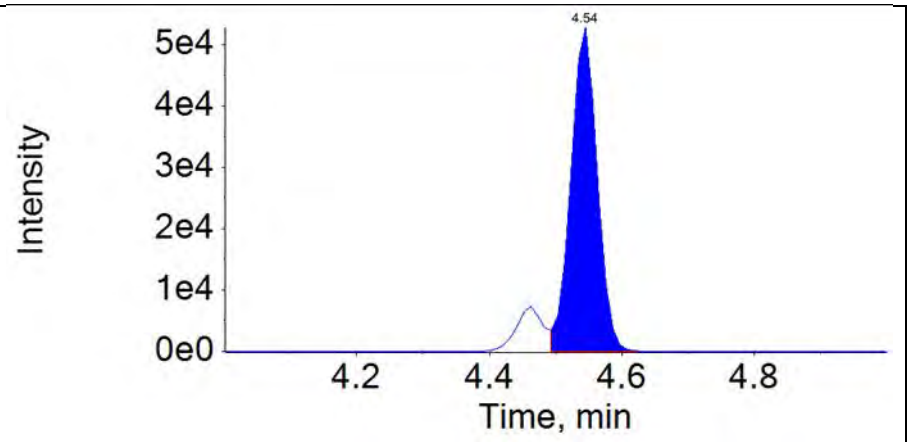
| | |
|---|---|
| **Component Name:** NMeFOSAA<br>**RT (min.):** 5.71<br>**Peak Area:** 95648.7<br>**Mass Range:** 570.0 / 419.0<br>**File Name:** 18NOV13D-87.wiff<br>**Sample Name:** CCV9_CAL4 | <br>**Integration Comment:** incorrect integration |

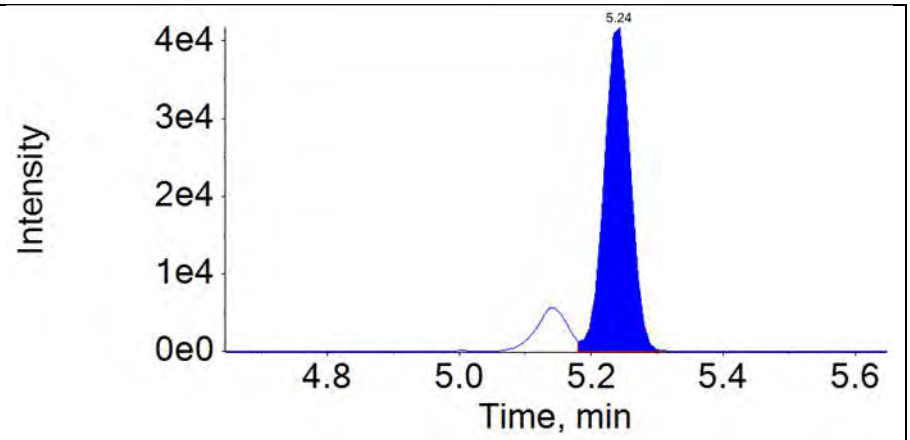
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*By JPT at 10:19 am, 11/14/18*

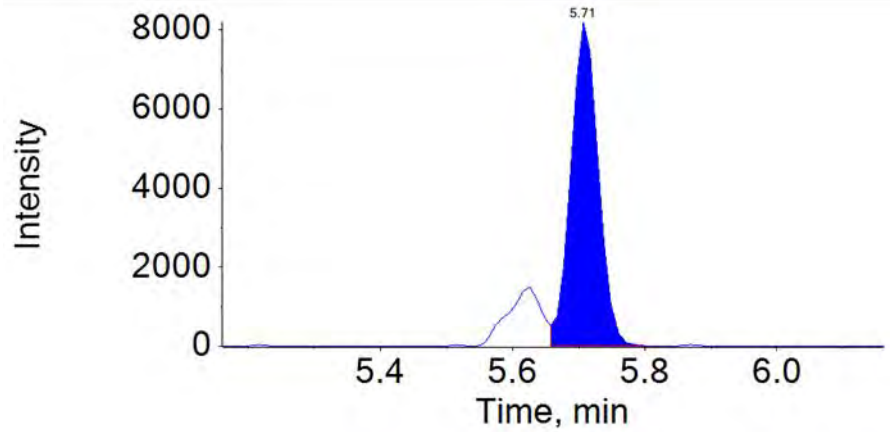


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*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFHxS_2<br>**RT (min.):** 4.54<br>**Peak Area:** 146357.3<br>**Mass Range:** 399.0 / 99.0<br>**File Name:** 18NOV13D-87.wiff<br>**Sample Name:** CCV9_CAL4 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.24<br>**Peak Area:** 116171.3<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV13D-87.wiff<br>**Sample Name:** CCV9_CAL4 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NMeFOSAA_2<br>**RT (min.):** 5.71<br>**Peak Area:** 23702.5<br>**Mass Range:** 570.0 / 483.0<br>**File Name:** 18NOV13D-87.wiff<br>**Sample Name:** CCV9_CAL4 | <br>**Integration Comment:** incorrect integration |

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**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

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*By HMK at 11:03 am, 11/15/18*

## Ion Ratio Report

**Sample Name:** CCV9_CAL4 **Instrument Name:** LM27631 **File Name:** 18NOV13D-87.wiff

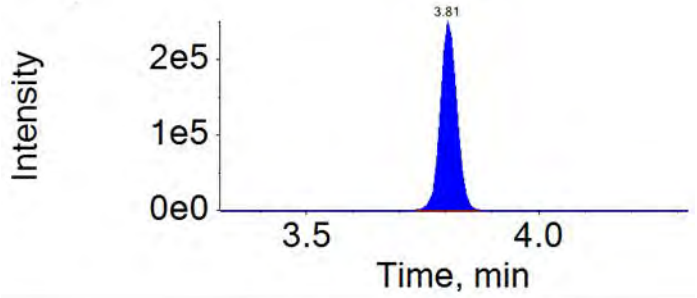
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 612489.9 | A | N/A | 1.0000 | | | |
| PFBS_2 | 3.81 | 1.00 | 227294.6 | A | N/A | 0.3711 | 2 | 50 | |
| 4:2-FTS | 4.12 | 1.00 | 136144.9 | A | N/A | 1.0000 | | | |
| 4:2-FTS_2 | 4.12 | 1.00 | 84417.7 | A | N/A | 0.6201 | -7 | 50 | |
| PFHxA | 4.15 | 1.00 | 1350925.6 | A | N/A | 1.0000 | | | |
| PFHxA_2 | 4.15 | 1.00 | 15487.2 | A | N/A | 0.0115 | -3 | 50 | |
| PFPeS | 4.17 | 1.10 | 313924.4 | A | N/A | 1.0000 | | | |
| PFPeS_2 | 4.17 | 1.10 | 168136.2 | A | N/A | 0.5356 | 3 | 50 | |
| PFHpA | 4.54 | 1.00 | 1333013.6 | A | N/A | 1.0000 | | | |
| PFHpA_2 | 4.54 | 1.00 | 73565.8 | A | N/A | 0.0552 | -2 | 50 | |
| PFHxS | 4.54 | 1.00 | 472675.8 | M | N/A | 1.0000 | | | |
| PFHxS_2 | 4.54 | 1.00 | 167085.1 | M | N/A | 0.3535 | 16 | 50 | |
| 6:2-FTS | 4.90 | 1.00 | 106444.9 | A | N/A | 1.0000 | | | |
| 6:2-FTS_2 | 4.90 | 1.00 | 66085.0 | A | N/A | 0.6208 | -6 | 50 | |
| PFHpS | 4.90 | 1.08 | 467233.5 | A | N/A | 1.0000 | | | |
| PFHpS_2 | 4.90 | 1.08 | 175963.2 | A | N/A | 0.3766 | -7 | 50 | |
| PFOA | 4.91 | 1.00 | 1329657.8 | A | N/A | 1.0000 | | | |
| PFOA_2 | 4.91 | 1.00 | 73275.2 | A | N/A | 0.0551 | -3 | 50 | |
| PFOS | 5.24 | 1.00 | 450726.1 | M | N/A | 1.0000 | | | |
| PFOS_2 | 5.24 | 1.00 | 134942.5 | M | N/A | 0.2994 | 16 | 50 | |
| PFNA | 5.26 | 1.00 | 1144678.1 | A | N/A | 1.0000 | | | |
| PFNA_2 | 5.26 | 1.00 | 23558.7 | A | N/A | 0.0206 | -10 | 50 | |
| PFNS | 5.54 | 1.06 | 290730.6 | A | N/A | 1.0000 | | | |
| PFNS_2 | 5.54 | 1.06 | 132663.6 | A | N/A | 0.4563 | -4 | 50 | |
| PFDA | 5.56 | 1.00 | 926038.5 | A | N/A | 1.0000 | | | |
| PFDA_2 | 5.56 | 1.00 | 5805.8 | A | N/A | 0.0063 | -21 | 50 | |
| 8:2-FTS | 5.57 | 1.00 | 88095.7 | A | N/A | 1.0000 | | | |
| 8:2-FTS_2 | 5.57 | 1.00 | 55628.5 | A | N/A | 0.6315 | -5 | 50 | |
| NMeFOSAA | 5.71 | 1.00 | 109827.8 | M | N/A | 1.0000 | | | |
| NMeFOSAA_2 | 5.71 | 1.00 | 29052.4 | M | N/A | 0.2645 | 24 | 50 | |
| PFDS | 5.80 | 1.11 | 245198.7 | A | N/A | 1.0000 | | | |
| PFDS_2 | 5.80 | 1.11 | 115810.7 | A | N/A | 0.4723 | -7 | 50 | |
| PFUnDA | 5.83 | 1.00 | 757355.4 | A | N/A | 1.0000 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 2794.8 | A | N/A | 0.0037 | -11 | 50 | |
| NEtFOSAA | 5.84 | 1.00 | 98288.7 | A | N/A | 1.0000 | | | |
| NEtFOSAA_2 | 5.84 | 1.00 | 63645.4 | A | N/A | 0.6475 | 12 | 50 | |
| PFDoDA | 6.05 | 1.00 | 854564.1 | A | N/A | 1.0000 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 11832.5 | A | N/A | 0.0138 | -15 | 50 | |
| 10:2-FTS | 6.06 | 1.09 | 60995.0 | A | N/A | 1.0000 | | | |
| 10:2-FTS_2 | 6.06 | 1.09 | 43340.1 | A | N/A | 0.7106 | 10 | 50 | |
| PFTrDA | 6.24 | 1.03 | 724225.3 | A | N/A | 1.0000 | | | |
| PFTrDA_2 | 6.24 | 1.03 | 5936.4 | A | N/A | 0.0082 | -11 | 50 | |
| PFTeDA | 6.42 | 1.00 | 544053.5 | A | N/A | 1.0000 | | | |
| PFTeDA_2 | 6.42 | 1.00 | 4187.3 | A | N/A | 0.0077 | 20 | 50 | |
| PFHxDA | 6.72 | 1.05 | 274012.8 | A | N/A | 1.0000 | | | |
| PFHxDA_2 | 6.72 | 1.05 | 16694.4 | A | N/A | 0.0609 | -10 | 50 | |
| PFODA | 6.98 | 1.09 | 242380.9 | A | N/A | 1.0000 | | | |
| PFODA_2 | 6.98 | 1.09 | 6020.4 | A | N/A | 0.0248 | -8 | 50 | |

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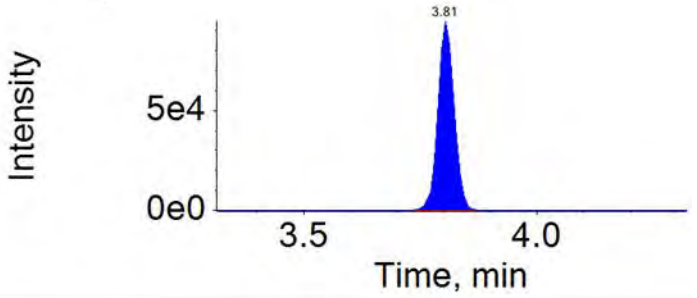


REVIEWED
By HMK at 11:03 am, 11/15/18

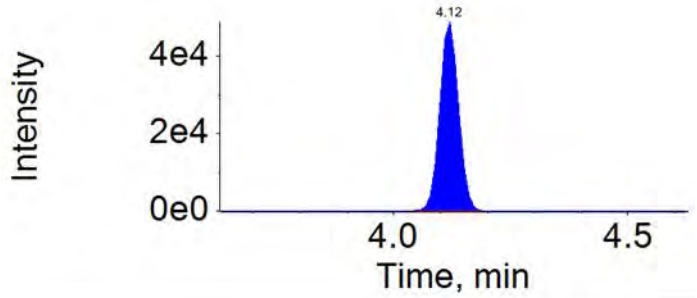
Component: PFBS
Primary Mass: 299.0 / 80.0



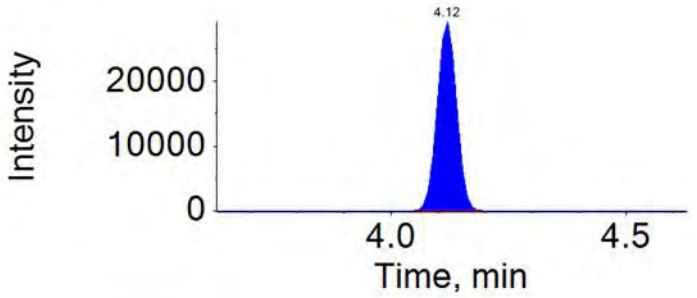

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



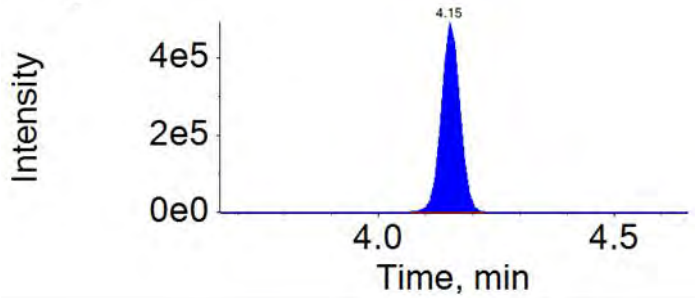

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



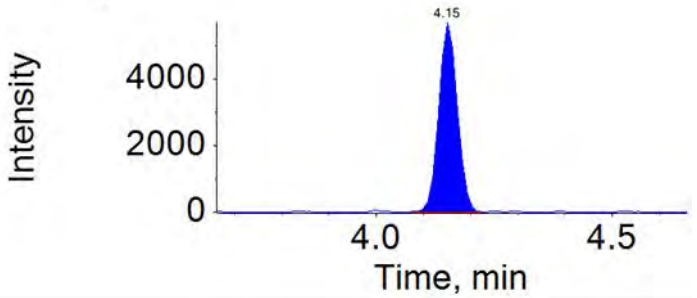

Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



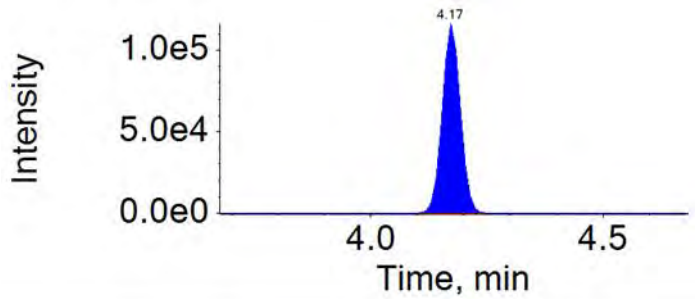

Component: PFHxA
Primary Mass: 313.0 / 269.0



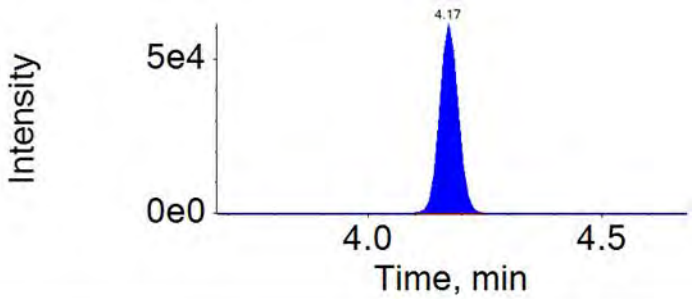

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

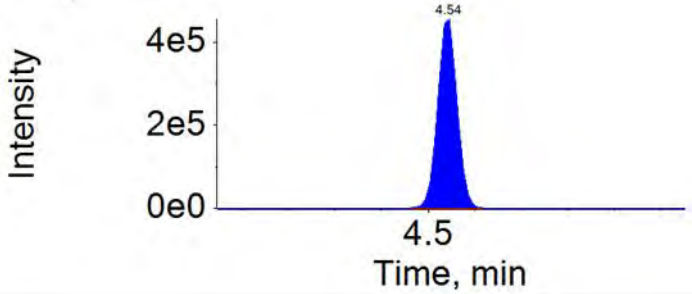



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*By JPT at 10:19 am, 11/14/18*

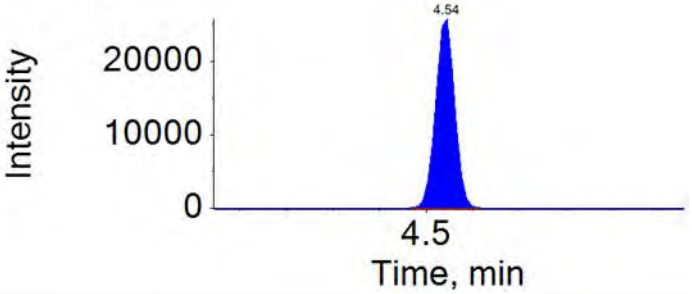


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*By HMK at 11:03 am, 11/15/18*

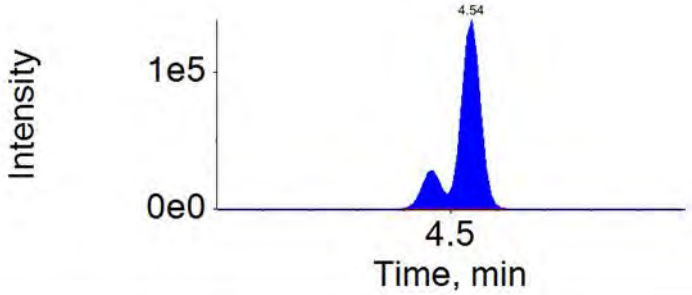
Component: PFHpA
Primary Mass: 363.0 / 319.0



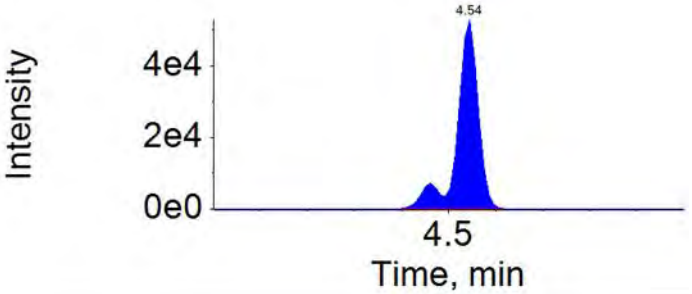

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



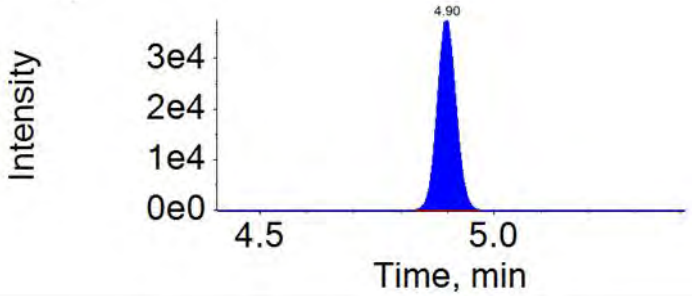

Component: PFHxS
Primary Mass: 399.0 / 80.0



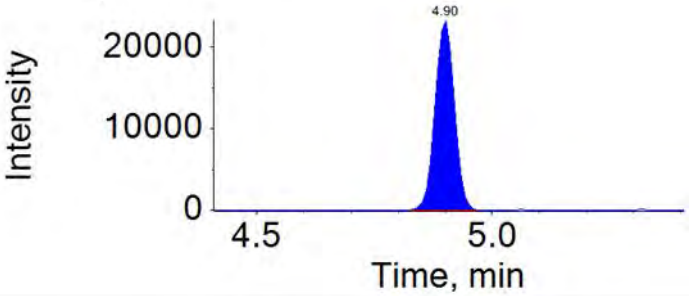

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



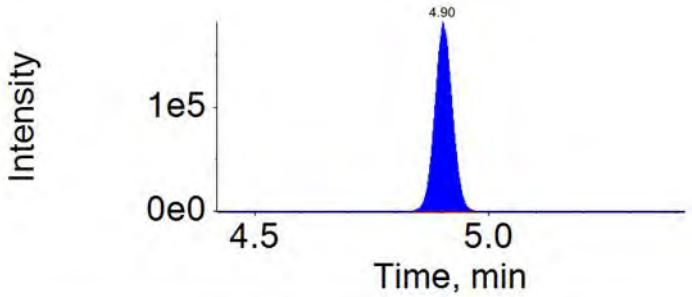

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



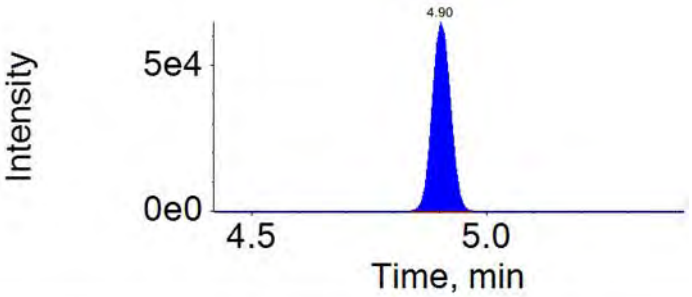

Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

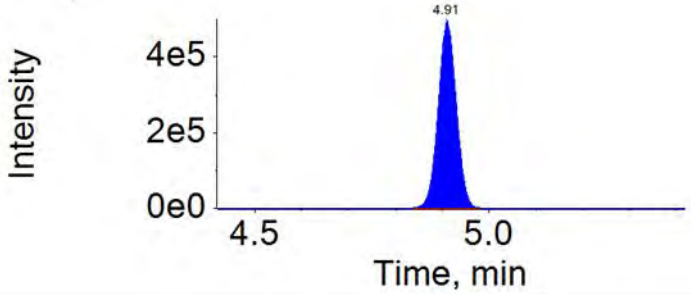



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*By JPT at 10:19 am, 11/14/18*

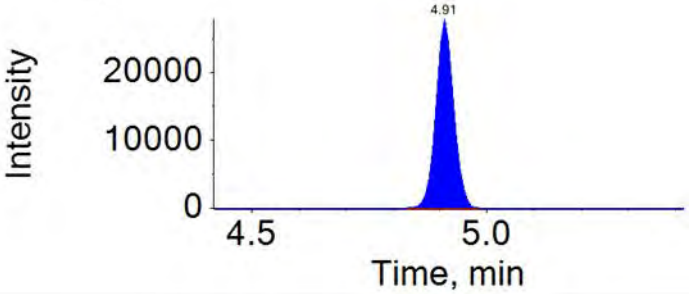


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*By HMK at 11:03 am, 11/15/18*

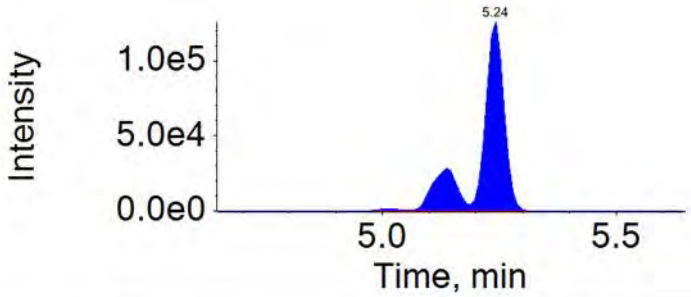
Component: PFOA
Primary Mass: 413.0 / 369.0



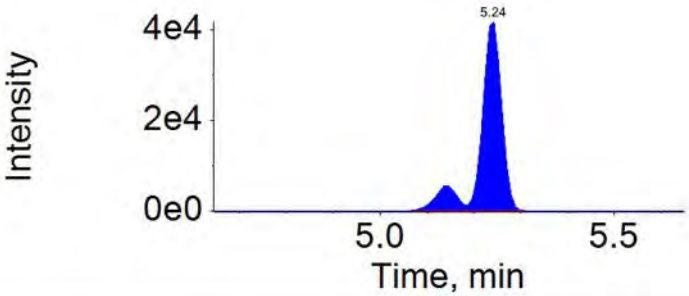

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



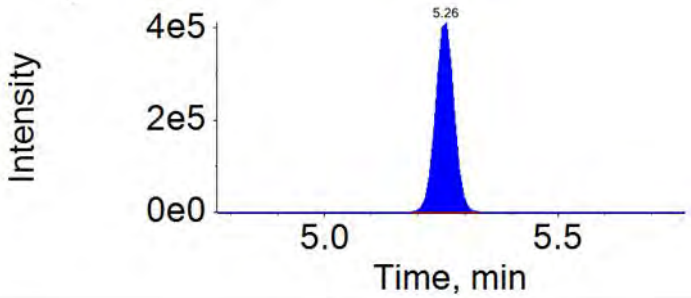

Component: PFOS
Primary Mass: 499.0 / 80.0



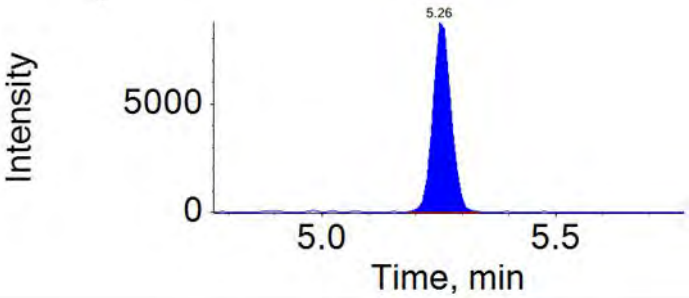

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



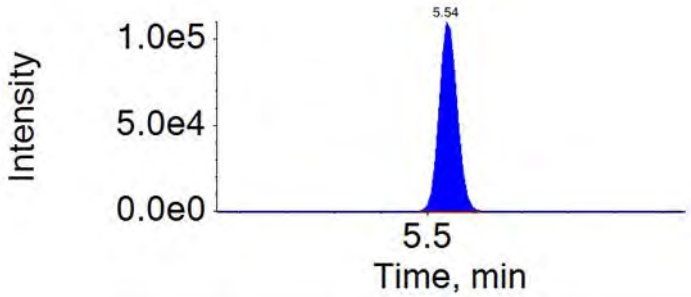

Component: PFNA
Primary Mass: 463.0 / 419.0



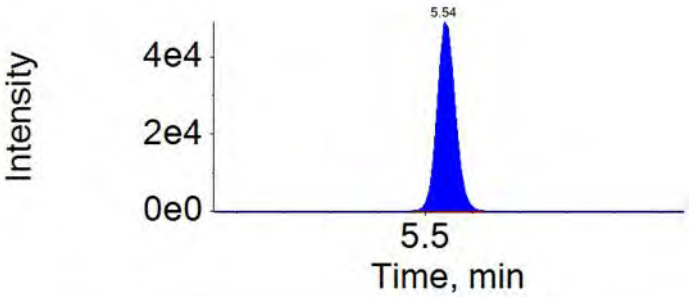

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

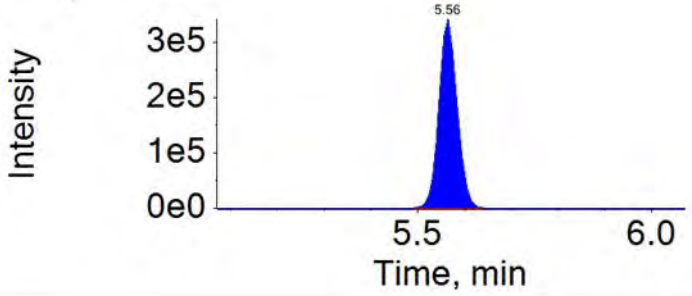



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*By JPT at 10:19 am, 11/14/18*

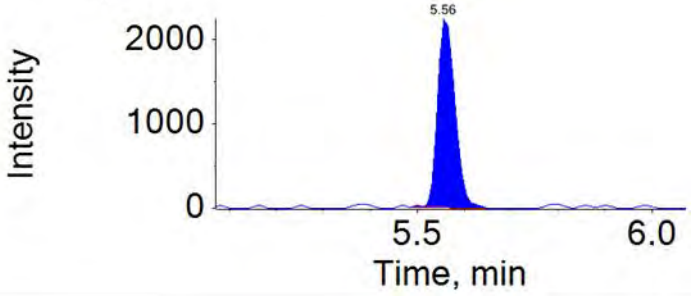


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*By HMK at 11:03 am, 11/15/18*

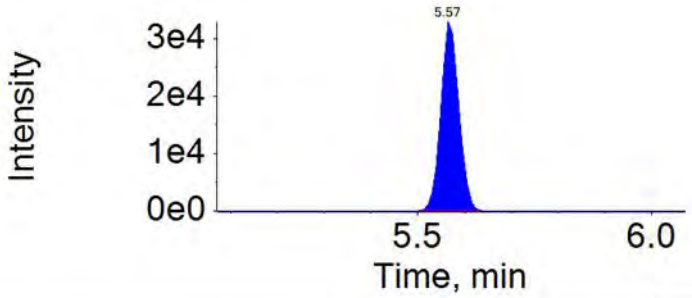
Component: PFDA
Primary Mass: 513.0 / 469.0



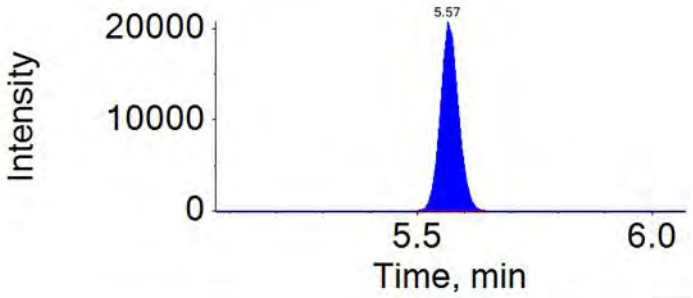

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



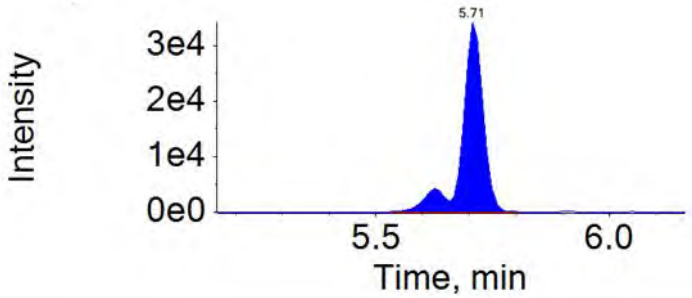

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



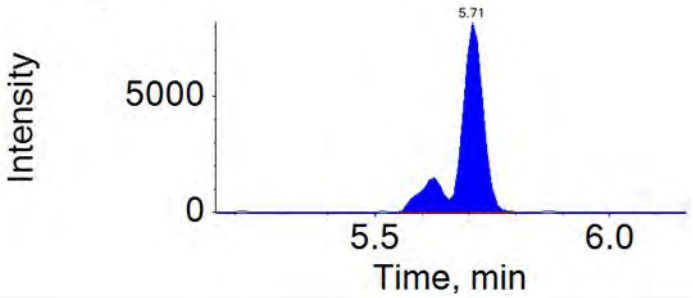

Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



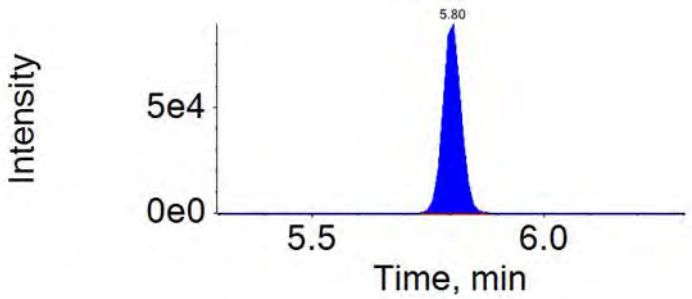

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



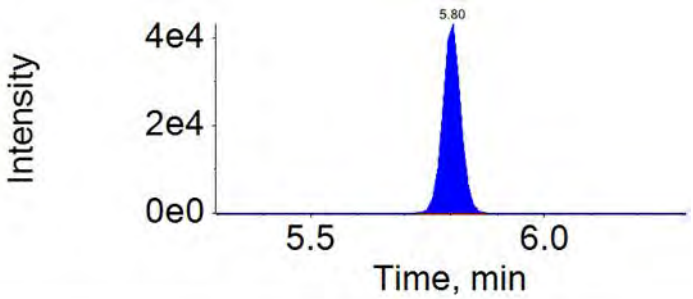

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

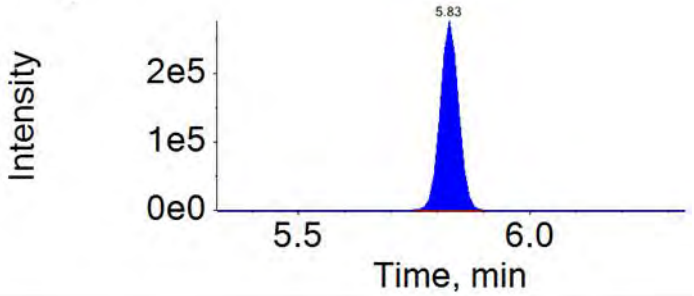



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*By JPT at 10:19 am, 11/14/18*

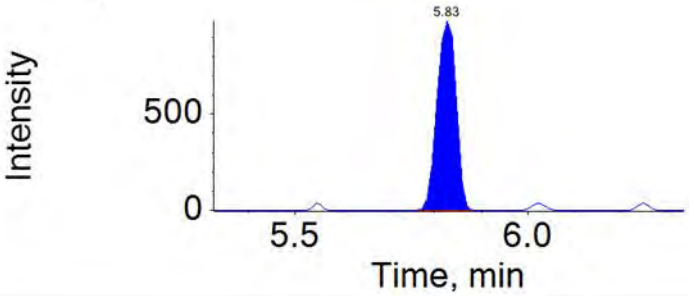


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*By HMK at 11:03 am, 11/15/18*

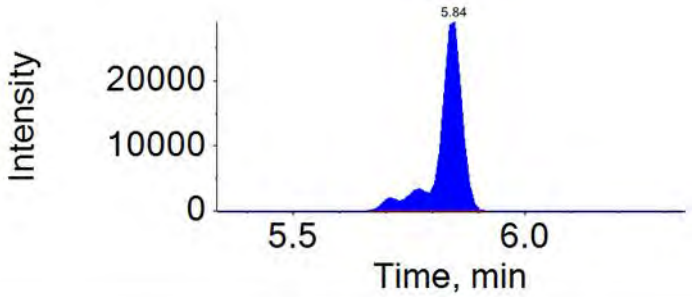
Component: PFUnDA
Primary Mass: 563.0 / 519.0



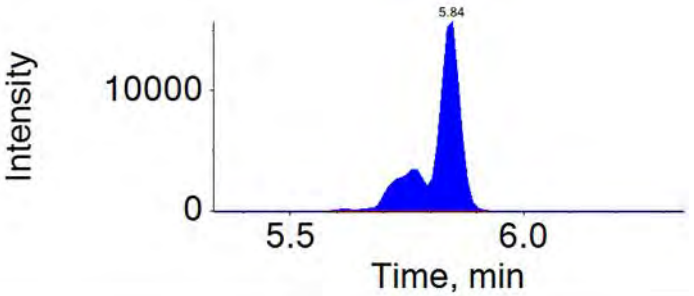

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



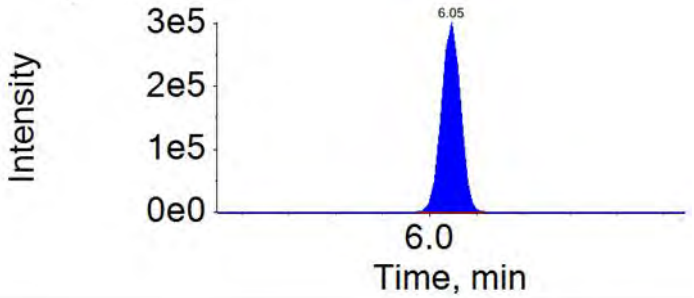

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



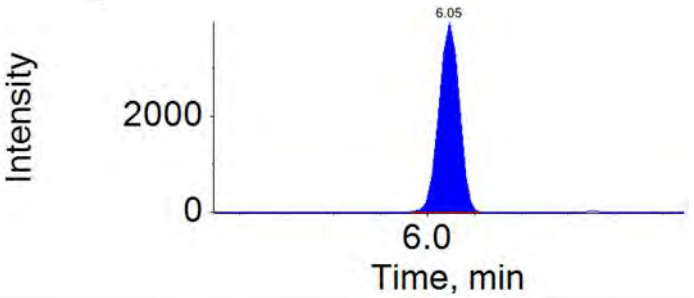

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



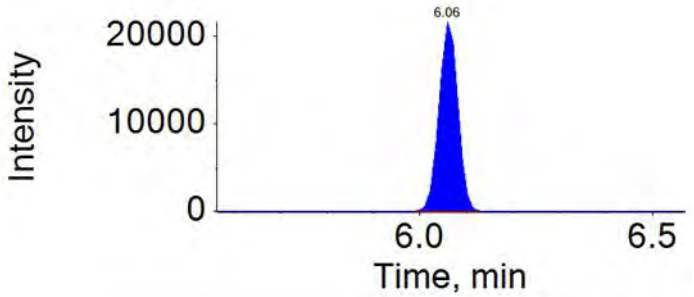

Component: PFDoDA
Primary Mass: 613.0 / 569.0



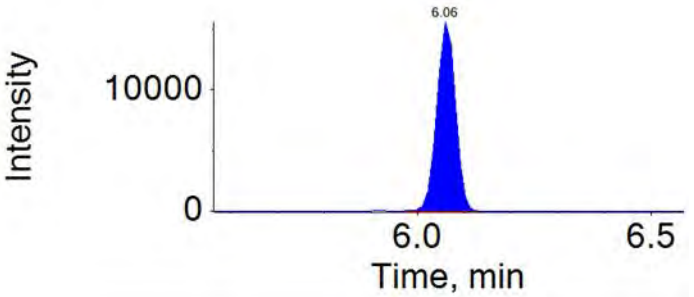

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0

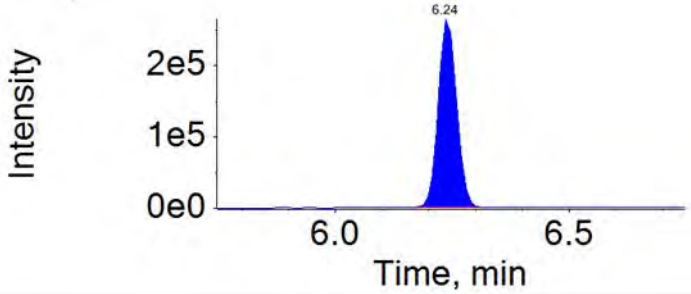



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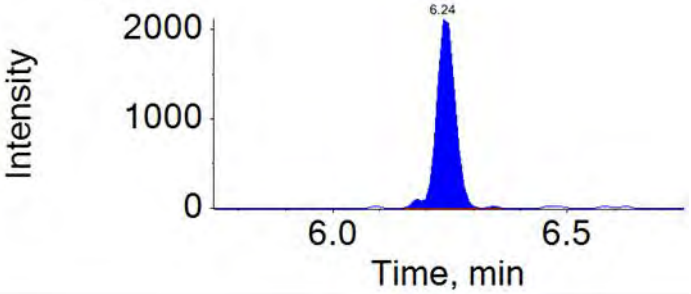


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*By HMK at 11:03 am, 11/15/18*

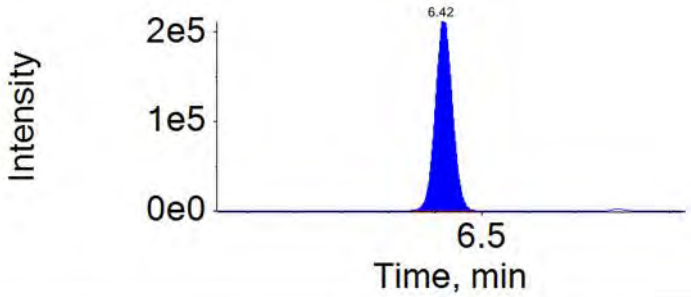
Component: PFTrDA
Primary Mass: 663.0 / 619.0



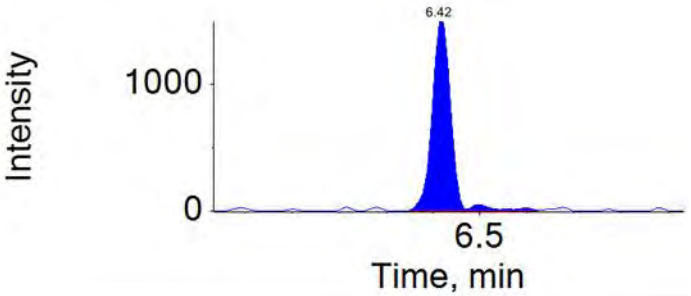

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



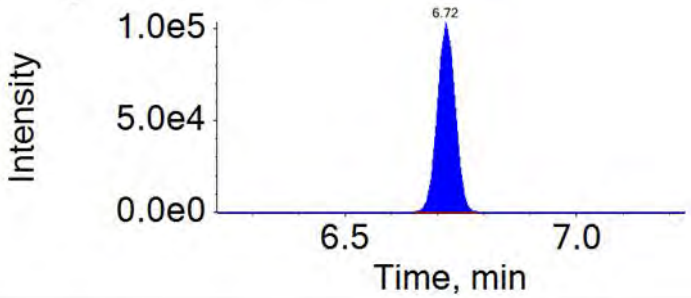

Component: PFTeDA
Primary Mass: 713.0 / 669.0



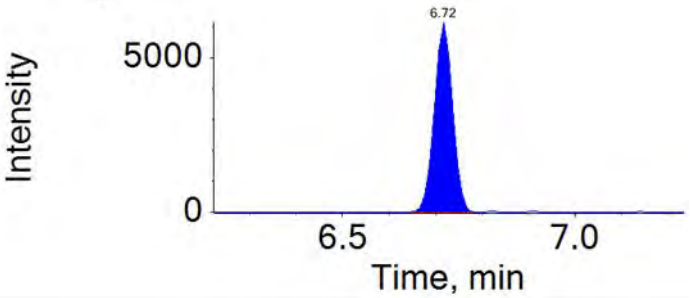

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



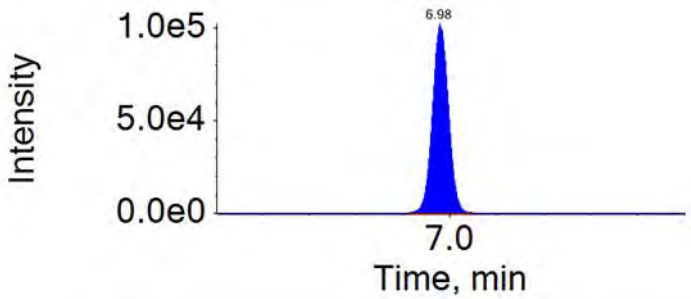

Component: PFHxDA
Primary Mass: 813.0 / 769.0



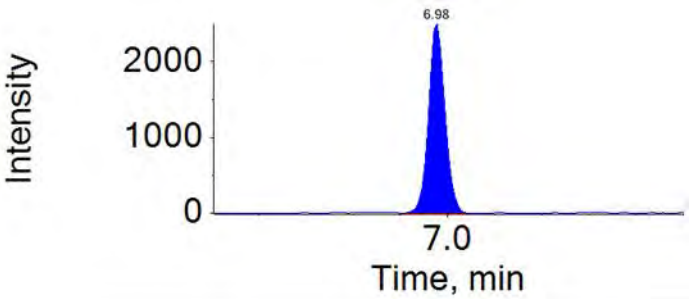

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




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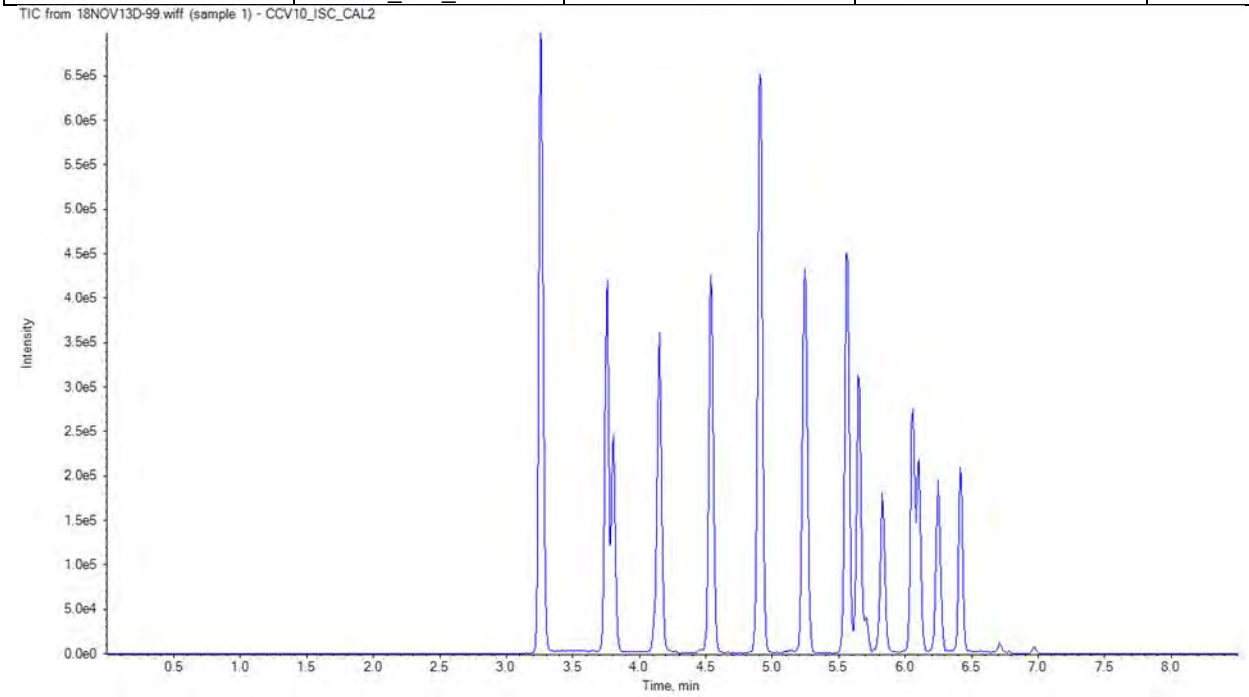


REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Instrument Sensitivity Check/ Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV10_ISC_CAL2 | CALBRN21833C | 18NOV13D-99.wiff | 2018-11-14T00:27:10 |




Injection Standard Area Reference File: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Reference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 701148.7 | 661126.9 | 6 | 50 | |
| 13C2-PFOA | 5.0 | 466429.2 | 466902.6 | 0 | 50 | |
| 13C4-PFOS | 4.8 | 263459.4 | 247446.9 | 6 | 50 | |
| 13C2-PFDA | 5.0 | 306379.5 | 295381.6 | 4 | 50 | |

APPROVED
*By JPT at 10:19 am, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Instrument Sensitivity Check/ Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | CCV10_ISC_CAL2 | CALBRN21833C | 18NOV13D-99.wiff | 2018-11-14T00:27:10 |

| 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 | 85722.6 | 10 | 13C4-PFBA | 794200.1 | 5.0 | 0.108 | 3.26 | 1.000 | 0.600 | 0.598 | 0 | 30 | |
| PFPeA | 81021.1 | 11 | 13C5-PFPeA | 765826.9 | 5.0 | 0.106 | 3.76 | 1.000 | 0.600 | 0.612 | 2 | 30 | |
| PFBS | 41175.6 | 11 | 13C3-PFBS | 440650.1 | 4.7 | 0.093 | 3.80 | 1.000 | 0.531 | 0.444 | -16 | 30 | |
| 4:2-FTS | 10558.5 | 11 | 13C2-4:2-FTS | 50222.6 | 4.7 | 0.210 | 4.12 | 1.000 | 0.560 | 0.571 | 2 | 30 | |
| PFHxA | 93239.0 | 11 | 13C5-PFHxA | 671724.6 | 5.0 | 0.139 | 4.15 | 1.000 | 0.600 | 0.580 | -3 | 30 | |
| PFPeS | 22889.9 | 11 | 13C3-PFBS | 440650.1 | 4.7 | 0.052 | 4.17 | 1.100 | 0.563 | 0.504 | -10 | 30 | |
| PFHpA | 100485.7 | 12 | 13C4-PFHpA | 540437.9 | 5.0 | 0.186 | 4.54 | 1.000 | 0.600 | 0.616 | 3 | 30 | |
| PFHxS | 31363.2 | 19 | 13C3-PFHxS | 339754.0 | 4.7 | 0.092 | 4.54 | 1.000 | 0.547 | 0.448 | -18 | 30 | |
| 6:2-FTS | 8290.1 | 11 | 13C2-6:2-FTS | 36346.5 | 4.8 | 0.228 | 4.90 | 1.000 | 0.569 | 0.552 | -3 | 30 | |
| PFHpS | 32176.2 | 11 | 13C3-PFHxS | 339754.0 | 4.7 | 0.095 | 4.90 | 1.080 | 0.571 | 0.499 | -13 | 30 | |
| PFOA | 97413.0 | 11 | 13C8-PFOA | 936164.3 | 5.0 | 0.104 | 4.91 | 1.000 | 0.600 | 0.556 | -7 | 30 | |
| PFOS | 33335.6 | 22 | 13C8-PFOS | 297160.3 | 4.8 | 0.112 | 5.24 | 1.000 | 0.555 | 0.491 | -12 | 30 | |
| PFNA | 79913.2 | 11 | 13C9-PFNA | 481109.4 | 5.0 | 0.166 | 5.25 | 1.000 | 0.600 | 0.599 | 0 | 30 | |
| PFNS | 19973.6 | 11 | 13C8-PFOS | 297160.3 | 4.8 | 0.067 | 5.54 | 1.060 | 0.576 | 0.470 | -18 | 30 | |
| PFDA | 70350.5 | 11 | 13C6-PFDA | 657345.2 | 5.0 | 0.107 | 5.56 | 1.000 | 0.600 | 0.567 | -5 | 30 | |
| 8:2-FTS | 8485.5 | 11 | 13C2-8:2-FTS | 30328.4 | 4.8 | 0.280 | 5.57 | 1.000 | 0.575 | 0.652 | 13 | 30 | |
| PFOSA | 72323.9 | 11 | 13C8-PFOSA | 655976.7 | 5.0 | 0.110 | 5.65 | 1.000 | 0.600 | 0.539 | -10 | 30 | |
| NMeFOSAA | 6785.4 | 17 | d3-NMeFOSAA | 78031.2 | 5.0 | 0.087 | 5.71 | 1.000 | 0.600 | 0.491 | -18 | 30 | |
| PFDS | 17445.5 | 11 | 13C8-PFOS | 297160.3 | 4.8 | 0.059 | 5.80 | 1.110 | 0.578 | 0.532 | -8 | 30 | |
| PFUnDA | 58618.2 | 11 | 13C7-PFUnDA | 265235.1 | 5.0 | 0.221 | 5.83 | 1.000 | 0.600 | 0.578 | -4 | 30 | |
| NEtFOSAA | 6596.5 | 17 | d5-NEtFOSAA | 68361.4 | 5.0 | 0.096 | 5.84 | 1.000 | 0.600 | 0.506 | -16 | 30 | |
| PFDoDA | 63697.0 | 11 | 13C2-PFDoDA | 549890.8 | 5.0 | 0.116 | 6.06 | 1.000 | 0.600 | 0.590 | -2 | 30 | |
| 10:2-FTS | 3987.7 | 11 | 13C2-8:2-FTS | 30328.4 | 4.8 | 0.131 | 6.07 | 1.090 | 0.578 | 0.438 | -24 | 30 | |
| NMePFOSAE | 47697.3 | 11 | d7-NMePFOSAE | 349940.7 | 5.0 | 0.136 | 6.11 | 1.000 | 0.600 | 0.567 | -5 | 30 | |
| NMePFOSA | 7370.2 | 11 | d3-NMePFOSA | 81197.5 | 5.0 | 0.091 | 6.12 | 1.000 | 0.600 | 0.448 | -25 | 30 | |
| PFDoS | 7092.3 | 11 | 13C8-PFOS | 297160.3 | 4.8 | 0.024 | 6.21 | 1.190 | 0.581 | 0.418 | -28 | 30 | |
| NEtPFOSAE | 49226.5 | 11 | d9-NEtPFOSAE | 277789.9 | 5.0 | 0.177 | 6.26 | 1.000 | 0.600 | 0.569 | -5 | 30 | |
| NEtPFOSA | 7502.0 | 11 | d5-NEtPFOSA | 60763.0 | 5.0 | 0.123 | 6.27 | 1.000 | 0.600 | 0.567 | -6 | 30 | |
| PFTrDA | 52624.9 | 11 | 13C2-PFDoDA | 549890.8 | 5.0 | 0.096 | 6.24 | 1.030 | 0.600 | 0.604 | 1 | 30 | |
| PFTeDA | 42186.4 | 10 | 13C2-PFTeDA | 399717.5 | 5.0 | 0.106 | 6.42 | 1.000 | 0.600 | 0.592 | -1 | 30 | |
| PFHxDA | 18374.7 | 11 | 13C2-PFTeDA | 399717.5 | 5.0 | 0.046 | 6.71 | 1.050 | 0.600 | 0.548 | -9 | 30 | |
| PFODA | 15437.7 | 10 | 13C2-PFTeDA | 399717.5 | 5.0 | 0.039 | 6.97 | 1.090 | 0.600 | 0.538 | -10 | 30 | |

APPROVED
*By JPT at 10:19 am, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Instrument Sensitivity Check/ Continuing Calibration Verfication

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

APPROVED
*By JPT at 10:19 am, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | CCV10_ISC_CAL2 | | | **Data File:** | | 18NOV13D-99.wiff |
| **Sample ID:** | CALBRN21833C | | | **Acquis Date:** | | 2018-11-14T00:27:10 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 4 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18NOV13DCCV6-10 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 701148.7 | 661126.9 | 6 | 50 | |
| 13C2-PFOA | 5.0 | 466429.2 | 466902.6 | 0 | 50 | |
| 13C4-PFOS | 4.8 | 263459.4 | 247446.9 | 6 | 50 | |
| 13C2-PFDA | 5.0 | 306379.5 | 295381.6 | 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 | 794200.1 | 13C3-PFBA | 701148.7 | 1.133 | 5.000 | 5.078 | 102 | 70-130 | |
| E13C5-PFPeA | 765826.9 | 13C3-PFBA | 701148.7 | 1.092 | 5.000 | 4.899 | 98 | 70-130 | |
| E13C3-PFBS | 440650.1 | 13C3-PFBA | 701148.7 | 0.628 | 4.650 | 4.436 | 95 | 70-130 | |
| E13C2-4:2-FTS | 50222.6 | 13C2-PFOA | 466429.2 | 0.108 | 4.670 | 4.796 | 103 | 70-130 | |
| E13C5-PFHxA | 671724.6 | 13C2-PFOA | 466429.2 | 1.440 | 5.000 | 5.202 | 104 | 70-130 | |
| E13C3-PFHxS | 339754.0 | 13C2-PFOA | 466429.2 | 0.728 | 4.730 | 4.998 | 106 | 70-130 | |
| E13C4-PFHpA | 540437.9 | 13C2-PFOA | 466429.2 | 1.159 | 5.000 | 5.220 | 104 | 70-130 | |
| E13C2-6:2-FTS | 36346.5 | 13C2-PFOA | 466429.2 | 0.078 | 4.750 | 5.214 | 110 | 70-130 | |
| E13C8-PFOA | 936164.3 | 13C2-PFOA | 466429.2 | 2.007 | 5.000 | 5.530 | 111 | 70-130 | |
| E13C8-PFOS | 297160.3 | 13C4-PFOS | 263459.4 | 1.128 | 4.780 | 4.998 | 105 | 70-130 | |
| E13C9-PFNA | 481109.4 | 13C4-PFOS | 263459.4 | 1.826 | 5.000 | 5.091 | 102 | 70-130 | |
| E13C6-PFDA | 657345.2 | 13C2-PFDA | 306379.5 | 2.146 | 5.000 | 5.007 | 100 | 70-130 | |
| E13C2-8:2-FTS | 30328.4 | 13C2-PFDA | 306379.5 | 0.099 | 4.790 | 4.937 | 103 | 70-130 | |
| E13C8-PFOSA | 655976.7 | 13C2-PFDA | 306379.5 | 2.141 | 5.000 | 4.747 | 95 | 70-130 | |
| Ed3-NMeFOSAA | 78031.2 | 13C2-PFDA | 306379.5 | 0.255 | 5.000 | 4.597 | 92 | 70-130 | |
| E13C7-PFUnDA | 265235.1 | 13C2-PFDA | 306379.5 | 0.866 | 5.000 | 5.026 | 101 | 70-130 | |
| Ed5-NEtFOSAA | 68361.4 | 13C2-PFDA | 306379.5 | 0.223 | 5.000 | 4.721 | 94 | 70-130 | |
| E13C2-PFDoDA | 549890.8 | 13C2-PFDA | 306379.5 | 1.795 | 5.000 | 4.660 | 93 | 70-130 | |
| Ed7-NMePFOSAE | 349940.7 | 13C2-PFDA | 306379.5 | 1.142 | 5.000 | 4.943 | 99 | 70-130 | |
| Ed3-NMePFOSA | 81197.5 | 13C2-PFDA | 306379.5 | 0.265 | 5.000 | 4.815 | 96 | 70-130 | |
| Ed9-NEtPFOSAE | 277789.9 | 13C2-PFDA | 306379.5 | 0.907 | 5.000 | 4.716 | 94 | 70-130 | |
| Ed5-NEtPFOSA | 60763.0 | 13C2-PFDA | 306379.5 | 0.198 | 5.000 | 4.652 | 93 | 70-130 | |
| E13C2-PFTeDA | 399717.5 | 13C2-PFDA | 306379.5 | 1.305 | 5.000 | 4.580 | 92 | 70-130 | |

APPROVED
By JPT at 10:19 am, 11/14/18



REVIEWED
By HMK at 11:03 am, 11/15/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

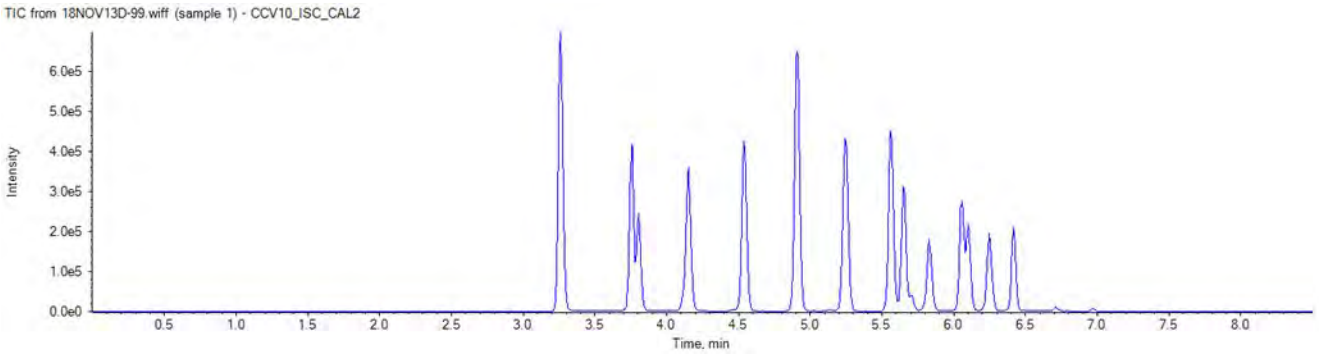
## Analyte Quantitation Peak Table

**Sample Name:** CCV10_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV13D-99.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 | 85722.6 | | A | 13C4-PFBA | 3.26 | 794200.1 | 0.108 | 0.598 |
| PFPeA | 3.76 | 1.000 | 81021.1 | | A | 13C5-PFPeA | 3.76 | 765826.9 | 0.106 | 0.612 |
| PFBS | 3.80 | 1.000 | 41175.6 | | A | 13C3-PFBS | 3.80 | 440650.1 | 0.093 | 0.444 |
| 4:2-FTS | 4.12 | 1.000 | 10558.5 | | A | 13C2-4:2-FTS | 4.12 | 50222.6 | 0.210 | 0.571 |
| PFHxA | 4.15 | 1.000 | 93239.0 | | A | 13C5-PFHxA | 4.15 | 671724.6 | 0.139 | 0.580 |
| PFPeS | 4.17 | 1.100 | 22889.9 | | A | 13C3-PFBS | 3.80 | 440650.1 | 0.052 | 0.504 |
| PFHpA | 4.54 | 1.000 | 100485.7 | | A | 13C4-PFHpA | 4.54 | 540437.9 | 0.186 | 0.616 |
| PFHxS | 4.54 | 1.000 | 31363.2 | | M | 13C3-PFHxS | 4.54 | 339754.0 | 0.092 | 0.448 |
| 6:2-FTS | 4.90 | 1.000 | 8290.1 | | A | 13C2-6:2-FTS | 4.90 | 36346.5 | 0.228 | 0.552 |
| PFHpS | 4.90 | 1.080 | 32176.2 | | A | 13C3-PFHxS | 4.54 | 339754.0 | 0.095 | 0.499 |
| PFOA | 4.91 | 1.000 | 97413.0 | | A | 13C8-PFOA | 4.91 | 936164.3 | 0.104 | 0.556 |
| PFOS | 5.24 | 1.000 | 33335.6 | | M | 13C8-PFOS | 5.24 | 297160.3 | 0.112 | 0.491 |
| PFNA | 5.25 | 1.000 | 79913.2 | | A | 13C9-PFNA | 5.25 | 481109.4 | 0.166 | 0.599 |
| PFNS | 5.54 | 1.060 | 19973.6 | | A | 13C8-PFOS | 5.24 | 297160.3 | 0.067 | 0.470 |
| PFDA | 5.56 | 1.000 | 70350.5 | | M | 13C6-PFDA | 5.56 | 657345.2 | 0.107 | 0.567 |
| 8:2-FTS | 5.57 | 1.000 | 8485.5 | | A | 13C2-8:2-FTS | 5.56 | 30328.4 | 0.280 | 0.652 |
| PFOSA | 5.65 | 1.000 | 72323.9 | | A | 13C8-PFOSA | 5.65 | 655976.7 | 0.110 | 0.539 |
| NMeFOSAA | 5.71 | 1.000 | 6785.4 | | A | d3-NMeFOSAA | 5.71 | 78031.2 | 0.087 | 0.491 |
| PFDS | 5.80 | 1.110 | 17445.5 | | A | 13C8-PFOS | 5.24 | 297160.3 | 0.059 | 0.532 |
| PFUnDA | 5.83 | 1.000 | 58618.2 | | A | 13C7-PFUnDA | 5.83 | 265235.1 | 0.221 | 0.578 |
| NEtFOSAA | 5.84 | 1.000 | 6596.5 | | A | d5-NEtFOSAA | 5.84 | 68361.4 | 0.096 | 0.506 |
| PFDoDA | 6.06 | 1.000 | 63697.0 | | A | 13C2-PFDoDA | 6.06 | 549890.8 | 0.116 | 0.590 |
| 10:2-FTS | 6.07 | 1.090 | 3987.7 | | M | 13C2-8:2-FTS | 5.56 | 30328.4 | 0.131 | 0.438 |
| NMePFOSAE | 6.11 | 1.000 | 47697.3 | | M | d7-NMePFOSAE | 6.10 | 349940.7 | 0.136 | 0.567 |
| NMePFOSA | 6.12 | 1.000 | 7370.2 | | M | d3-NMePFOSA | 6.11 | 81197.5 | 0.091 | 0.448 |
| PFDoS | 6.21 | 1.190 | 7092.3 | | A | 13C8-PFOS | 5.24 | 297160.3 | 0.024 | 0.418 |
| NEtPFOSAE | 6.26 | 1.000 | 49226.5 | | A | d9-NEtPFOSAE | 6.24 | 277789.9 | 0.177 | 0.569 |
| NEtPFOSA | 6.27 | 1.000 | 7502.0 | | M | d5-NEtPFOSA | 6.26 | 60763.0 | 0.123 | 0.567 |
| PFTrDA | 6.24 | 1.030 | 52624.9 | | M | 13C2-PFDoDA | 6.06 | 549890.8 | 0.096 | 0.604 |
| PFTeDA | 6.42 | 1.000 | 42186.4 | | A | 13C2-PFTeDA | 6.42 | 399717.5 | 0.106 | 0.592 |
| PFHxDA | 6.71 | 1.050 | 18374.7 | | A | 13C2-PFTeDA | 6.42 | 399717.5 | 0.046 | 0.548 |
| PFODA | 6.97 | 1.090 | 15437.7 | | A | 13C2-PFTeDA | 6.42 | 399717.5 | 0.039 | 0.538 |

## Total Ion Chromatogram



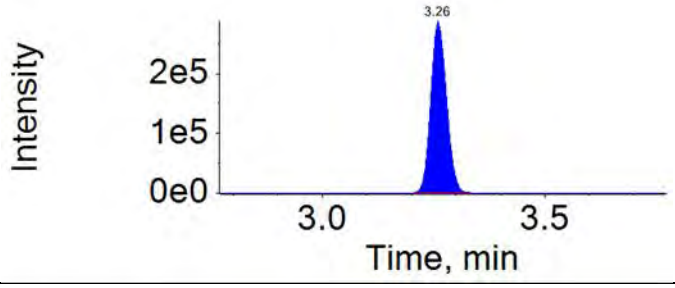

APPROVED
*By JPT at 10:19 am, 11/14/18*



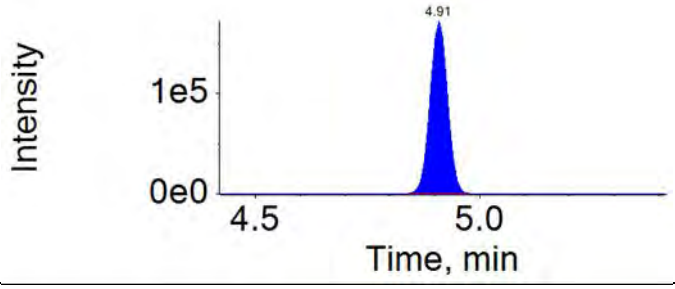
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

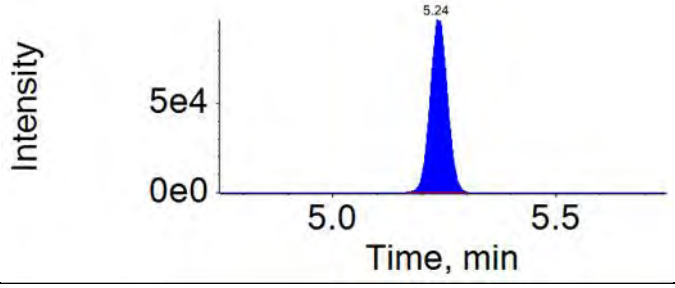
Injection Standard: 13C3-PFBA
216.0 / 172.0



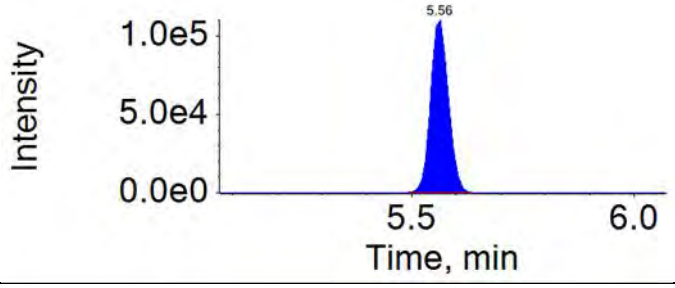

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

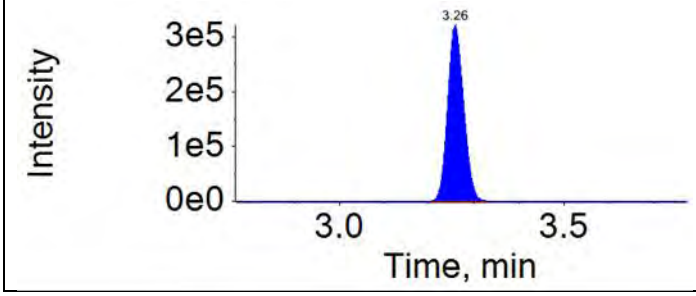
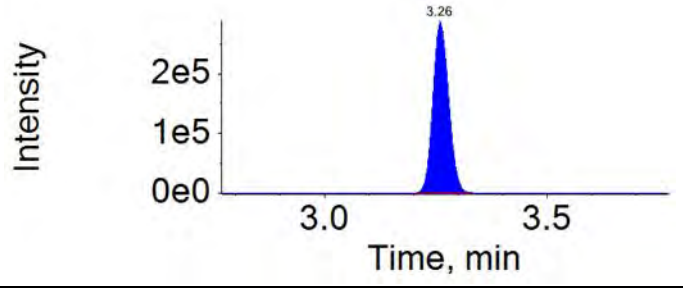



APPROVED
*By JPT at 10:19 am, 11/14/18*



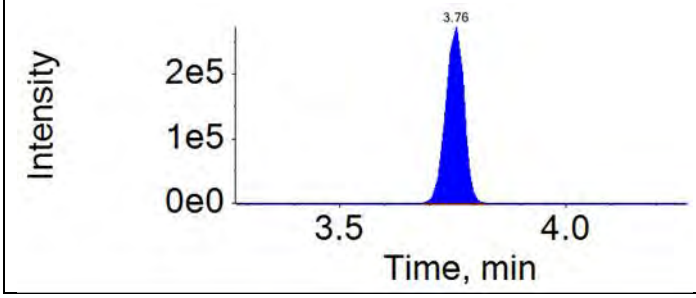
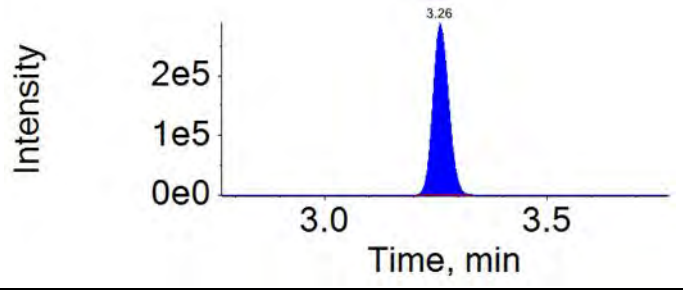
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |
|  |  |

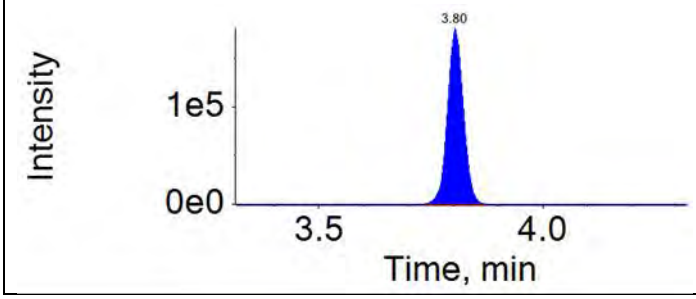
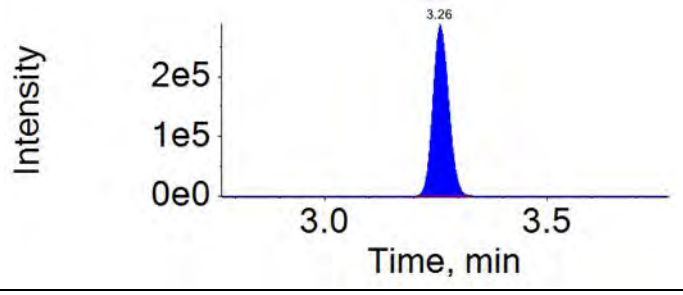




| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |
|  |  |

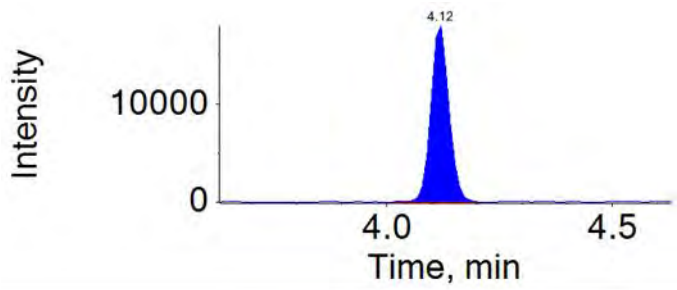
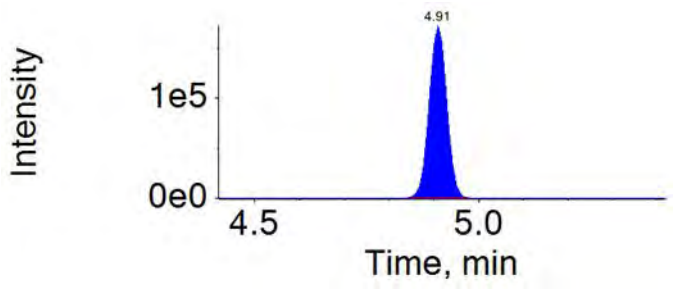




| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |
|  |  |





| Extraction Standard: E13C2-4:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 329.0 / 81.0 | 415.0 / 370.0 |
|  |  |





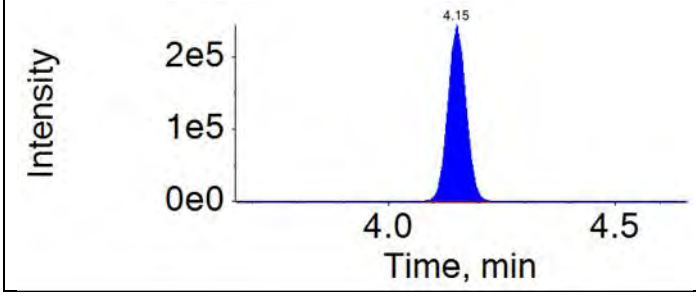
APPROVED
By JPT at 10:19 am, 11/14/18

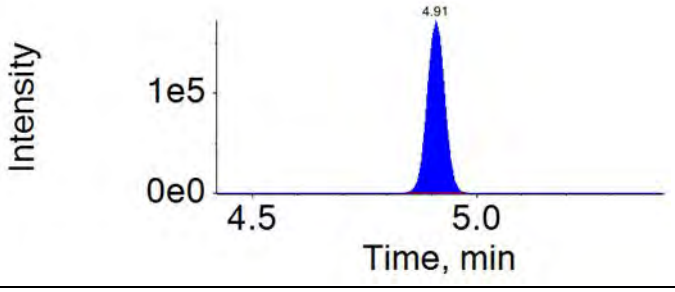


REVIEWED
By HMK at 11:03 am, 11/15/18

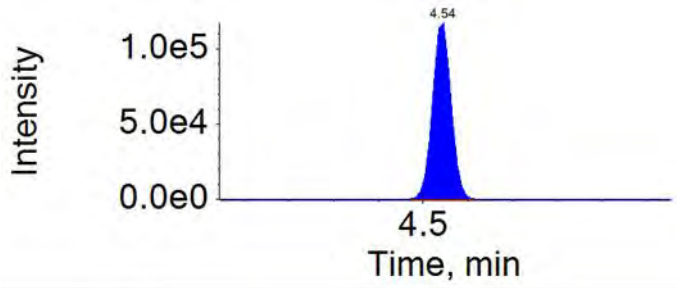
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

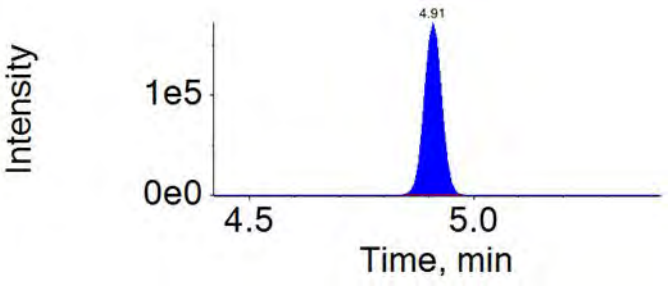
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



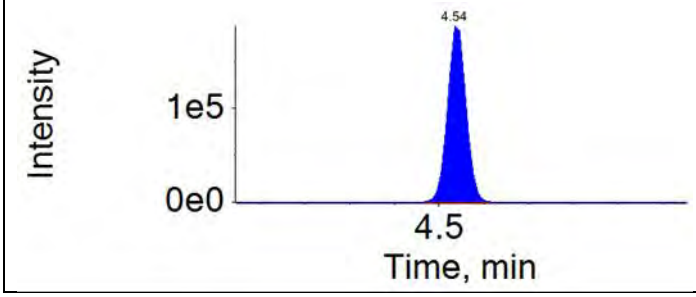



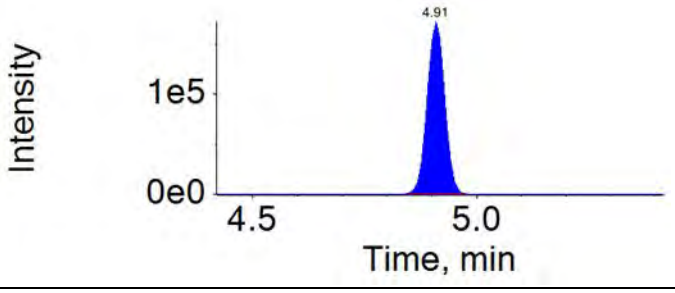

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



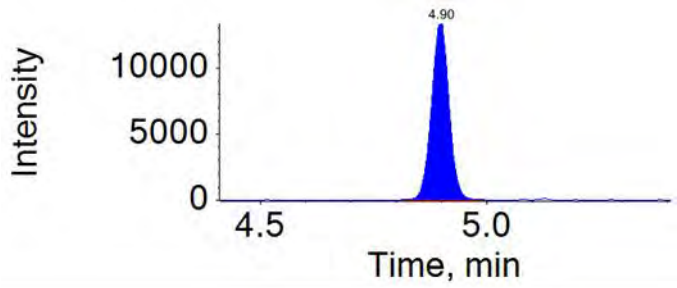



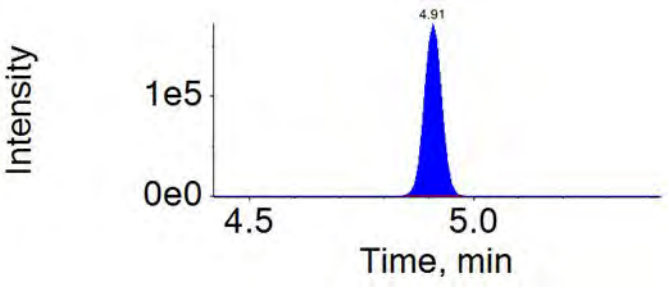

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




| Extraction Standard: E13C2-6:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 429.0 / 81.0 | 415.0 / 370.0 |



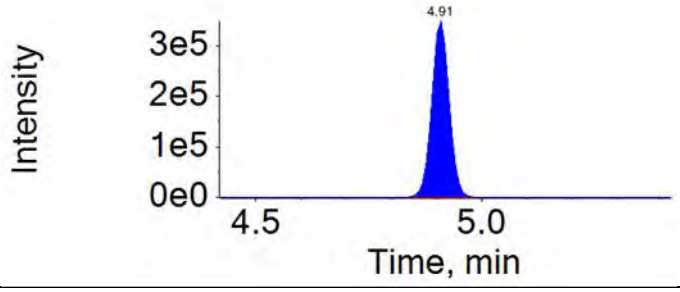
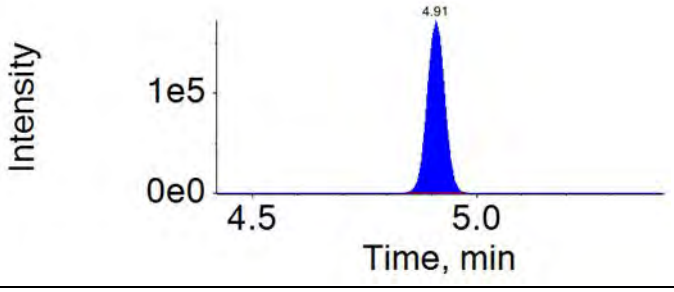




APPROVED
*By JPT at 10:19 am, 11/14/18*



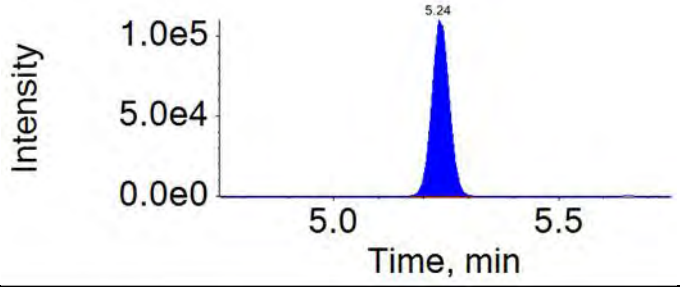
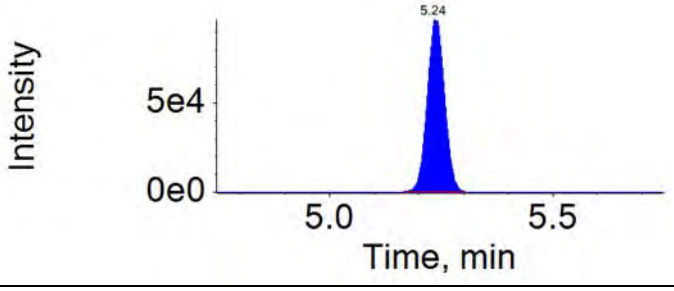
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

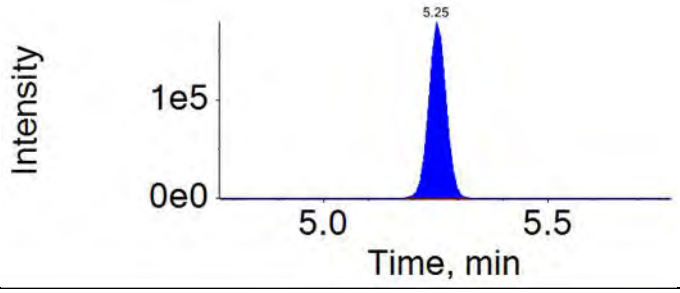
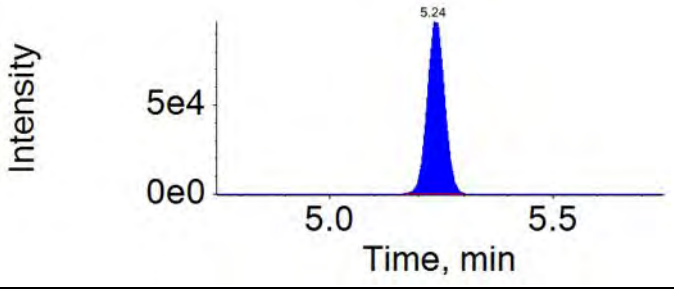




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

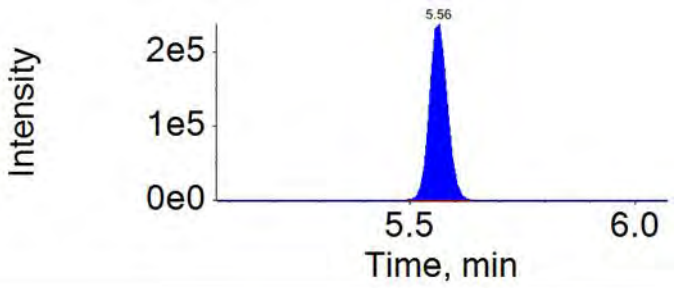
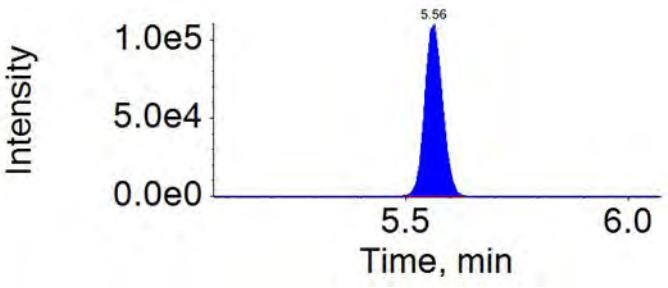




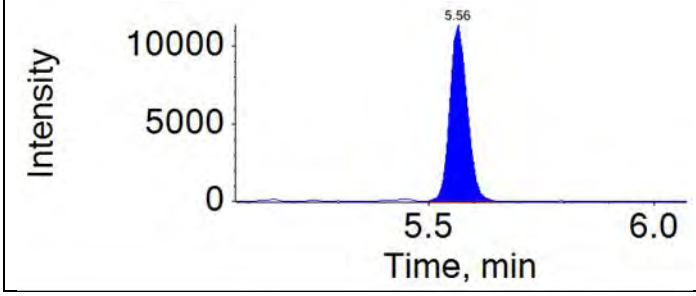
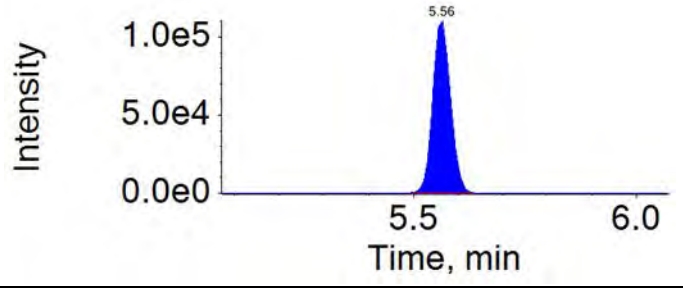
| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





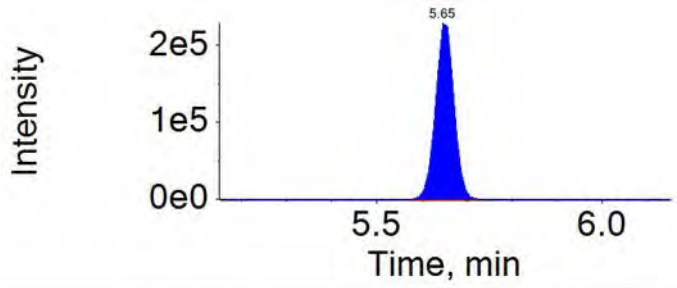
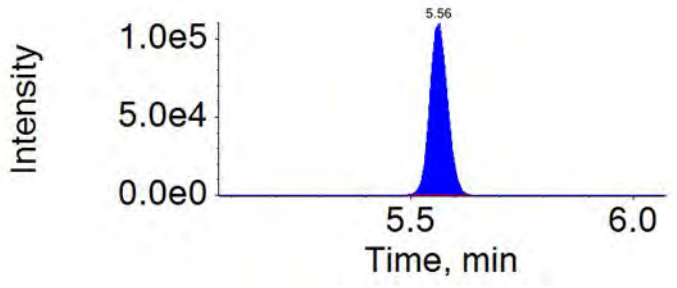
| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

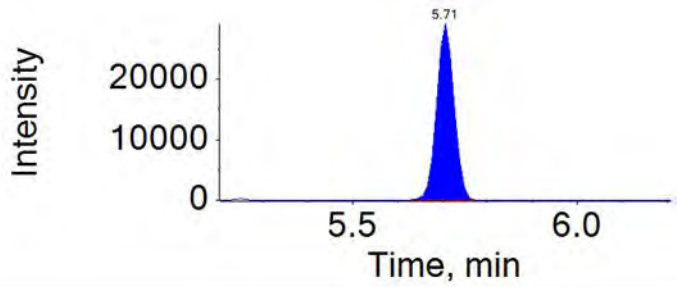
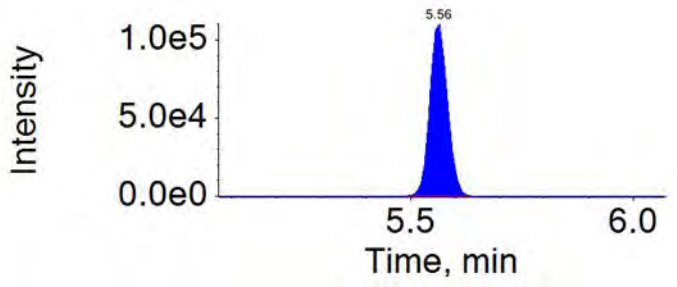




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

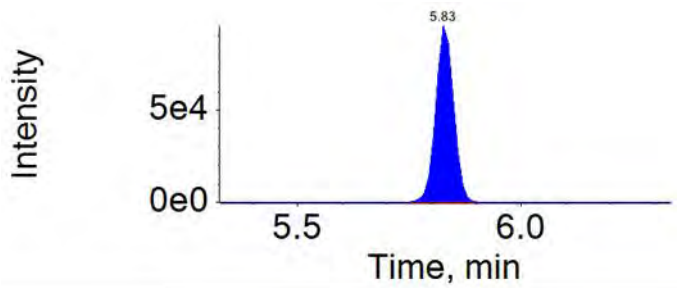
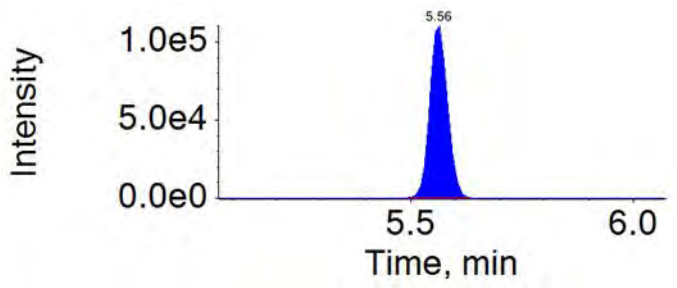




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |



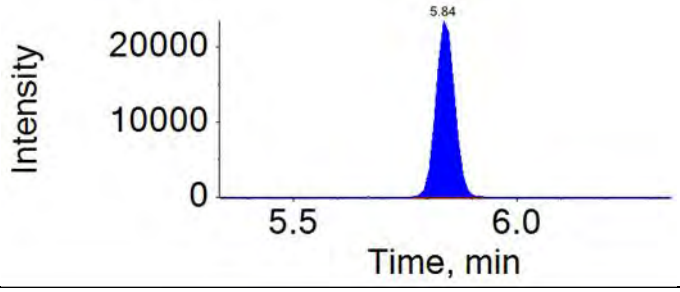
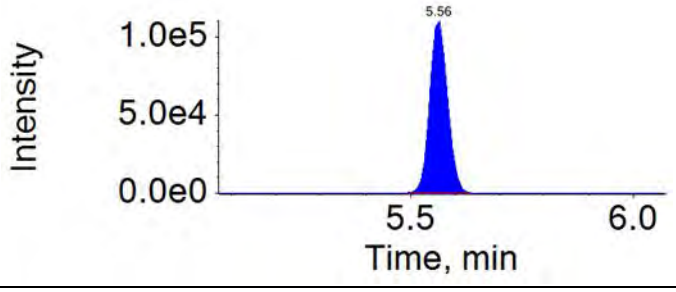


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*By JPT at 10:19 am, 11/14/18*



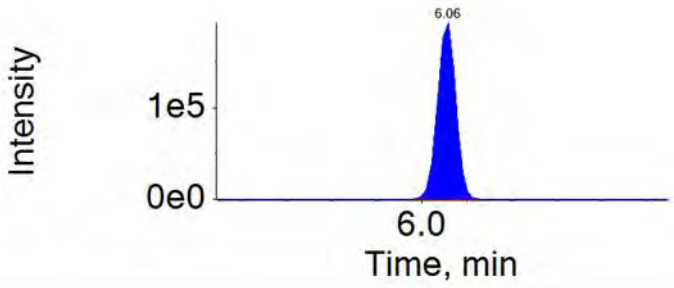
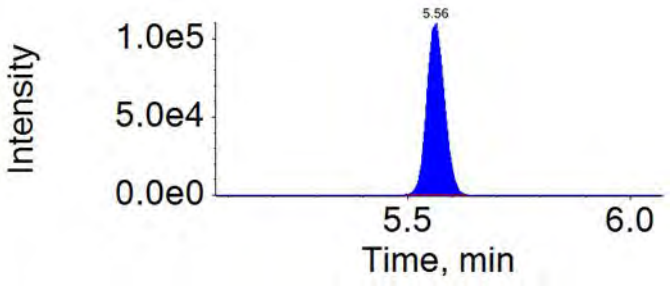
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |

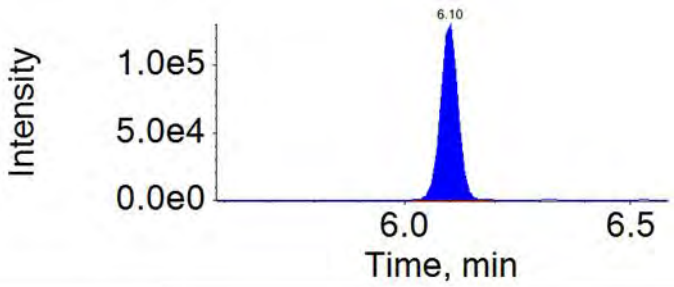
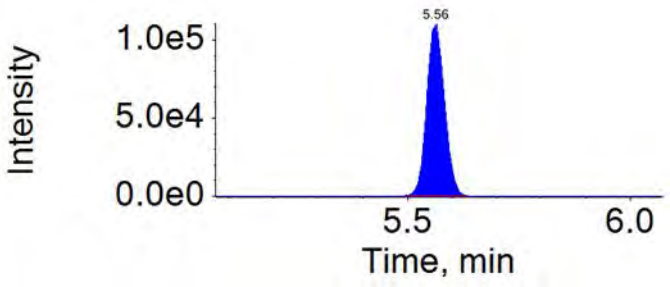




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

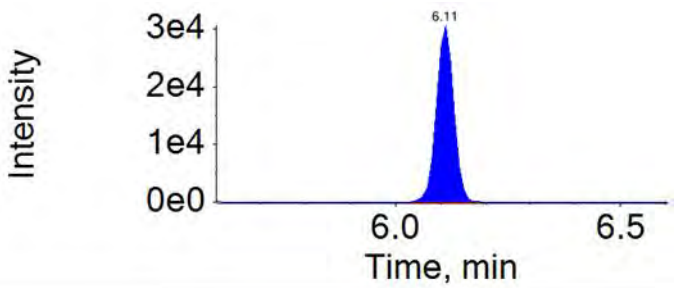
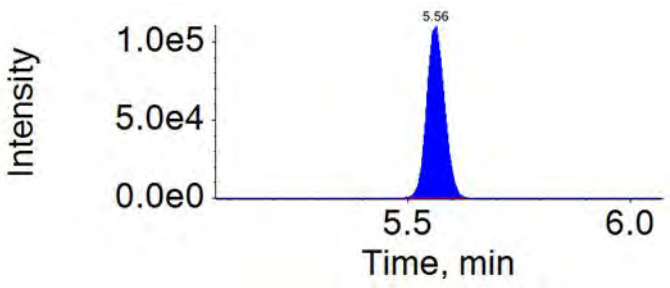




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |
|  |  |





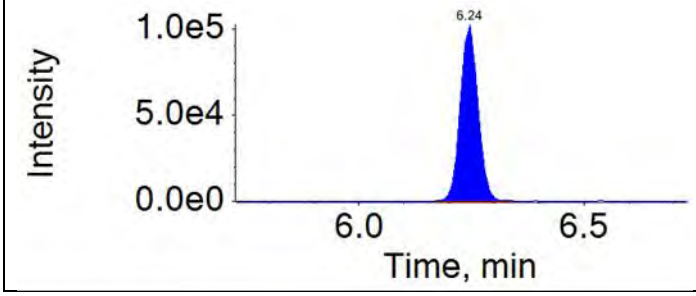
APPROVED
*By JPT at 10:19 am, 11/14/18*

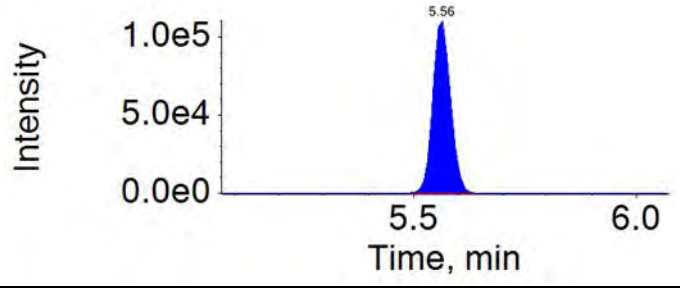


REVIEWED
*By HMK at 11:03 am, 11/15/18*

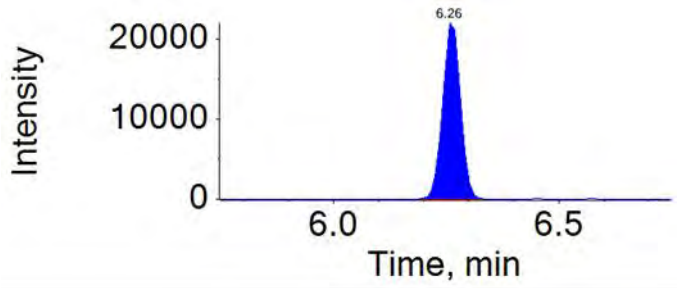
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

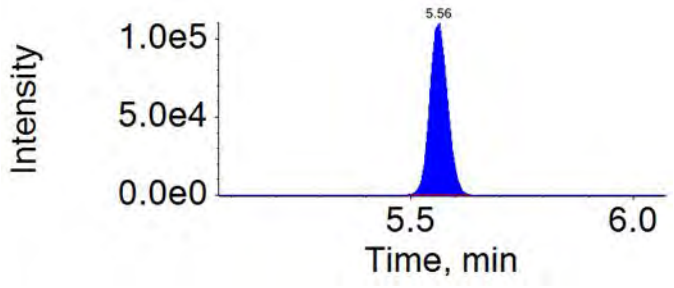
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



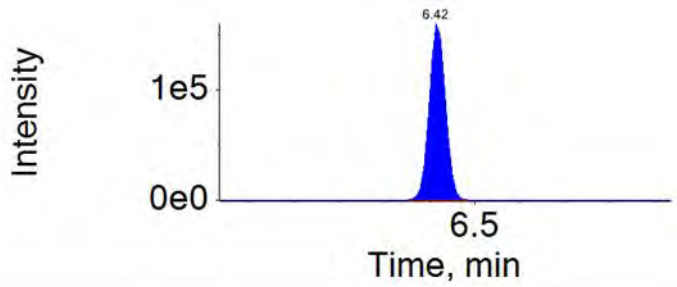



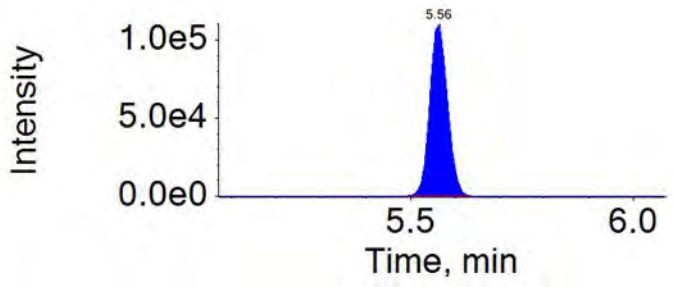

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |



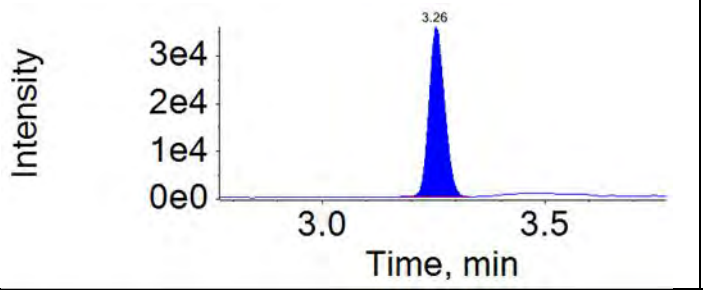

APPROVED
By JPT at 10:19 am, 11/14/18

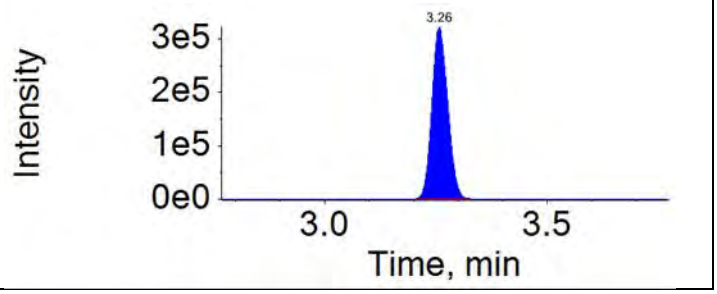


REVIEWED
By HMK at 11:03 am, 11/15/18

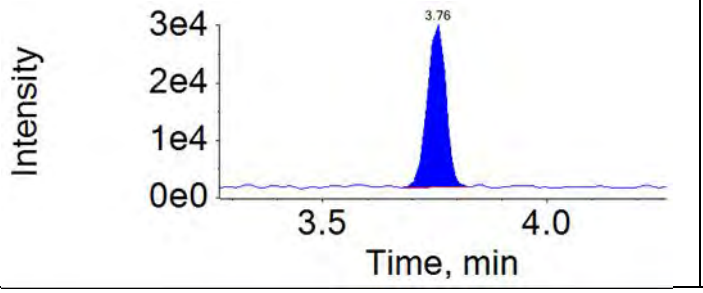
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

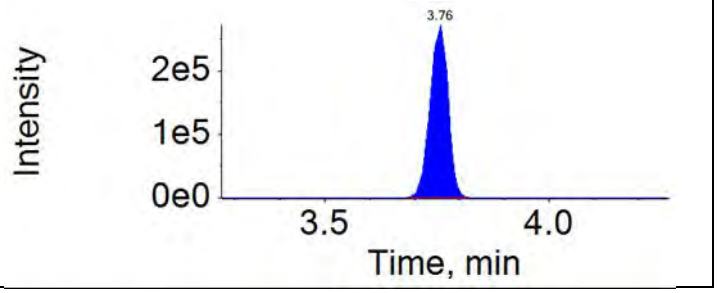
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



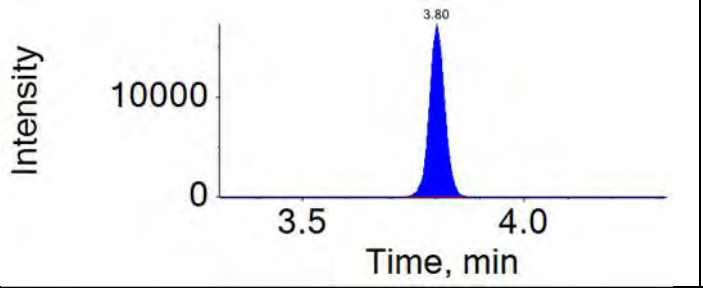



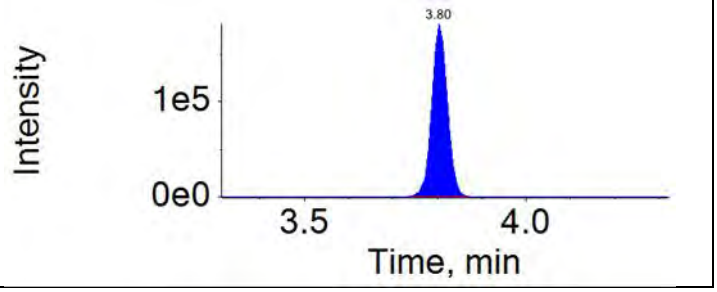

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



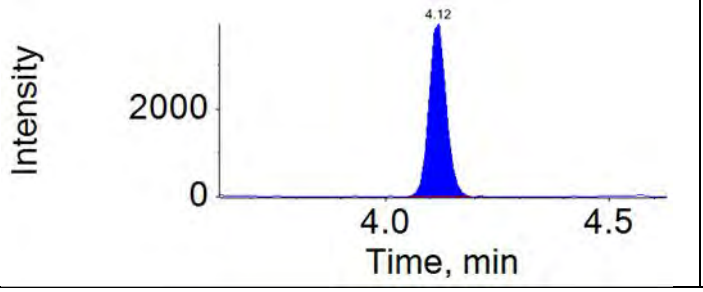



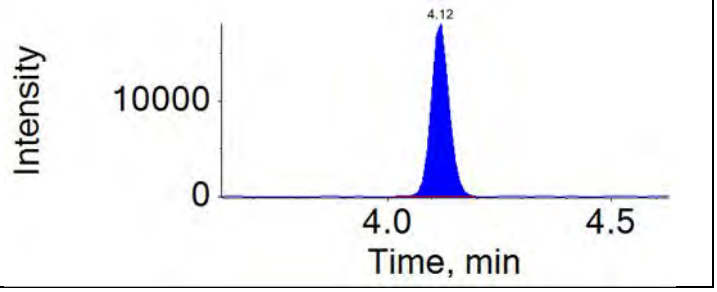

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




| Analyte: 4:2-FTS | Extraction Standard: 13C2-4:2-FTS |
|---|---|
| 327.0 / 307.0 | 329.0 / 81.0 |



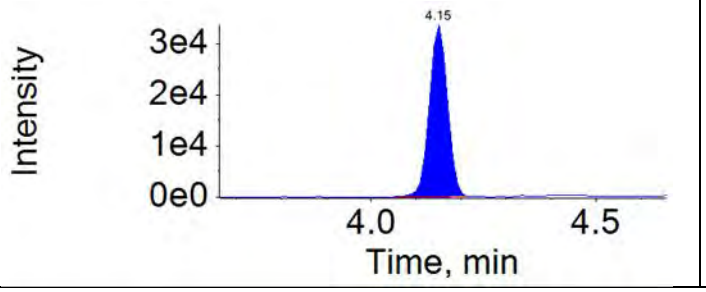

APPROVED
*By JPT at 10:19 am, 11/14/18*

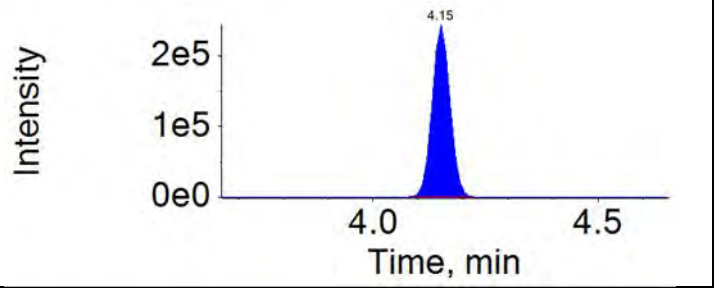


REVIEWED
*By HMK at 11:03 am, 11/15/18*

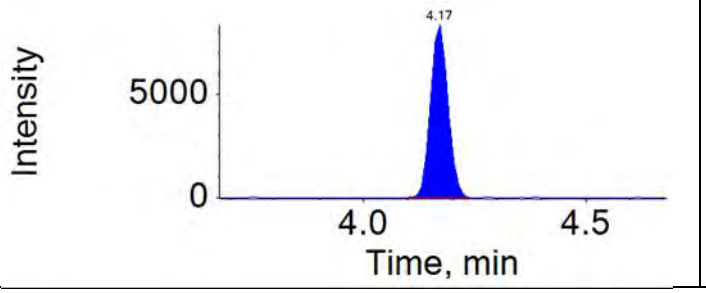
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

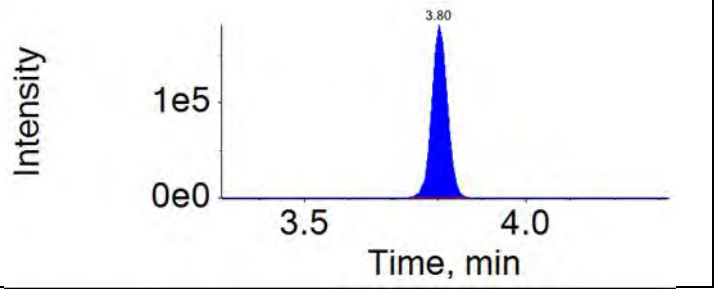
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



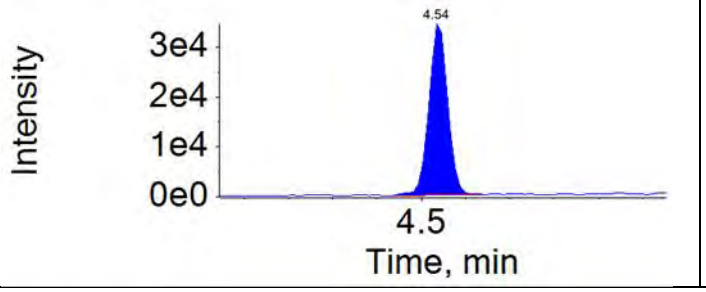



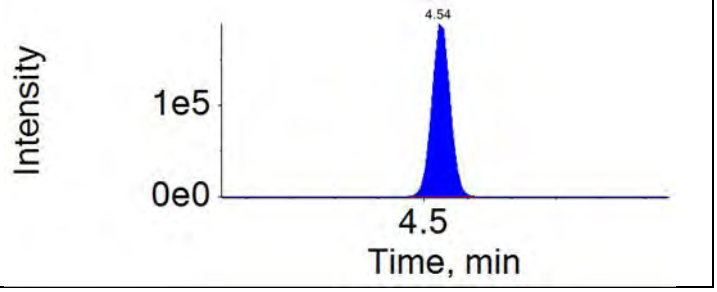

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



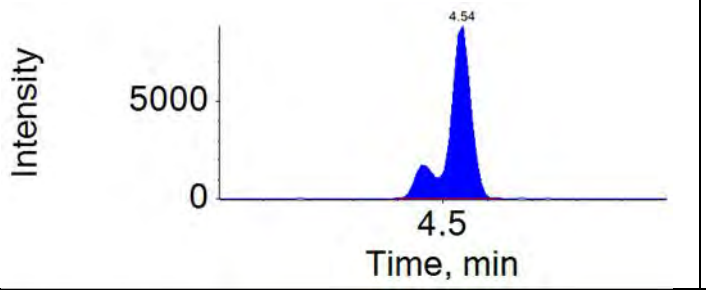



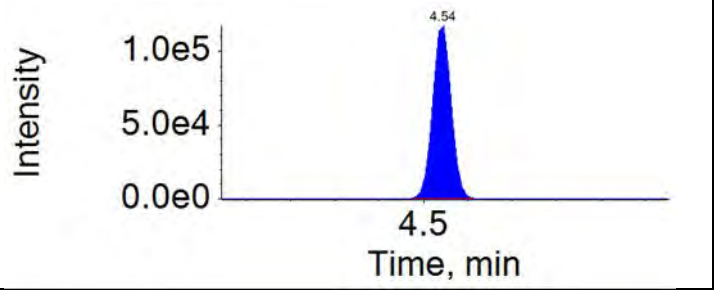

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |



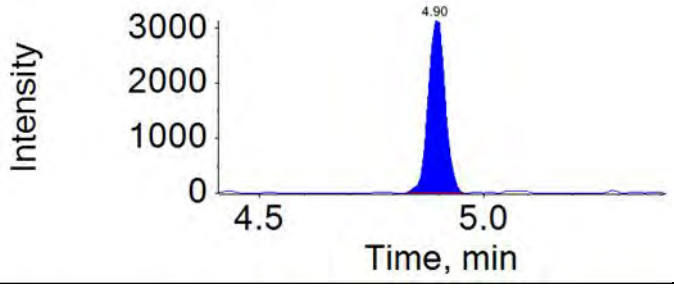
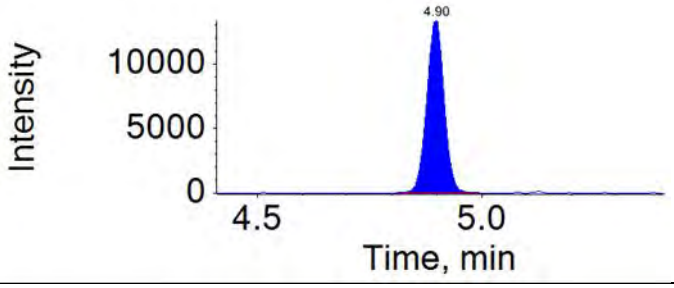




APPROVED
*By JPT at 10:19 am, 11/14/18*



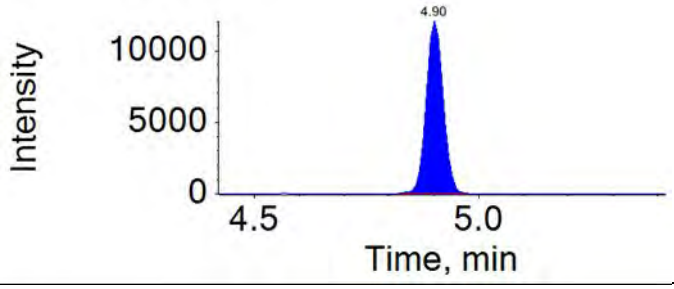
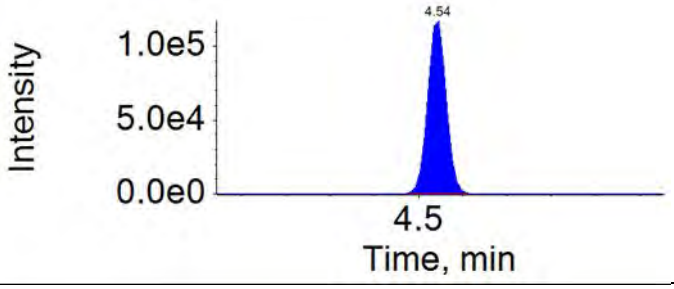
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |
|  |  |

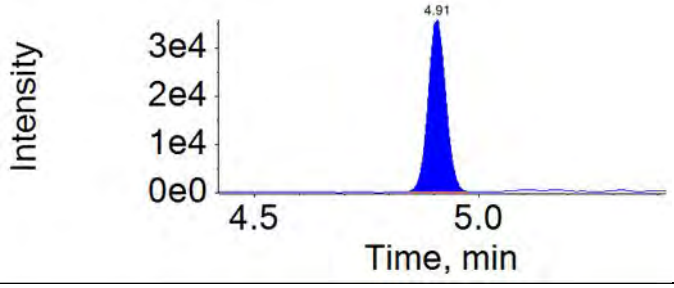
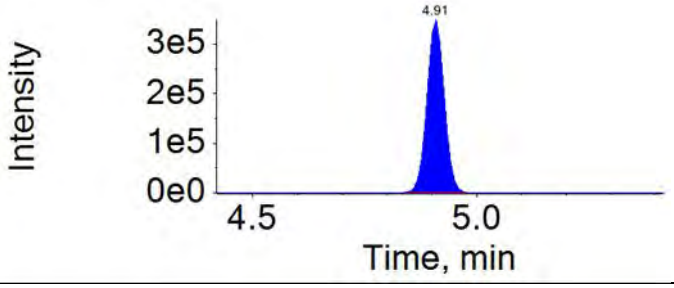




| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |
|  |  |

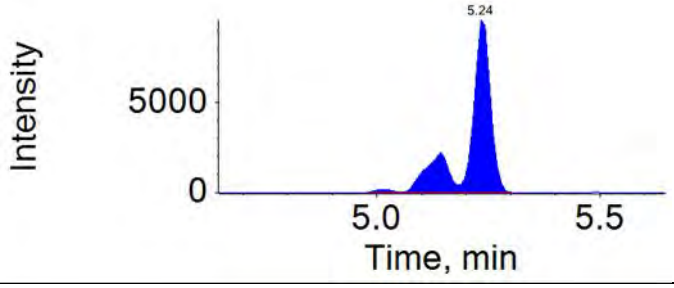
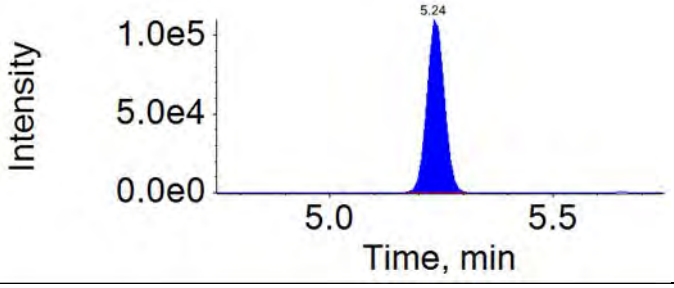




| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |
|  |  |





| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |
|  |  |





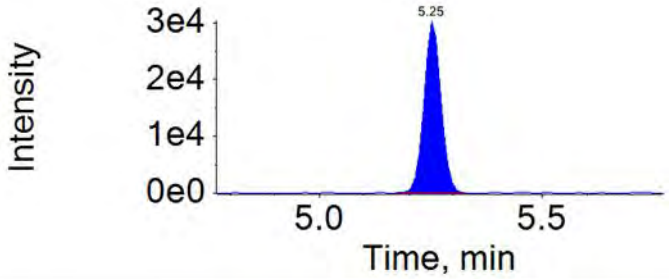
APPROVED
*By JPT at 10:19 am, 11/14/18*

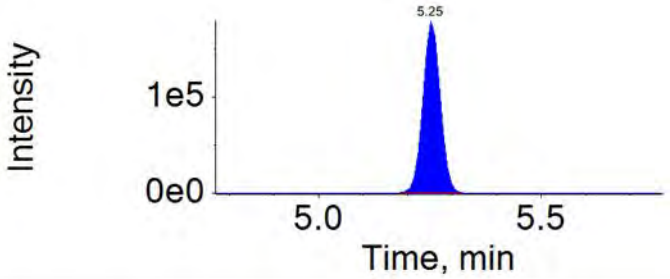


REVIEWED
*By HMK at 11:03 am, 11/15/18*

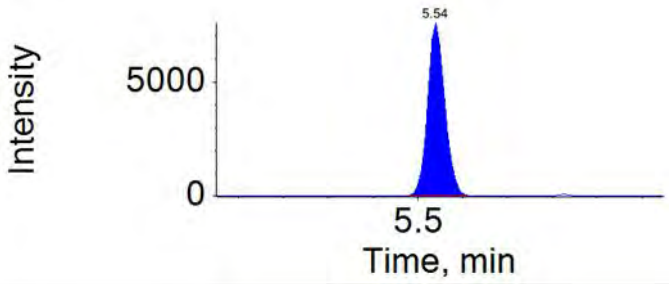
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

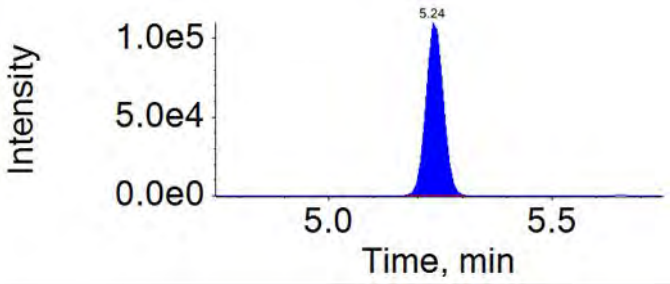
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



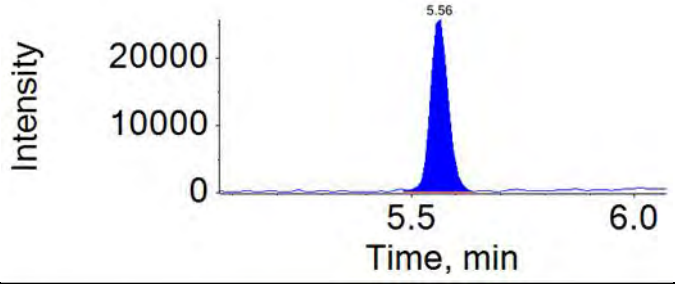



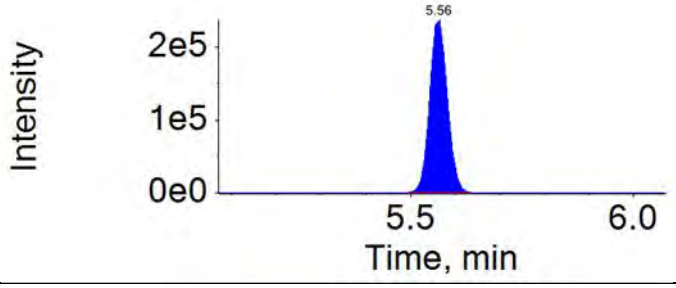

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



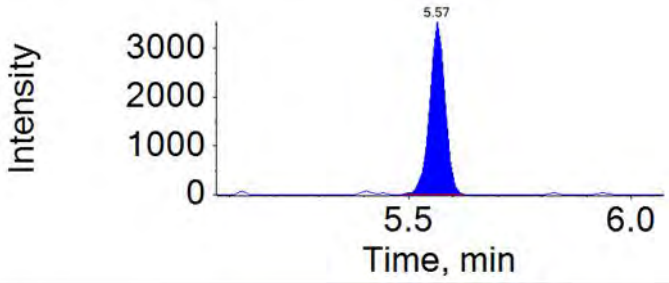



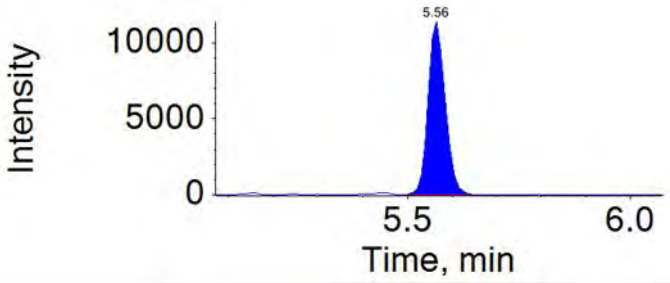

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




| Analyte: 8:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 527.0 / 507.0 | 529.0 / 81.0 |



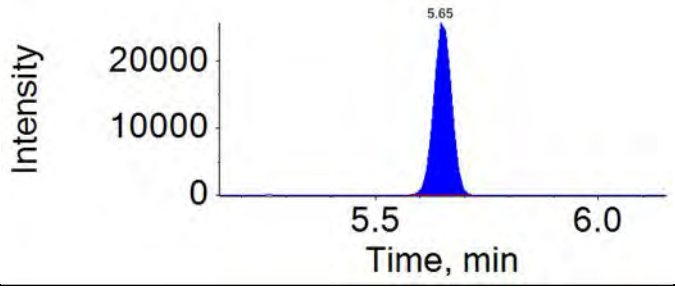
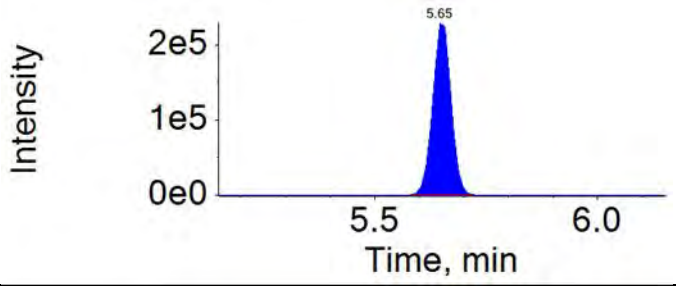




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*By JPT at 10:19 am, 11/14/18*



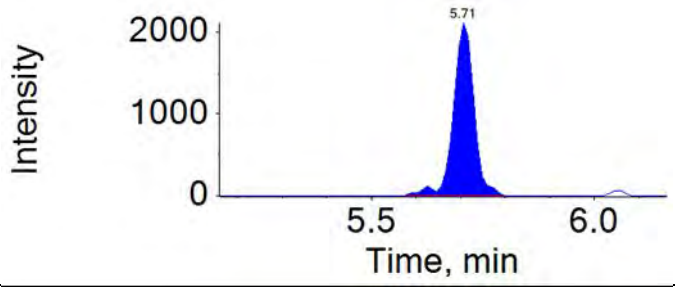
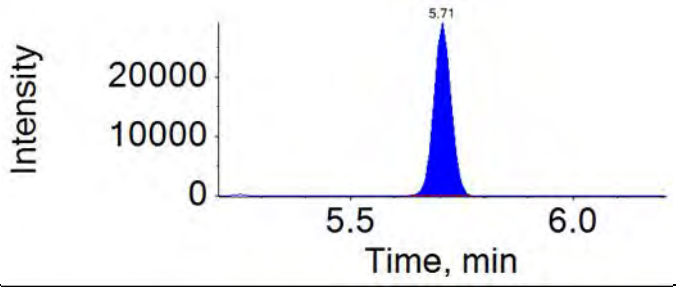
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |
|  |  |

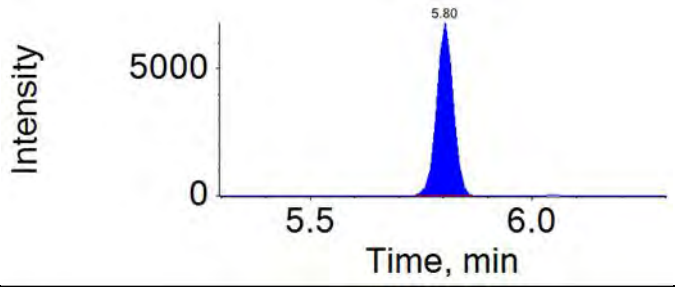
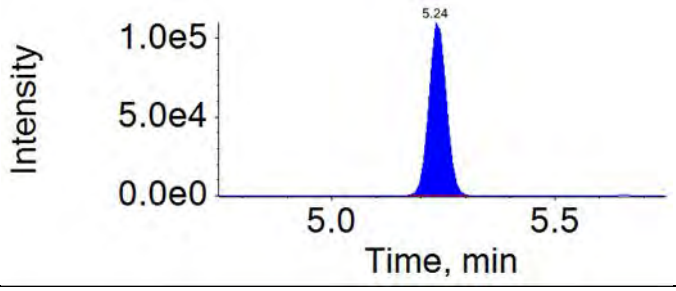




| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |
|  |  |

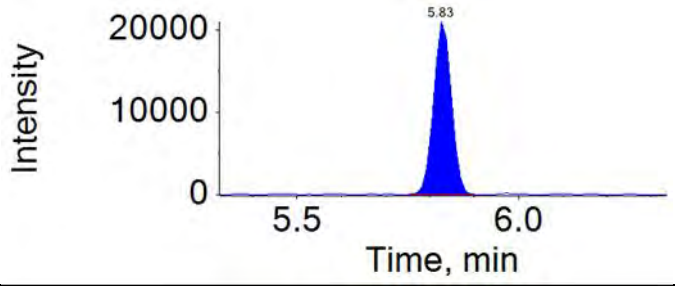
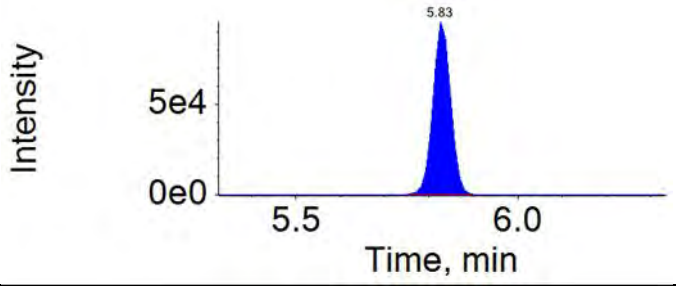




| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |
|  |  |





| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |
|  |  |



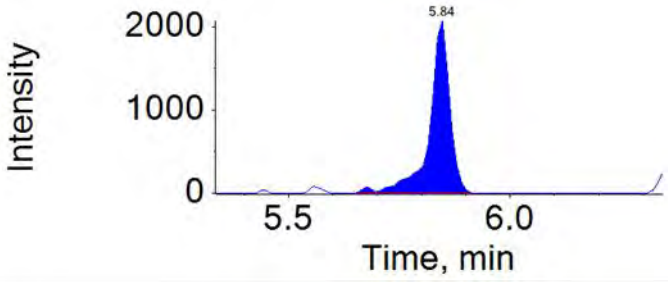
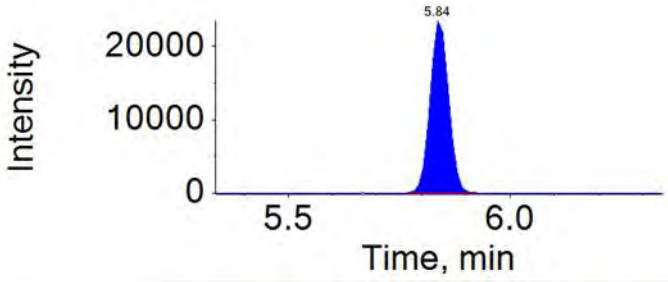


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By JPT at 10:19 am, 11/14/18



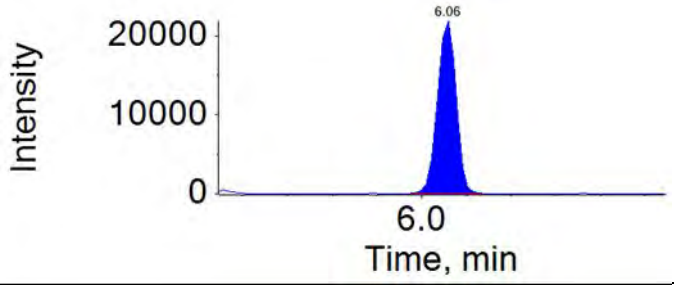
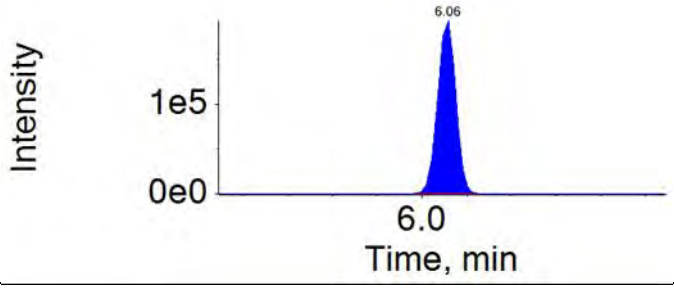
REVIEWED
By HMK at 11:03 am, 11/15/18

**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |
|  |  |

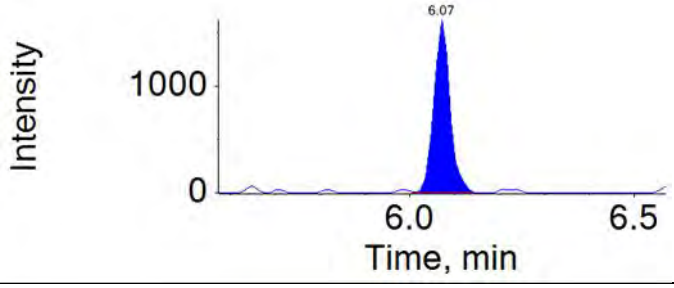
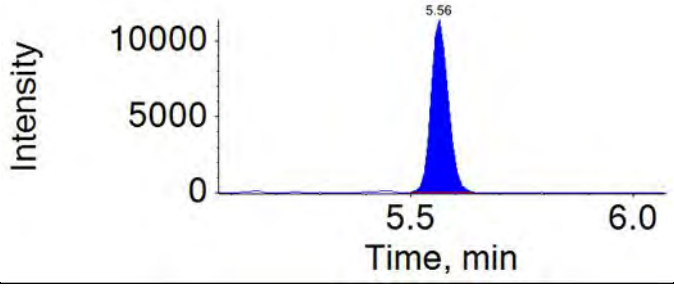




| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |
|  |  |

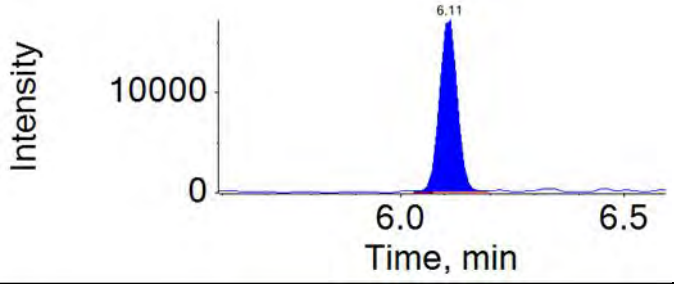
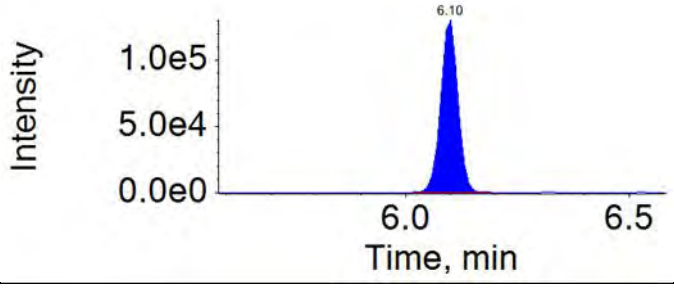




| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |
|  |  |





| Analyte: NMePFOSAE | Extraction Standard: d7-NMePFOSAE |
|---|---|
| 616.0 / 59.0 | 623.0 / 59.0 |
|  |  |





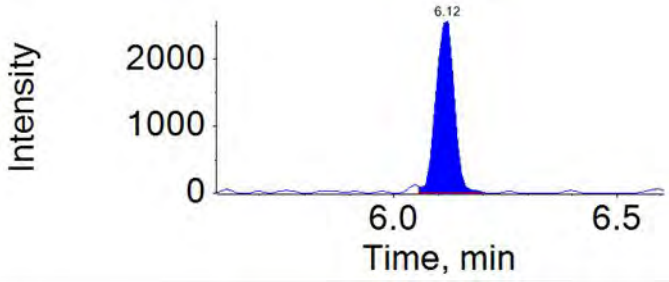
APPROVED
*By JPT at 10:19 am, 11/14/18*

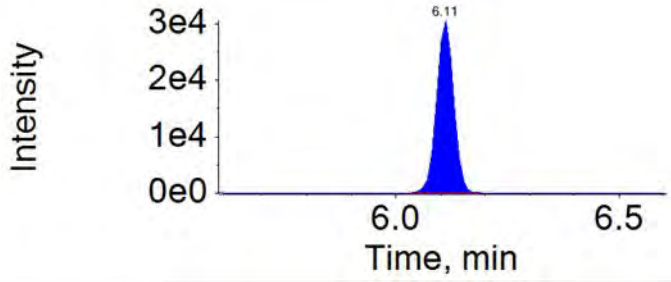


REVIEWED
*By HMK at 11:03 am, 11/15/18*

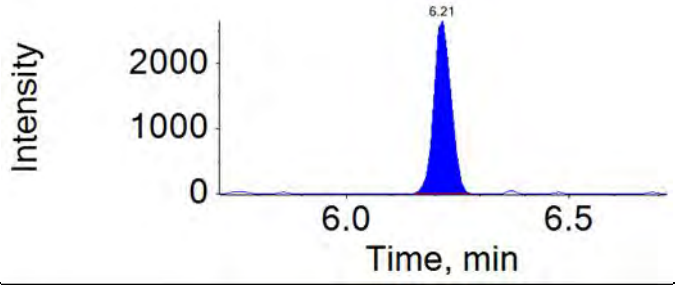
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

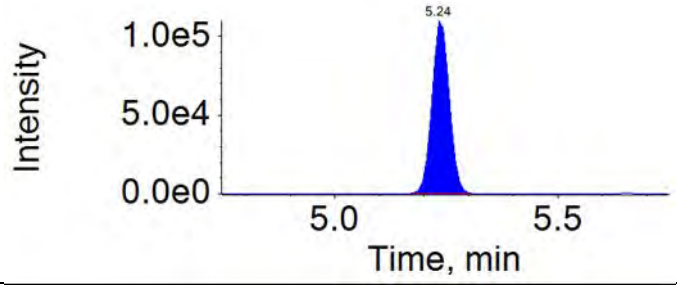
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



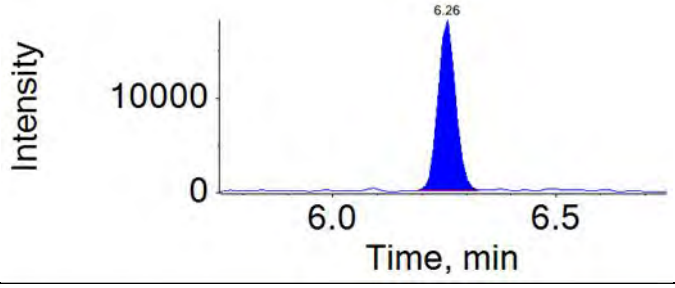



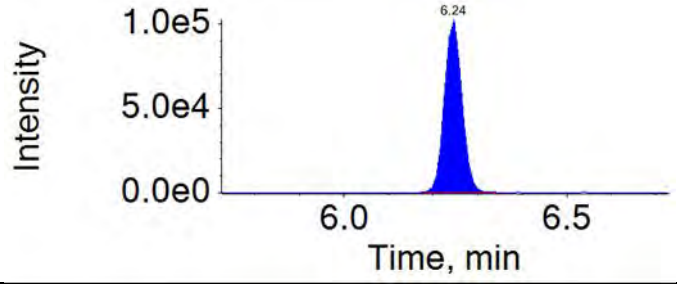

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



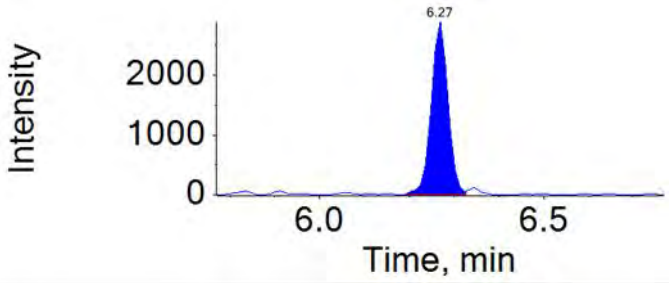



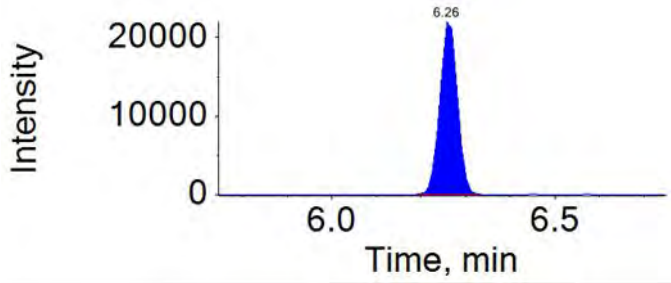

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




| Analyte: NEtPFOSA | Extraction Standard: d5-NEtPFOSA |
|---|---|
| 526.0 / 169.0 | 531.0 / 169.0 |



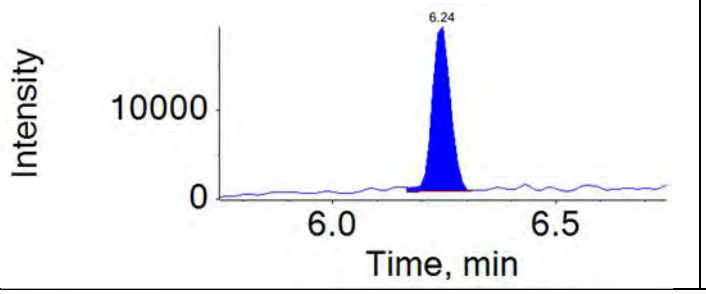

APPROVED
*By JPT at 10:19 am, 11/14/18*

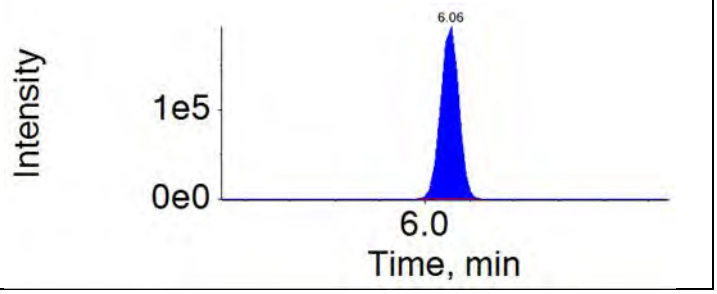


REVIEWED
*By HMK at 11:03 am, 11/15/18*

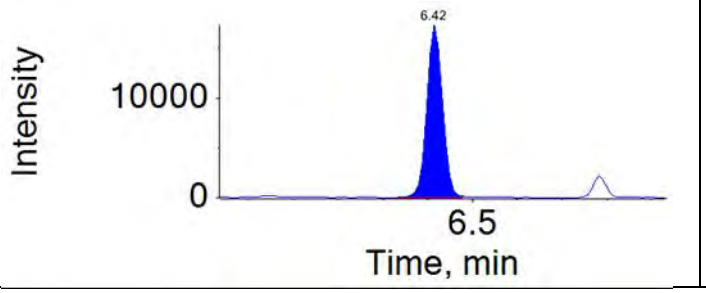
**ICAL Name:** 18NOV12DCAL **Result Table:** 18NOV13DCCV6-10 11/14/2018 9:23:22 AM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

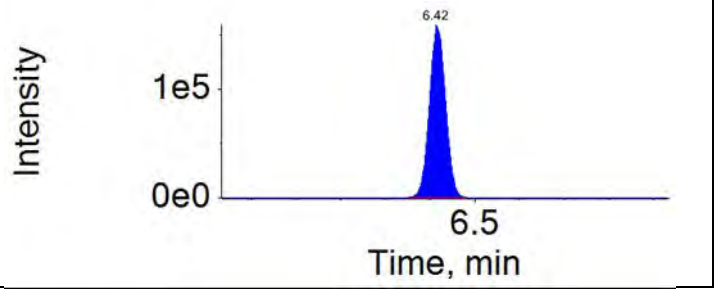
| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |



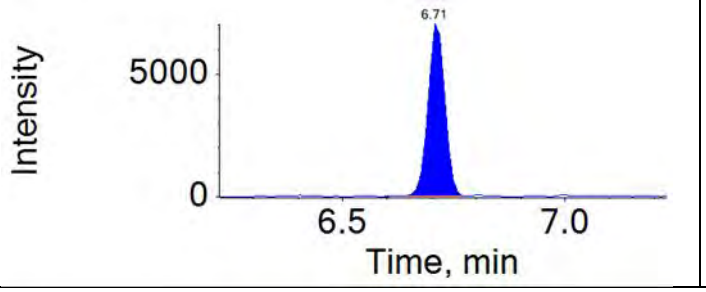



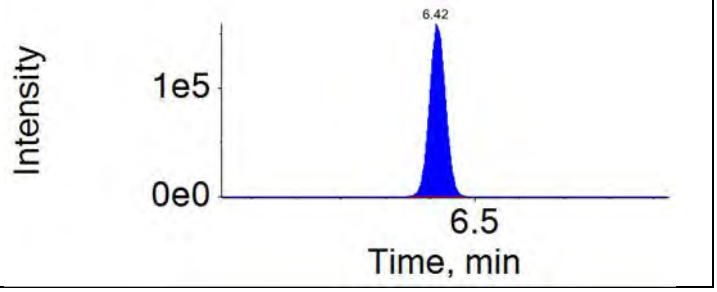

| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |



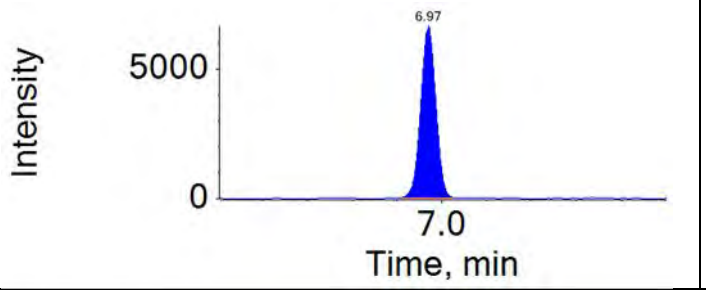



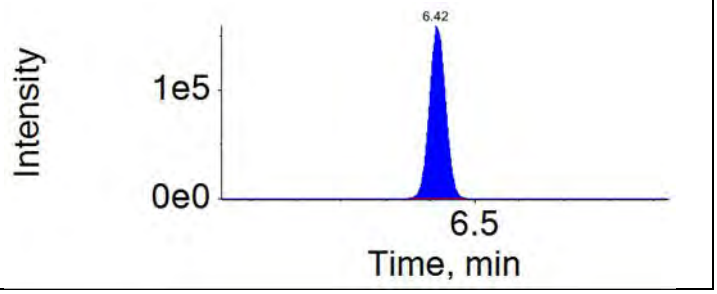

| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |




| Analyte: PFODA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 913.0 / 869.0 | 715.0 / 670.0 |



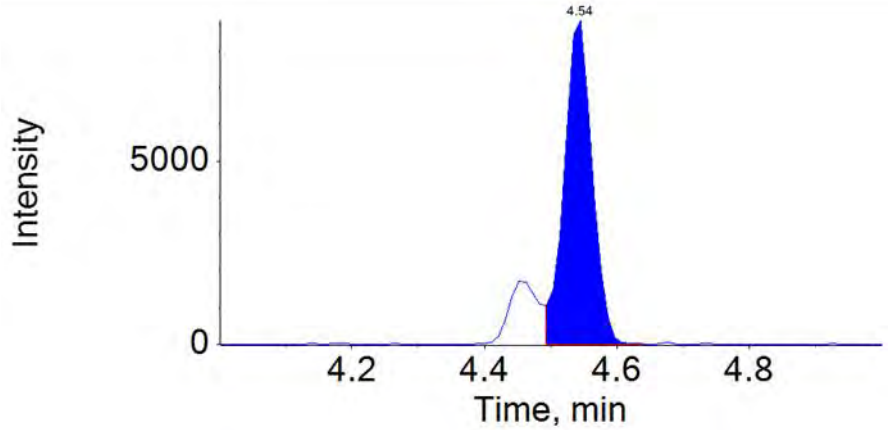



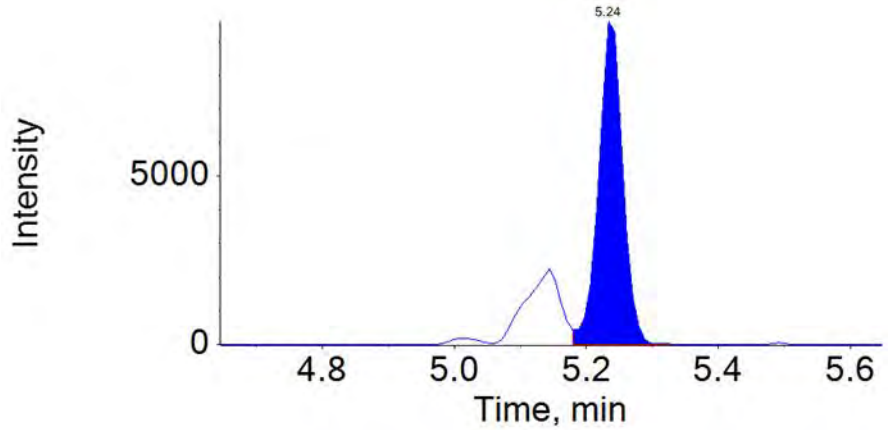

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*By JPT at 10:19 am, 11/14/18*

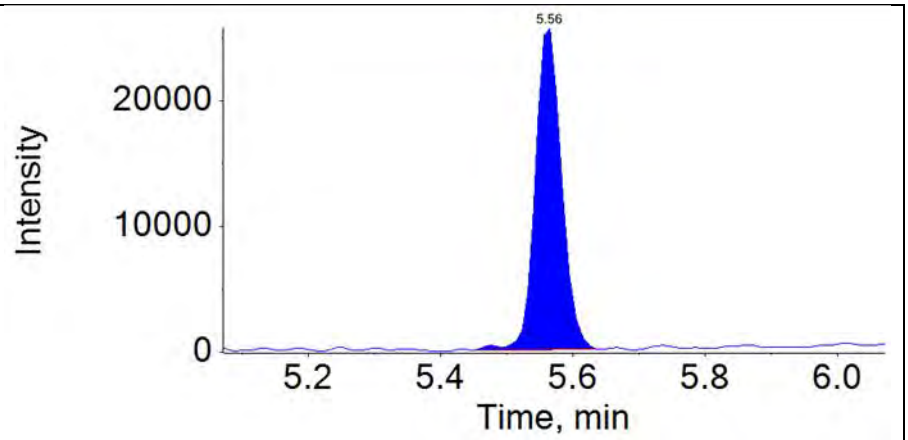


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFHxS<br>**RT (min.):** 4.54<br>**Peak Area:** 25916.1<br>**Mass Range:** 399.0 / 80.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS<br>**RT (min.):** 5.24<br>**Peak Area:** 24570.9<br>**Mass Range:** 499.0 / 80.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

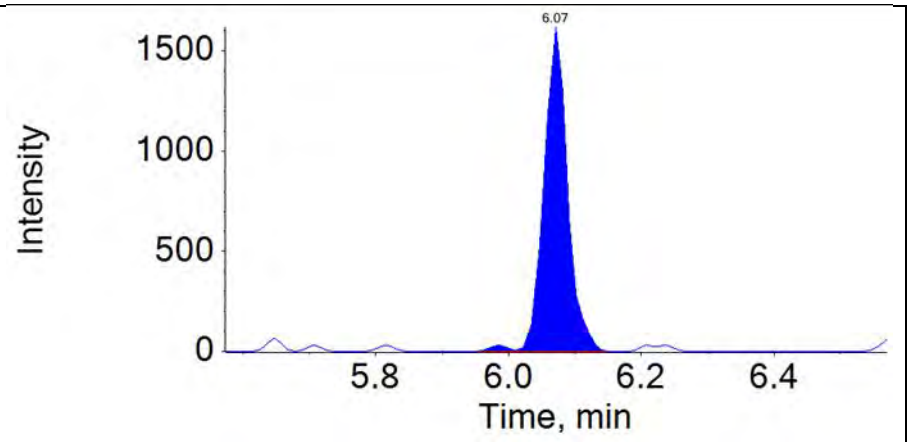
| | |
|---|---|
| **Component Name:** PFDA<br>**RT (min.):** 5.56<br>**Peak Area:** 70744.4<br>**Mass Range:** 513.0 / 469.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

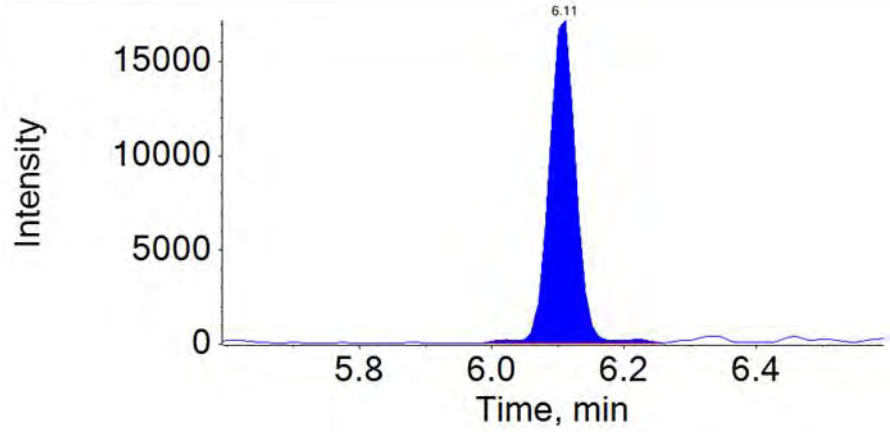
APPROVED
*By JPT at 10:19 am, 11/14/18*

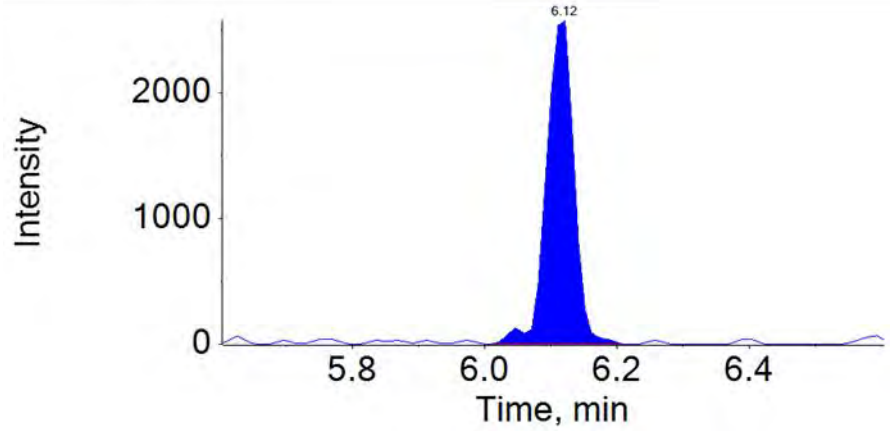


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** 10:2-FTS<br>**RT (min.):** 6.07<br>**Peak Area:** 4044.7<br>**Mass Range:** 627.0 / 607.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NMePFOSAE<br>**RT (min.):** 6.11<br>**Peak Area:** 48601.8<br>**Mass Range:** 616.0 / 59.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NMePFOSA<br>**RT (min.):** 6.12<br>**Peak Area:** 7535.9<br>**Mass Range:** 512.0 / 169.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

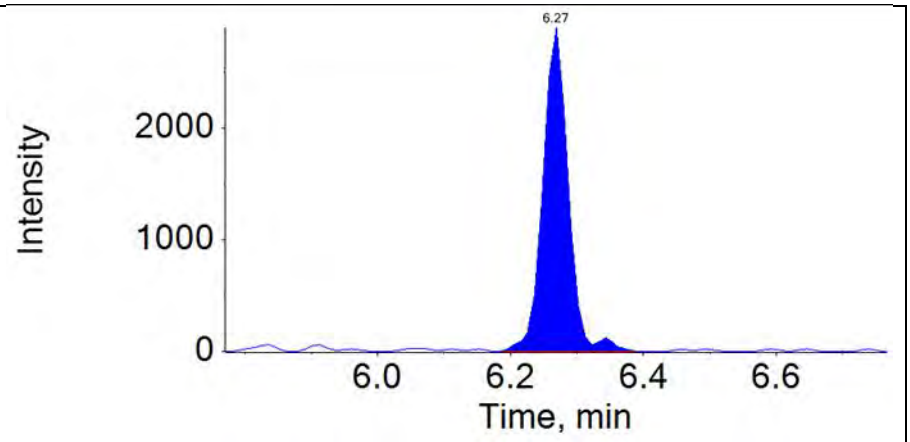
APPROVED
By JPT at 10:19 am, 11/14/18



REVIEWED
By HMK at 11:03 am, 11/15/18

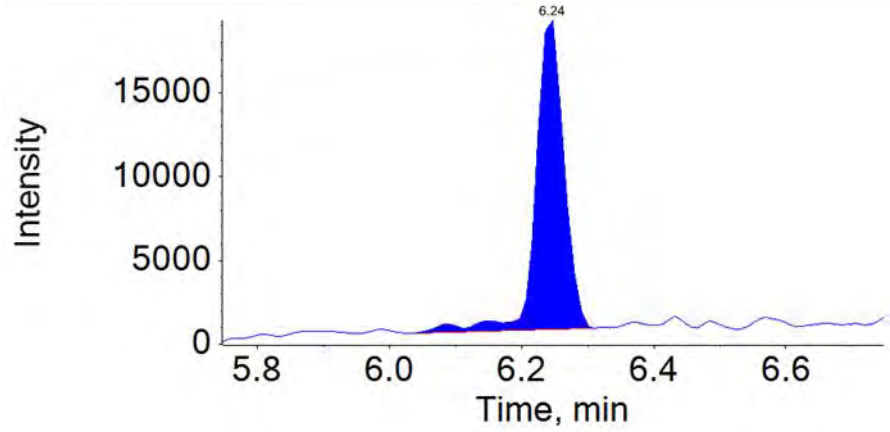
**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NEtPFOSA
**RT (min.):**
6.27
**Peak Area:**
7718.3
**Mass Range:**
526.0 / 169.0
**File Name:**
18NOV13D-99.wiff
**Sample Name:**
CCV10_ISC_CAL2



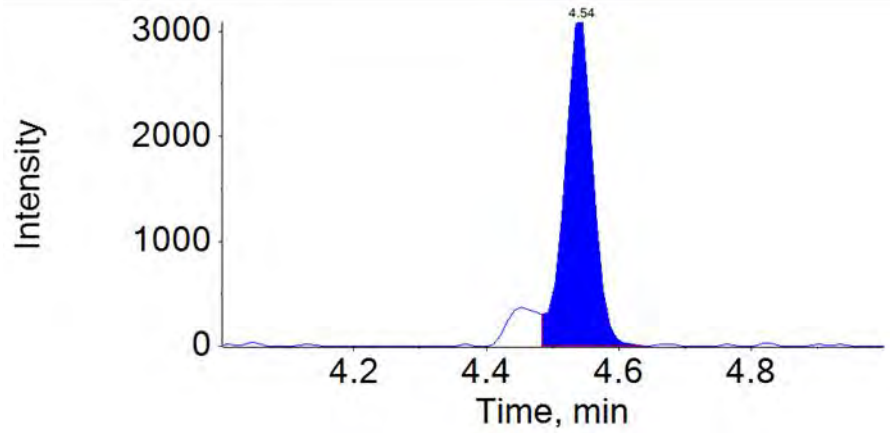

**Integration Comment:** incorrect integration

**Component Name:**
PFTrDA
**RT (min.):**
6.24
**Peak Area:**
55360.1
**Mass Range:**
663.0 / 619.0
**File Name:**
18NOV13D-99.wiff
**Sample Name:**
CCV10_ISC_CAL2




**Integration Comment:** incorrect integration

**Component Name:**
PFHxS_2
**RT (min.):**
4.54
**Peak Area:**
9292.7
**Mass Range:**
399.0 / 99.0
**File Name:**
18NOV13D-99.wiff
**Sample Name:**
CCV10_ISC_CAL2



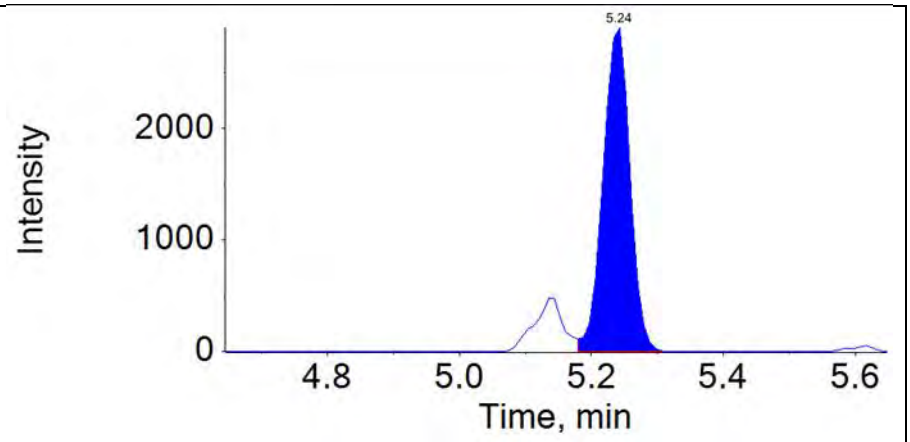

**Integration Comment:** incorrect integration

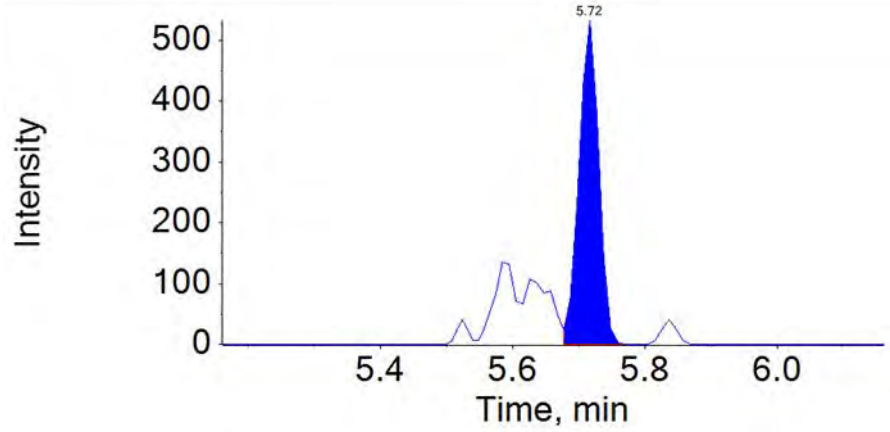
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*By JPT at 10:19 am, 11/14/18*

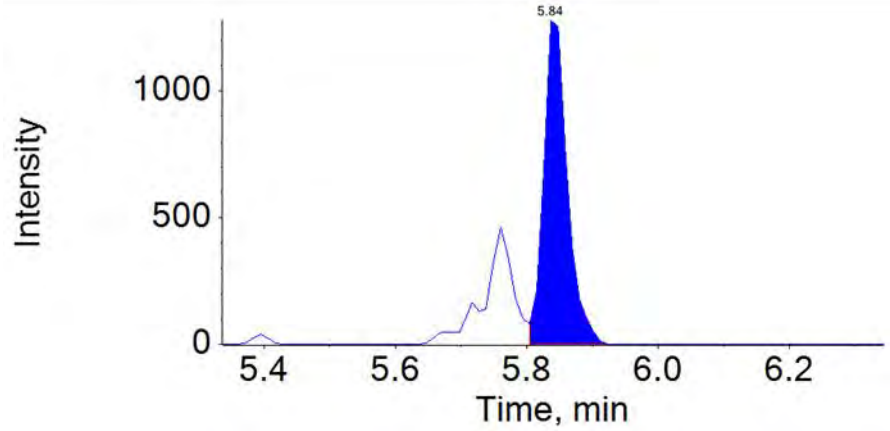


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.24<br>**Peak Area:** 8250.8<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NMeFOSAA_2<br>**RT (min.):** 5.72<br>**Peak Area:** 1110.3<br>**Mass Range:** 570.0 / 483.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

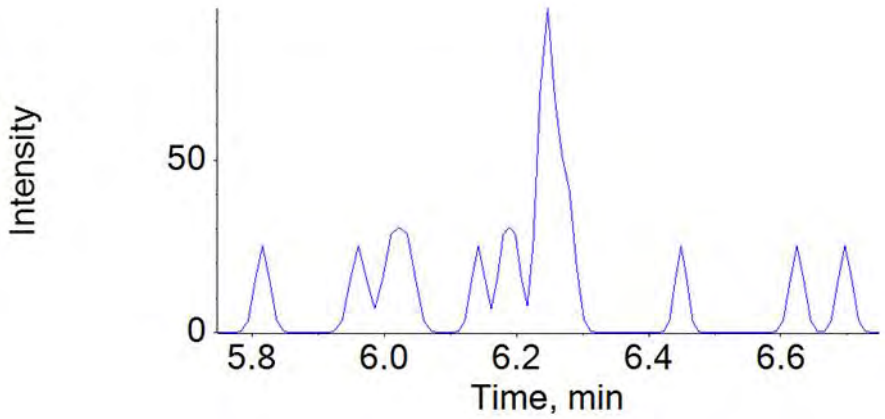
| | |
|---|---|
| **Component Name:** NEtFOSAA_2<br>**RT (min.):** 5.84<br>**Peak Area:** 3230.4<br>**Mass Range:** 584.0 / 526.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

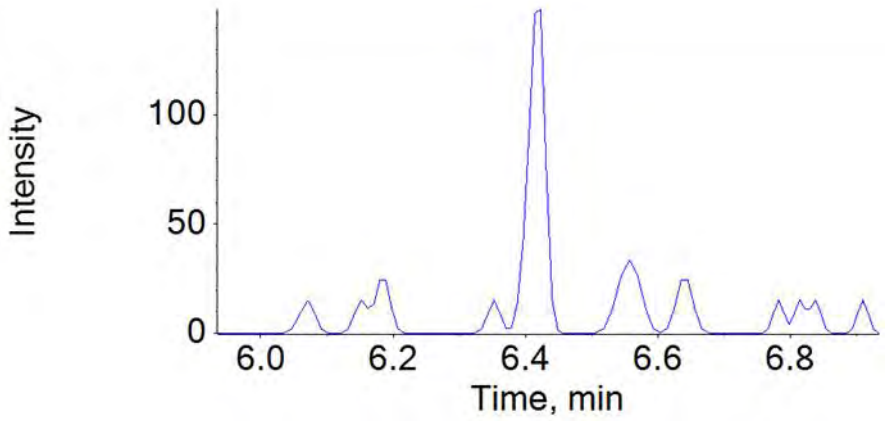
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*By JPT at 10:19 am, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFTrDA_2<br>**RT (min.):** N/A<br>**Peak Area:** N/A<br>**Mass Range:** 663.0 / 169.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFTeDA_2<br>**RT (min.):** N/A<br>**Peak Area:** N/A<br>**Mass Range:** 713.0 / 169.0<br>**File Name:** 18NOV13D-99.wiff<br>**Sample Name:** CCV10_ISC_CAL2 | <br>**Integration Comment:** incorrect integration |

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*By JPT at 10:19 am, 11/14/18*



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**Results Table Name:** 18NOV13DCCV6-10
**Results Table Date:** 11/14/2018 9:23:22 AM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

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*By HMK at 11:03 am, 11/15/18*

# Ion Ratio Report

**Sample Name:** CCV10_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV13D-99.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 | 41175.6 | A | N/A | 1.0000 | | | |
| PFBS_2 | 3.80 | 1.00 | 15615.5 | A | N/A | 0.3792 | 4 | 50 | |
| 4:2-FTS | 4.12 | 1.00 | 10558.5 | A | N/A | 1.0000 | | | |
| 4:2-FTS_2 | 4.12 | 1.00 | 6806.1 | A | N/A | 0.6446 | -4 | 50 | |
| PFHxA | 4.15 | 1.00 | 93239.0 | A | N/A | 1.0000 | | | |
| PFHxA_2 | 4.15 | 1.00 | 1287.4 | A | N/A | 0.0138 | 17 | 50 | |
| PFPeS | 4.17 | 1.10 | 22889.9 | A | N/A | 1.0000 | | | |
| PFPeS_2 | 4.17 | 1.10 | 11656.4 | A | N/A | 0.5092 | -2 | 50 | |
| PFHpA | 4.54 | 1.00 | 100485.7 | A | N/A | 1.0000 | | | |
| PFHpA_2 | 4.54 | 1.00 | 5462.5 | A | N/A | 0.0544 | -3 | 50 | |
| PFHxS | 4.54 | 1.00 | 31363.2 | M | N/A | 1.0000 | | | |
| PFHxS_2 | 4.54 | 1.00 | 10486.7 | M | N/A | 0.3344 | 10 | 50 | |
| 6:2-FTS | 4.90 | 1.00 | 8290.1 | A | N/A | 1.0000 | | | |
| 6:2-FTS_2 | 4.90 | 1.00 | 6077.6 | A | N/A | 0.7331 | 12 | 50 | |
| PFHpS | 4.90 | 1.08 | 32176.2 | A | N/A | 1.0000 | | | |
| PFHpS_2 | 4.90 | 1.08 | 13354.0 | A | N/A | 0.4150 | 2 | 50 | |
| PFOA | 4.91 | 1.00 | 97413.0 | A | N/A | 1.0000 | | | |
| PFOA_2 | 4.91 | 1.00 | 5674.1 | A | N/A | 0.0582 | 2 | 50 | |
| PFOS | 5.24 | 1.00 | 33335.6 | M | N/A | 1.0000 | | | |
| PFOS_2 | 5.24 | 1.00 | 9712.1 | M | N/A | 0.2913 | 13 | 50 | |
| PFNA | 5.25 | 1.00 | 79913.2 | A | N/A | 1.0000 | | | |
| PFNA_2 | 5.26 | 1.00 | 1813.0 | A | N/A | 0.0227 | -1 | 50 | |
| PFNS | 5.54 | 1.06 | 19973.6 | A | N/A | 1.0000 | | | |
| PFNS_2 | 5.54 | 1.06 | 9634.3 | A | N/A | 0.4824 | 1 | 50 | |
| PFDA | 5.56 | 1.00 | 70350.5 | M | N/A | 1.0000 | | | |
| PFDA_2 | 5.58 | 1.00 | 335.7 | A | N/A | 0.0048 | -40 | 50 | |
| 8:2-FTS | 5.57 | 1.00 | 8485.5 | A | N/A | 1.0000 | | | |
| 8:2-FTS_2 | 5.57 | 1.00 | 4170.9 | A | N/A | 0.4915 | -26 | 50 | |
| NMeFOSAA | 5.71 | 1.00 | 6785.4 | A | N/A | 1.0000 | | | |
| NMeFOSAA_2 | 5.72 | 1.00 | 1729.4 | M | N/A | 0.2549 | 20 | 50 | |
| PFDS | 5.80 | 1.11 | 17445.5 | A | N/A | 1.0000 | | | |
| PFDS_2 | 5.81 | 1.11 | 10495.3 | A | N/A | 0.6016 | 18 | 50 | |
| PFUnDA | 5.83 | 1.00 | 58618.2 | A | N/A | 1.0000 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 715.3 | A | N/A | 0.0122 | 193 | 50 | OOS |
| NEtFOSAA | 5.84 | 1.00 | 6596.5 | A | N/A | 1.0000 | | | |
| NEtFOSAA_2 | 5.84 | 1.00 | 4673.0 | M | N/A | 0.7084 | 22 | 50 | |
| PFDoDA | 6.06 | 1.00 | 63697.0 | A | N/A | 1.0000 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 897.5 | A | N/A | 0.0141 | -14 | 50 | |
| 10:2-FTS | 6.07 | 1.09 | 3987.7 | M | N/A | 1.0000 | | | |
| 10:2-FTS_2 | 6.07 | 1.09 | 2443.3 | A | N/A | 0.6127 | -5 | 50 | |
| PFTrDA | 6.24 | 1.03 | 52624.9 | M | N/A | 1.0000 | | | |
| PFTrDA_2 | 6.25 | 1.03 | 251.1 | M | N/A | 0.0048 | -48 | 50 | |
| PFTeDA | 6.42 | 1.00 | 42186.4 | A | N/A | 1.0000 | | | |
| PFTeDA_2 | 6.42 | 1.00 | 282.1 | M | N/A | 0.0067 | 4 | 50 | |
| PFHxDA | 6.71 | 1.05 | 18374.7 | A | N/A | 1.0000 | | | |
| PFHxDA_2 | 6.71 | 1.05 | 1401.6 | A | N/A | 0.0763 | 13 | 50 | |

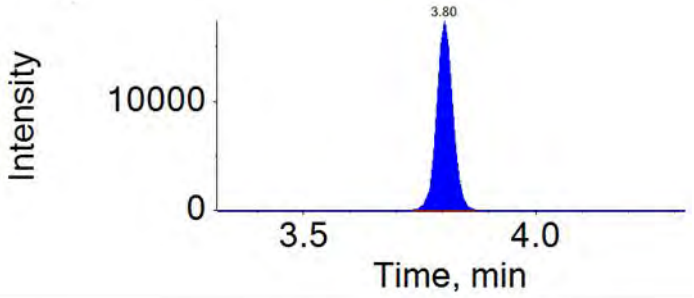
APPROVED
*By JPT at 10:19 am, 11/14/18*



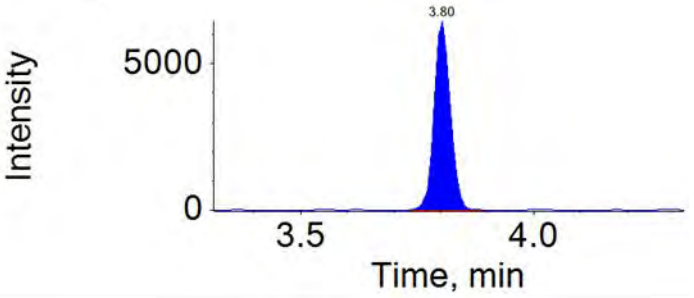
REVIEWED
*By HMK at 11:03 am, 11/15/18*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PFODA | 6.97 | 1.09 | 15437.7 | A | N/A | 1.0000 | | | |
| PFODA_2 | 6.97 | 1.09 | 382.9 | A | N/A | 0.0248 | -8 | 50 | |

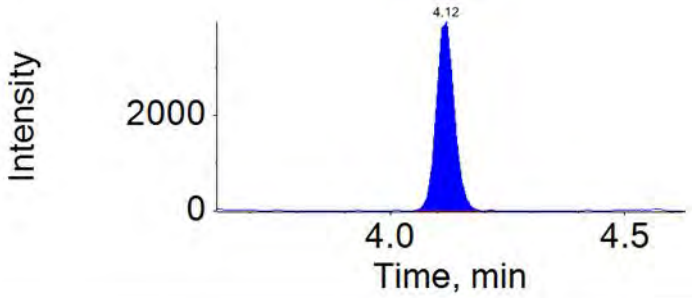
Component: PFBS
Primary Mass: 299.0 / 80.0



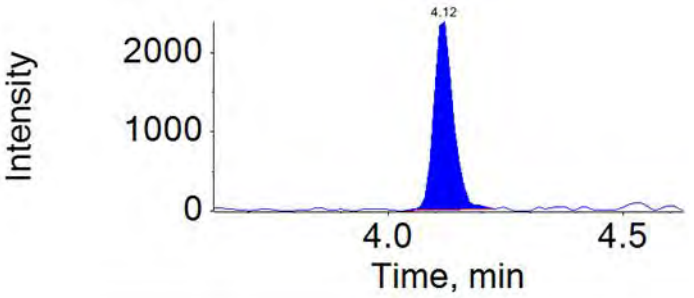

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



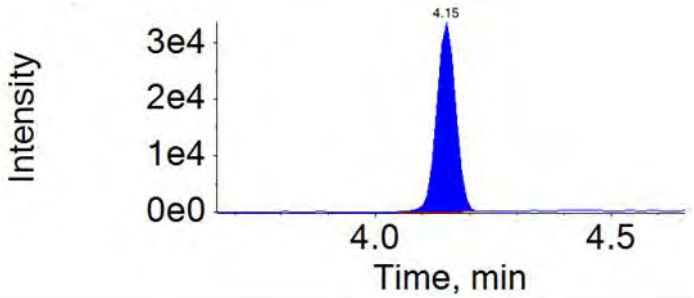

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



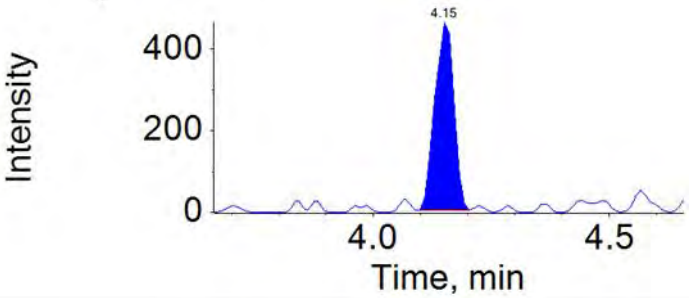

Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



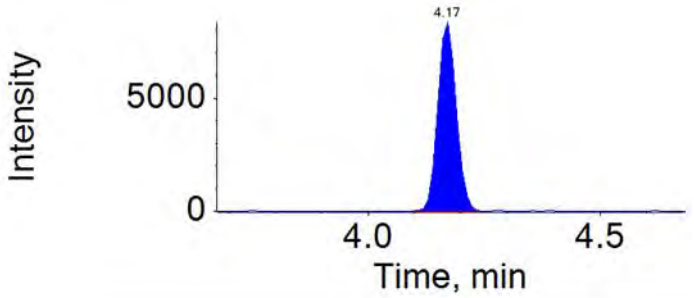

Component: PFHxA
Primary Mass: 313.0 / 269.0



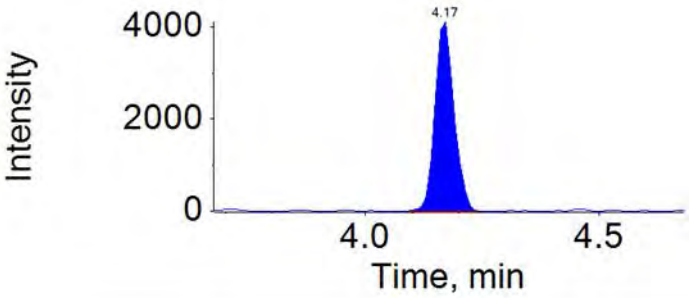

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

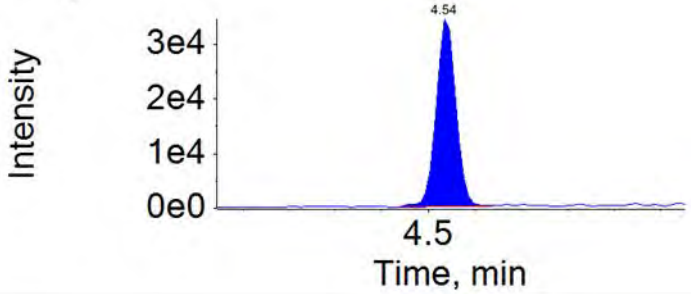



APPROVED
*By JPT at 10:19 am, 11/14/18*

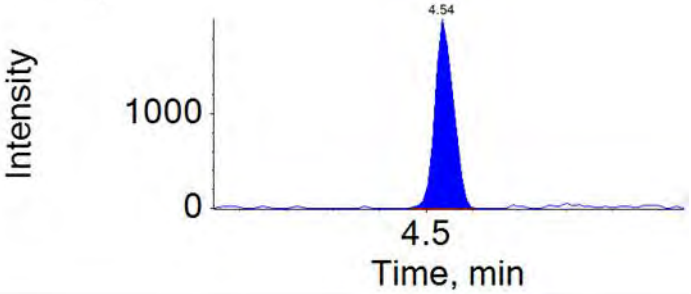


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*By HMK at 11:03 am, 11/15/18*

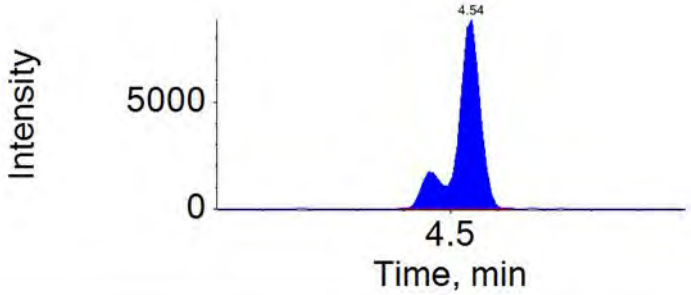
Component: PFHpA
Primary Mass: 363.0 / 319.0



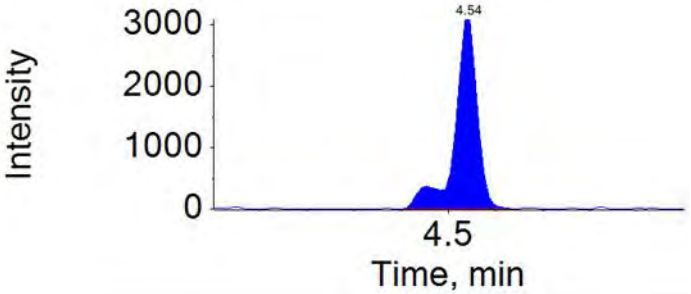

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



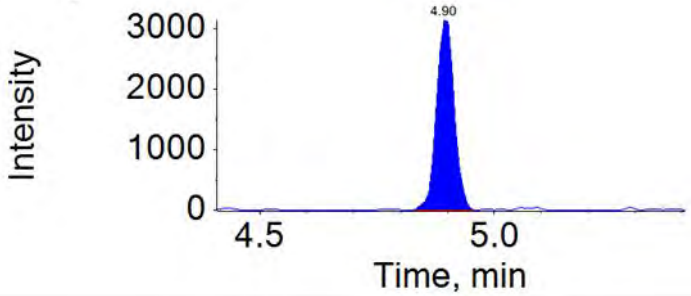

Component: PFHxS
Primary Mass: 399.0 / 80.0



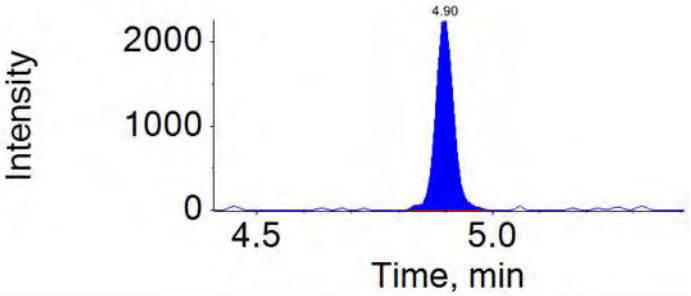

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



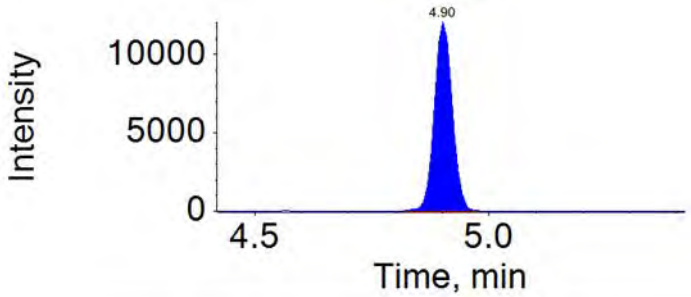

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



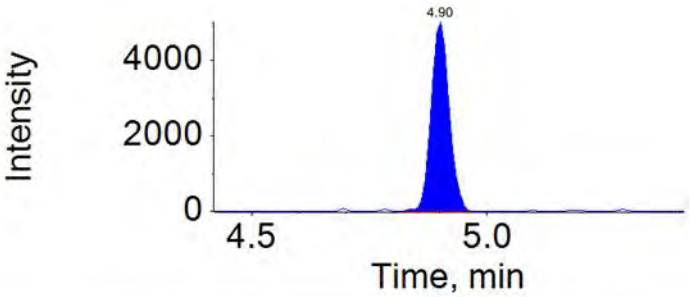

Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

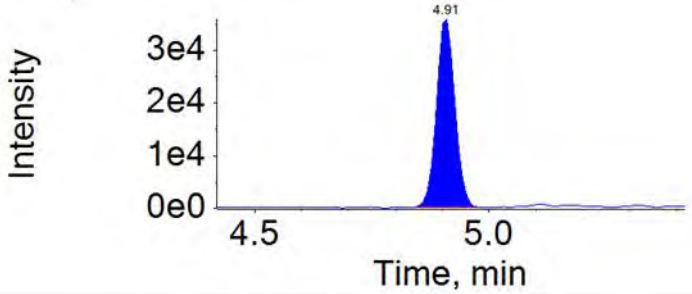



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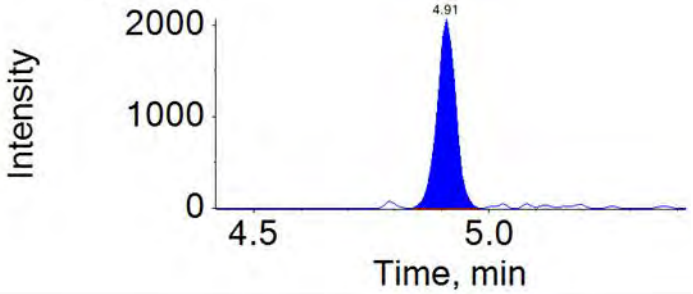


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*By HMK at 11:03 am, 11/15/18*

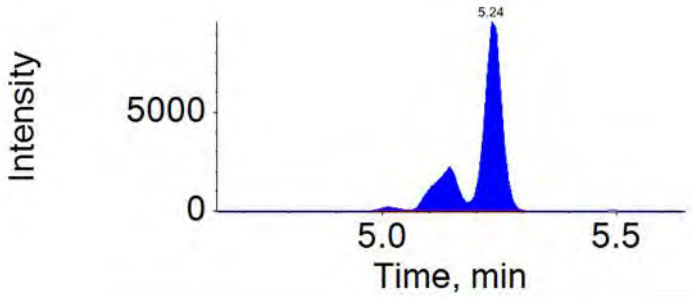
Component: PFOA
Primary Mass: 413.0 / 369.0



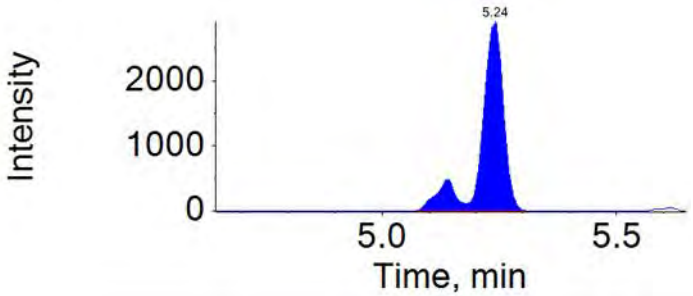

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



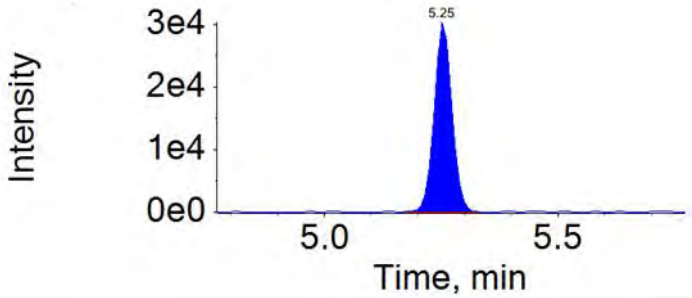

Component: PFOS
Primary Mass: 499.0 / 80.0



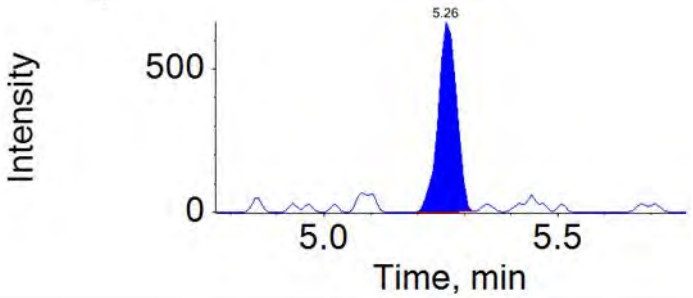

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



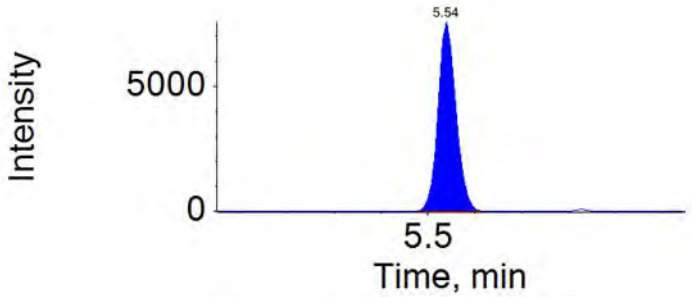

Component: PFNA
Primary Mass: 463.0 / 419.0



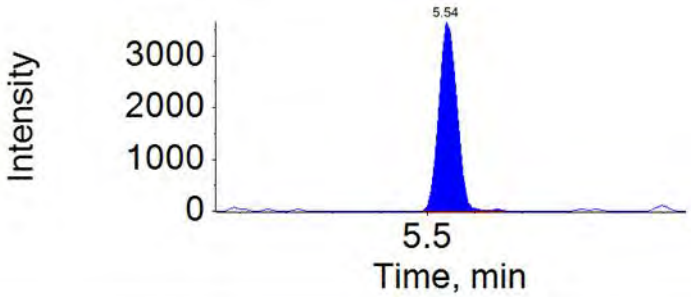

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

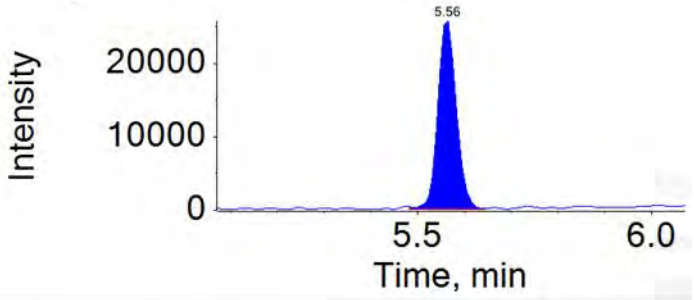



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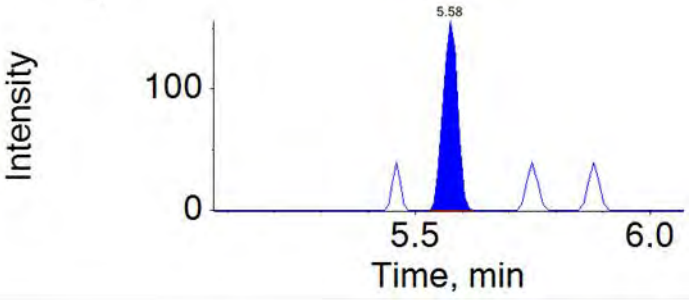


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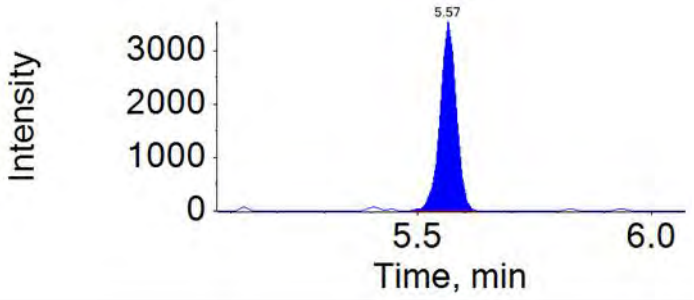
Component: PFDA
Primary Mass: 513.0 / 469.0



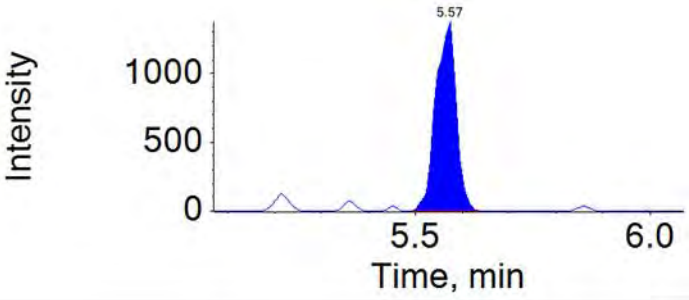

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



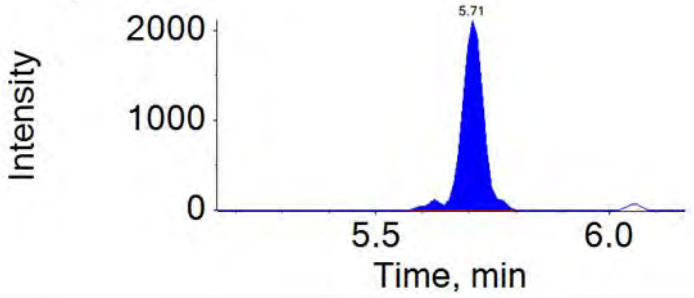

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



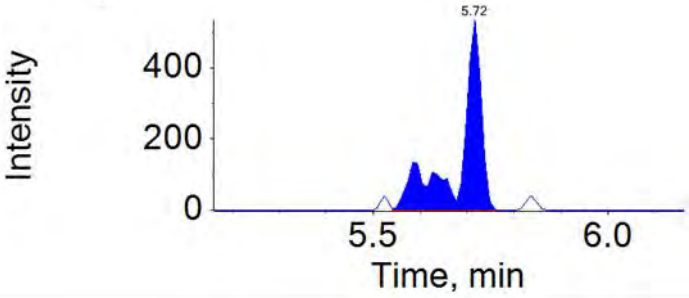

Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



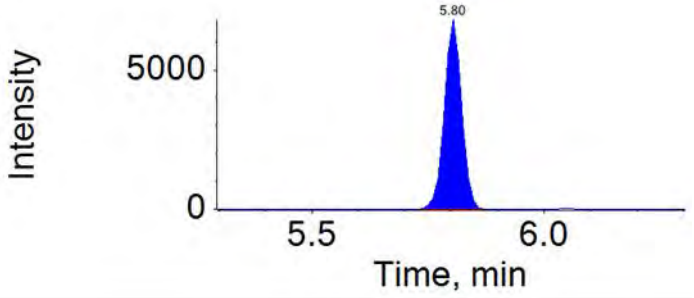

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



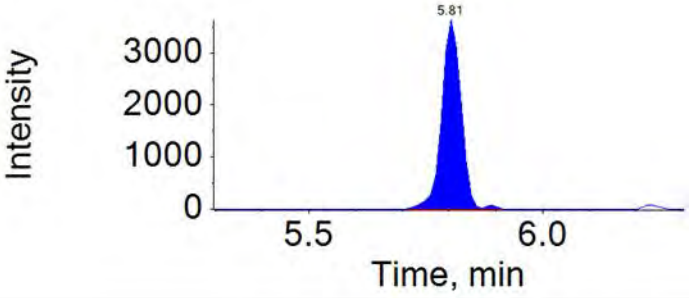

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

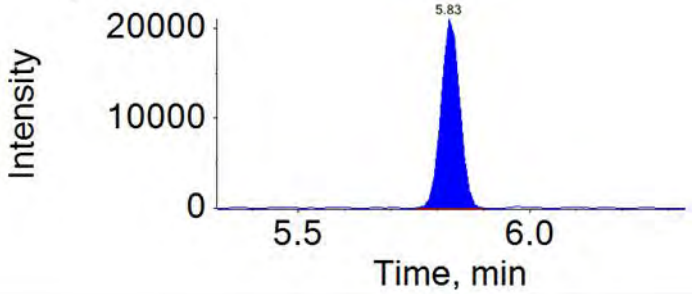



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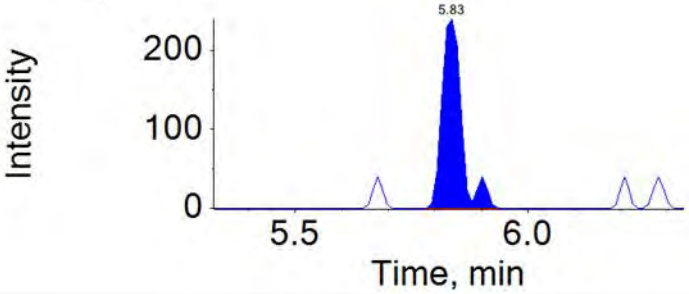


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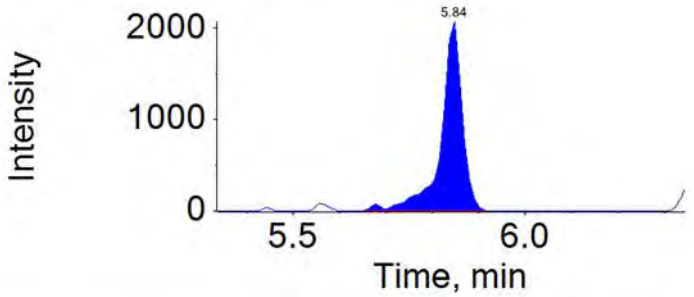
Component: PFUnDA
Primary Mass: 563.0 / 519.0



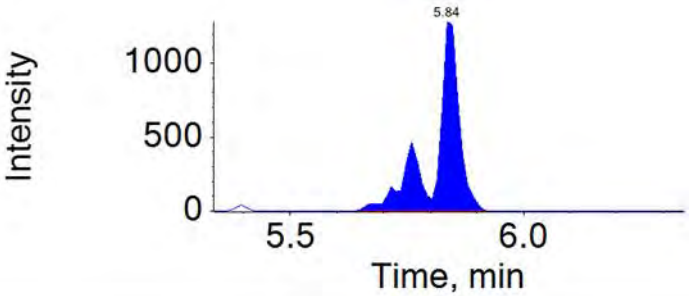

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



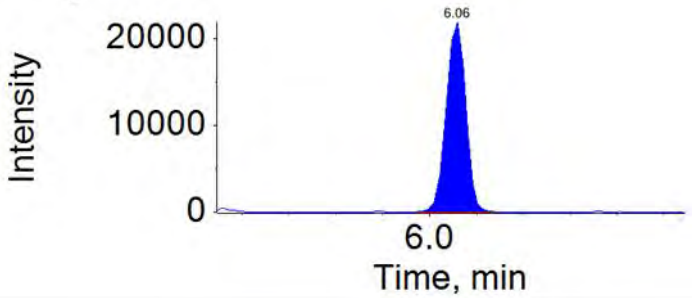

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



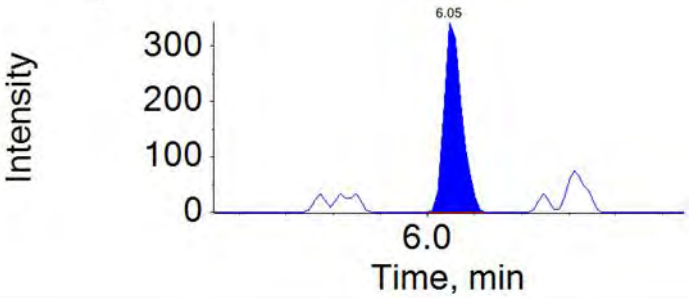

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



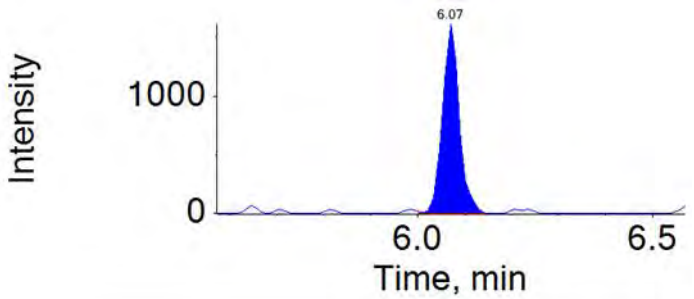

Component: PFDoDA
Primary Mass: 613.0 / 569.0



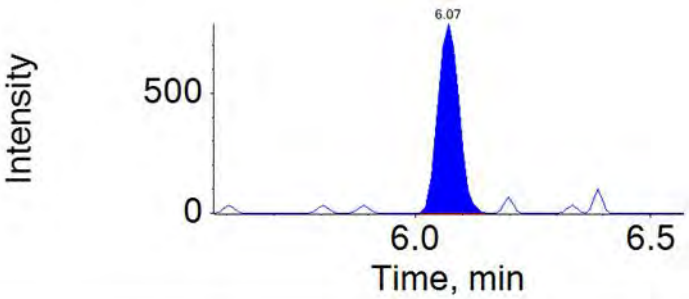

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0

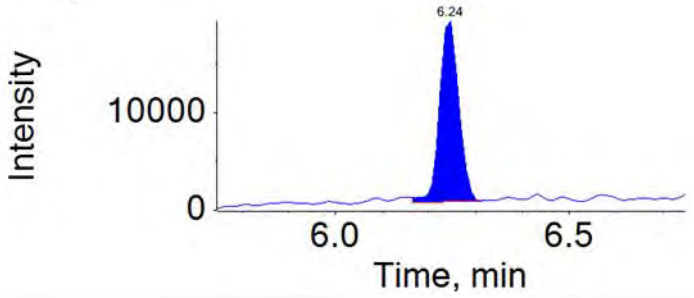



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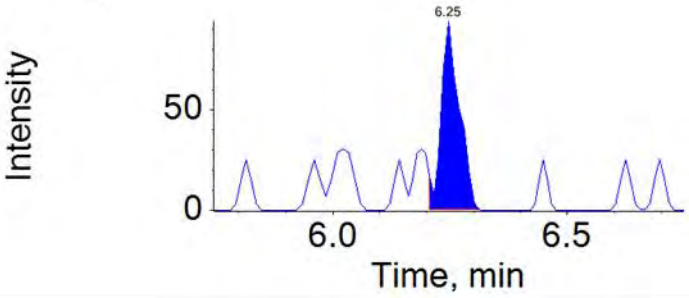


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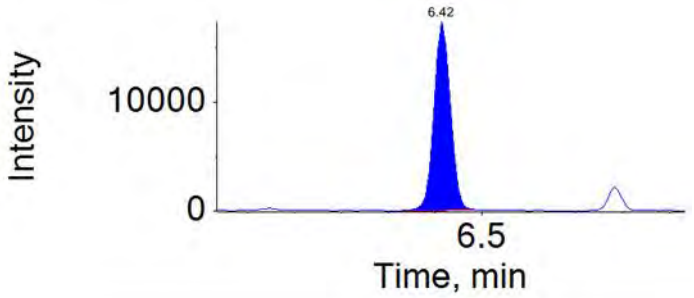
Component: PFTrDA
Primary Mass: 663.0 / 619.0



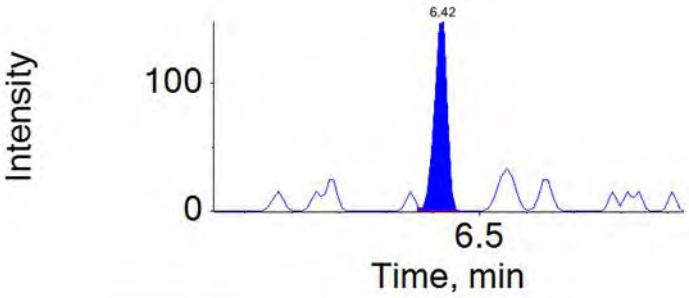

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



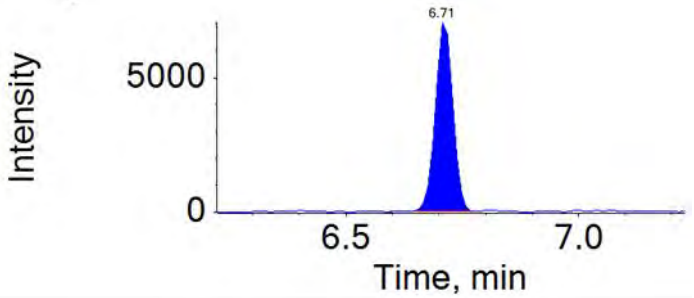

Component: PFTeDA
Primary Mass: 713.0 / 669.0



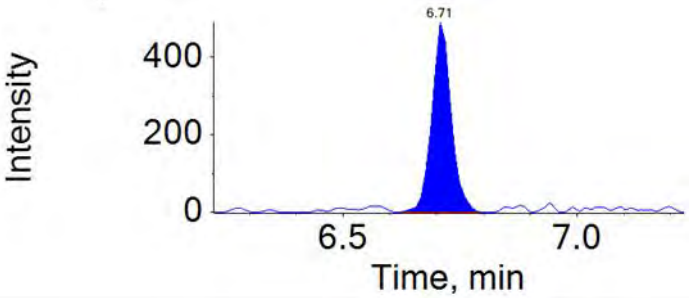

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



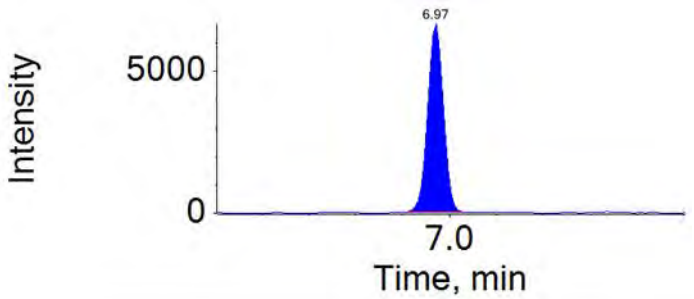

Component: PFHxDA
Primary Mass: 813.0 / 769.0



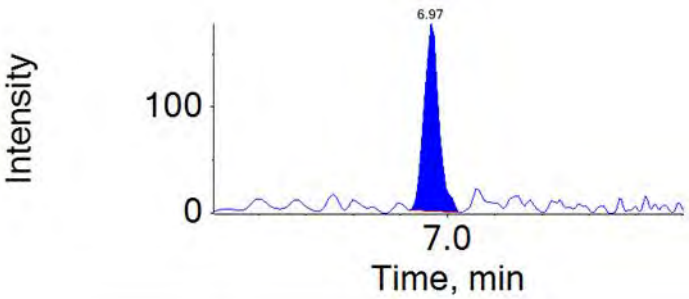

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




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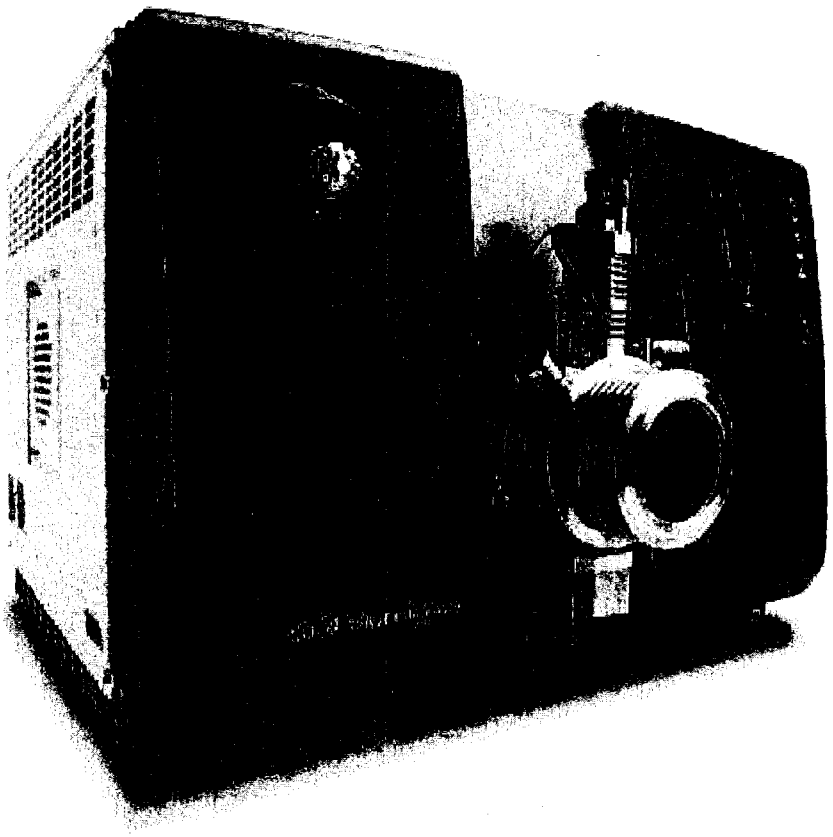
REVIEWED
*By HMK at 11:03 am, 11/15/18*

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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SINGAPORE 739256

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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<br>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<br>• TurboIonSpray® probe<br>• APCI probe (if applicable) | 2001171218<br>20380180321<br>20252180221 |
| NanoSpray® ion source (if applicable, non-MD systems only) | N/A |
| DuoSpray™ ion source (if applicable, non-MD systems only)<br>• TurboIonSpray® probe<br>• APCI probe (if applicable) | N/A<br>N/A<br>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:<br>• Inspect all tip and shock indicators for signs of excessive shock or tilting.<br>• Inspect the boxes for exterior damage. | ☑ | |
| Unpack and inspect all of the components. | ☑ | |
| (Optional) Unpack, inspect, and install the bench.<br>1. Inspect the packaging for exterior damage.<br>2. Unpack the bench and then inspect for damage.<br>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.**<br>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:<br>• Discuss warranty coverage for the StatusScope® software.<br>• If the customer wants the StatusScope® software installed, then complete the StatusScope® user access form.<br>• 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.<br>• (Non-MD systems) If applicable, Cliquid® software has been installed.<br>• Other Analyst® or Analyst® MD compatible add-on software shipped with the system has been installed. | ◉ | ◉ |

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| Task | Complete | N/A |
|---|---|---|
| Verify and update the firmware and configuration files. | ☑ | |
| Install the factory files. | ☑ | |

# Initialization and Verification

**Note:** Perform these tasks after the mass spectrometer reaches operating vacuum.

| Task | Complete | N/A |
|---|---|---|
| Perform the high pressure source and blocked exhaust flow tests. | | |
| Measure and tune the Q1, Q3, and QJet® coil boxes. | ◉ | ◉ |
| Perform all installation tests, print out the test results, and complete the Data Log. | ☑ | |

# Wrap-up

| Task | Complete | N/A |
|---|---|---|
| Delete unnecessary files from the computers. | ☑ | |
| Back up the computer file systems, including the Analyst Data folder. | ☑ | |
| Create a computer image using the image utility. | ☑ | |
| Apply the biohazard labels included in the install kit. Apply one label to the ion source, and the other to the waste bottle. Find a vacant space that is clearly visible to affix the labels. | ☑ | |



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| Task | Complete | N/A |
|---|---|---|
| Complete all of the sections in the *Customer Familiarization Checklist*. Make a copy of the completed checklist and then give the original to the customer. | ☑ | |
| Inform the customer about the continuous improvement telephone surveys, and then advise the customer that a third party will call to obtain feedback. | ☑ | |
| Complete the *Installation Checklist and Data Log*:<br>• Obtain customer acceptance.<br>• Make a copy of the form and the test results.<br>• Provide the customer with the originals.<br>• (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 | $0.4 \times 10^{-5}$ torr ≤ $P_{CAD\ 0}$ ≤ $1.1 \times 10^{-5}$ torr | 0.7 x 10e-5 torr |
| Vacuum chamber pressure with CAD gas set to Full | $1.8 \times 10^{-5}$ torr ≤ ($P_{CAD\ 12} - P_{CAD\ 0}$) ≤ $2.8 \times 10^{-5}$ 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 |

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**Q1 Positive PPGs Test is Complete: Peak Width for Identified Masses** ☑

| Mass (Da) | Scan Rate (Da/s) | Cycles | Specification (Da) | Result (Passed) |
|---|---|---|---|---|
| 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427 | 10 | 10 | 0.6 to 0.8 | ☑ |
| | 200 | 50 | 0.6 to 0.8 | |
| | 1000 | 50 | 0.6 to 0.8 | |
| | 2000 | 100 | 0.6 to 0.8 | |

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| Q3 Positive PPGs Test is Complete: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) | ☑ |
|---|---|

- **Test solution:** POS PPG, 2e-6 M
- **Flow rate:** 5 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427, with peak intensities, peak width, and mass shift results, complete with method file information.

| Mass (Da) | Intensity (cps) | | Peak width (Da) | |
|---|---|---|---|---|
| | Specification | Result | Specification | Result |
| 175.133 | $\geq 8.0 \times 10^6$ | 1.950[redacted] | 0.6 to 0.8 | 0.6916 |
| 500.380 | $\geq 8.0 \times 10^6$ | 1.925[redacted] | 0.6 to 0.8 | 0.7278 |
| 906.673 | $\geq 2.0 \times 10^7$ | 3.1634[redacted] | 0.6 to 0.8 | 0.7403 |
| 1952.427 | $\geq 8.8 \times 10^5$ | 2.4968[redacted] | 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 | |

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**Q1 Negative PPGs Test is Complete** ☑

- **Test solution:** NEG PPG, 3e-4 M
- **Flow rate:** 10 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 44.998, 411.259, 585.385, 933.636, 1223.845, 1572.097, 1863.306, 1979.389, with peak intensities, peak width, and mass shift results, complete with method file information.

**Table 3-1 Verification: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) for the Q1 Negative PPGs Tests**

| Mass (Da) | Intensity (cps) | | Peak width (Da) | |
|---|---|---|---|---|
| | Specification | Result | Specification | Result |
| 933.636 | ≥ $1.8 \times 10^7$ | 2.23786e7 | 0.6 to 0.8 | 0.6638 |
| 1863.306 | ≥ $1.4 \times 10^6$ | 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 | ≥ $1.8 \times 10^7$ | 2.6621e7 | 0.6 to 0.8 | 0.7288 |
| 1863.306 | ≥ $2.0 \times 10^6$ | 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 | $0.4 \times 10^{-5}$ torr ≤ $P_{CAD\ 0}$ ≤ $1.1 \times 10^{-5}$ torr | 0.4x10e-5 torr |
| Vacuum chamber pressure with CAD gas set to Full | $1.8 \times 10^{-5}$ torr ≤ ($P_{CAD\ 12} - P_{CAD\ 0}$) ≤ $2.8 \times 10^{-5}$ torr | 2.1x10e-5 torr |

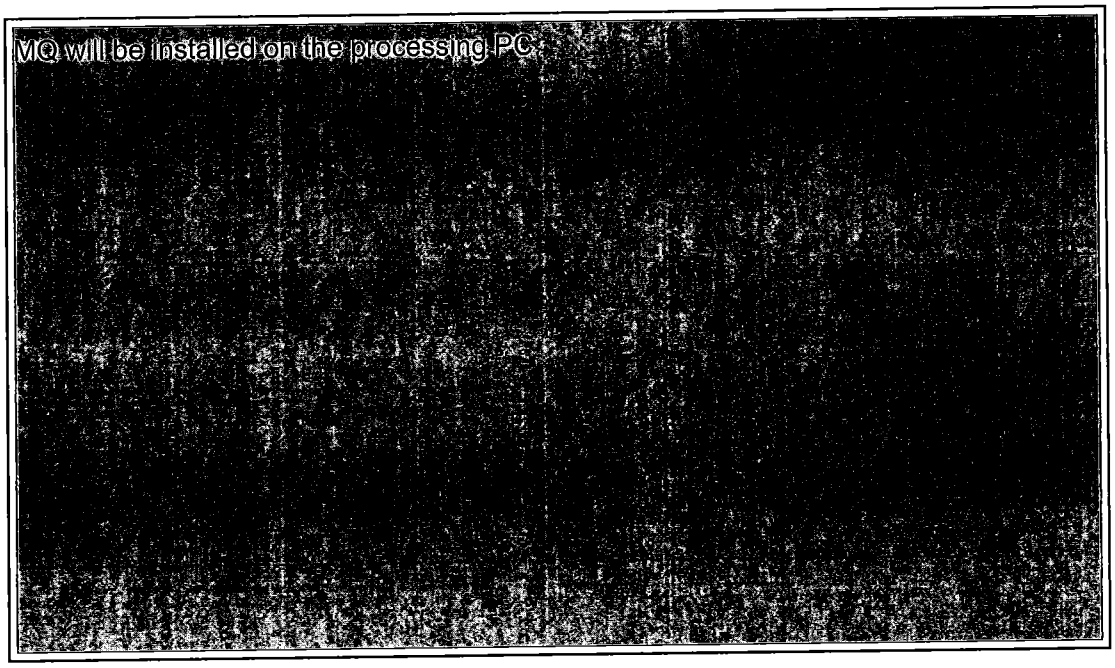
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# Signoff 4

| | | | |
|---|---|---|---|
| Organization | Eurofins | | |
| Customer contact name | | Date (yyyy-mm-dd) | |
| 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.<br>• 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

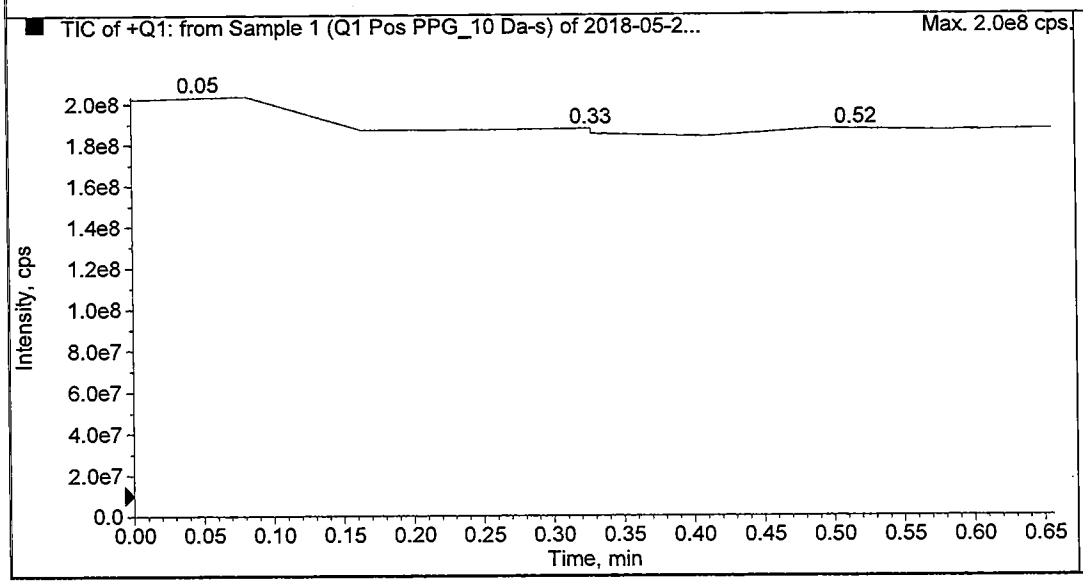
Mass Spectrometer Method Properties

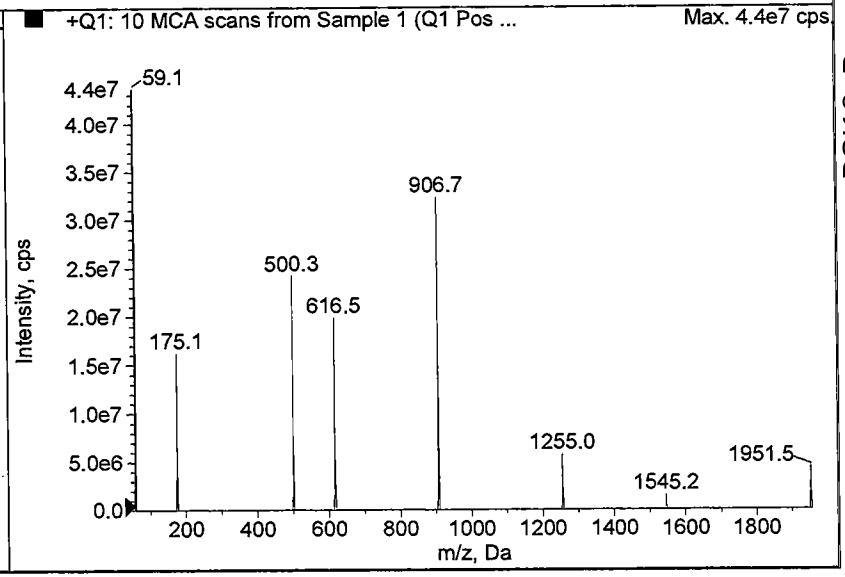
Period 1:

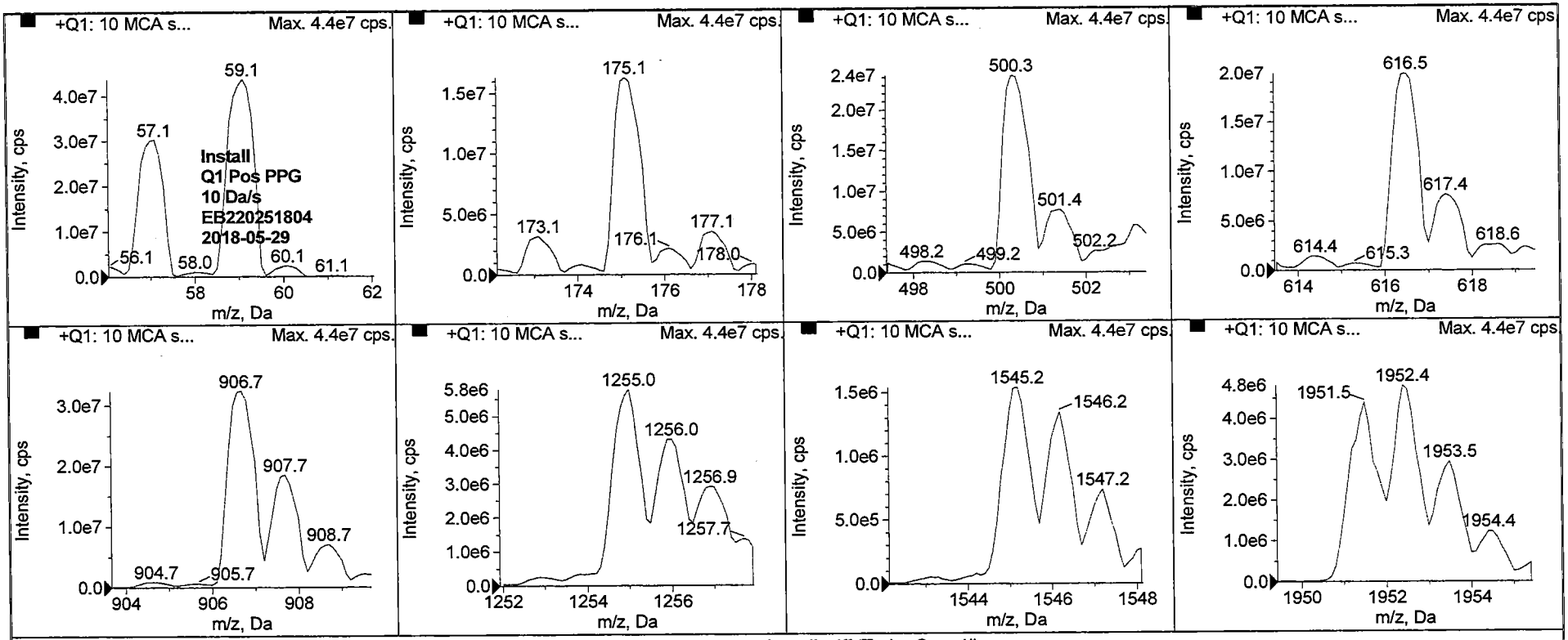
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

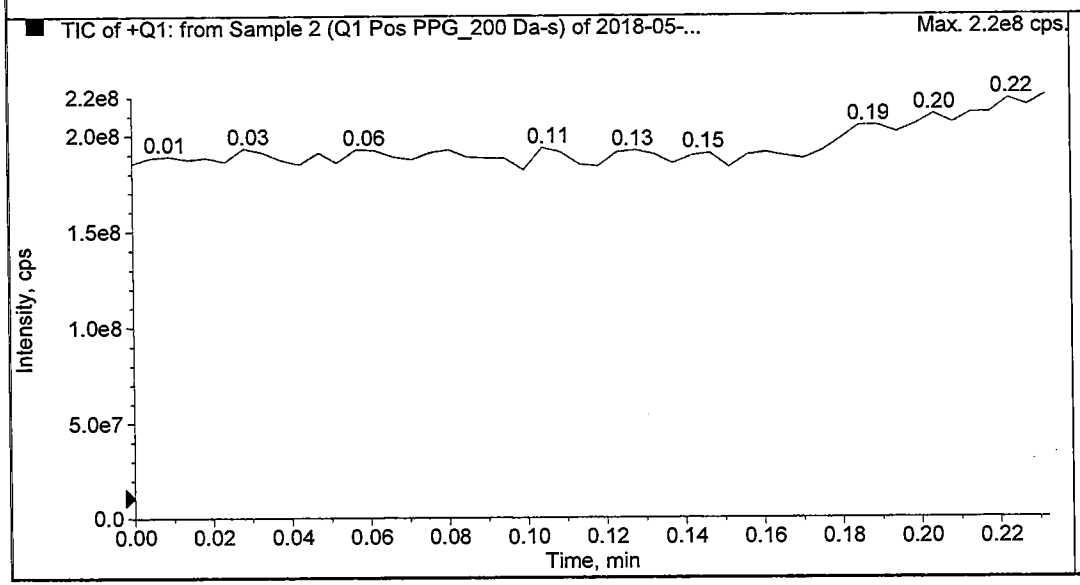
Mass Spectrometer Method Properties

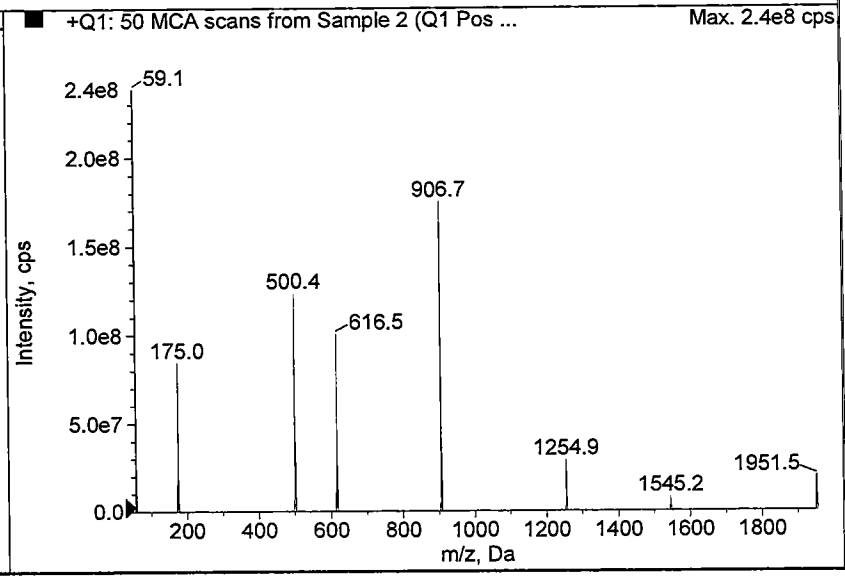
Period 1:

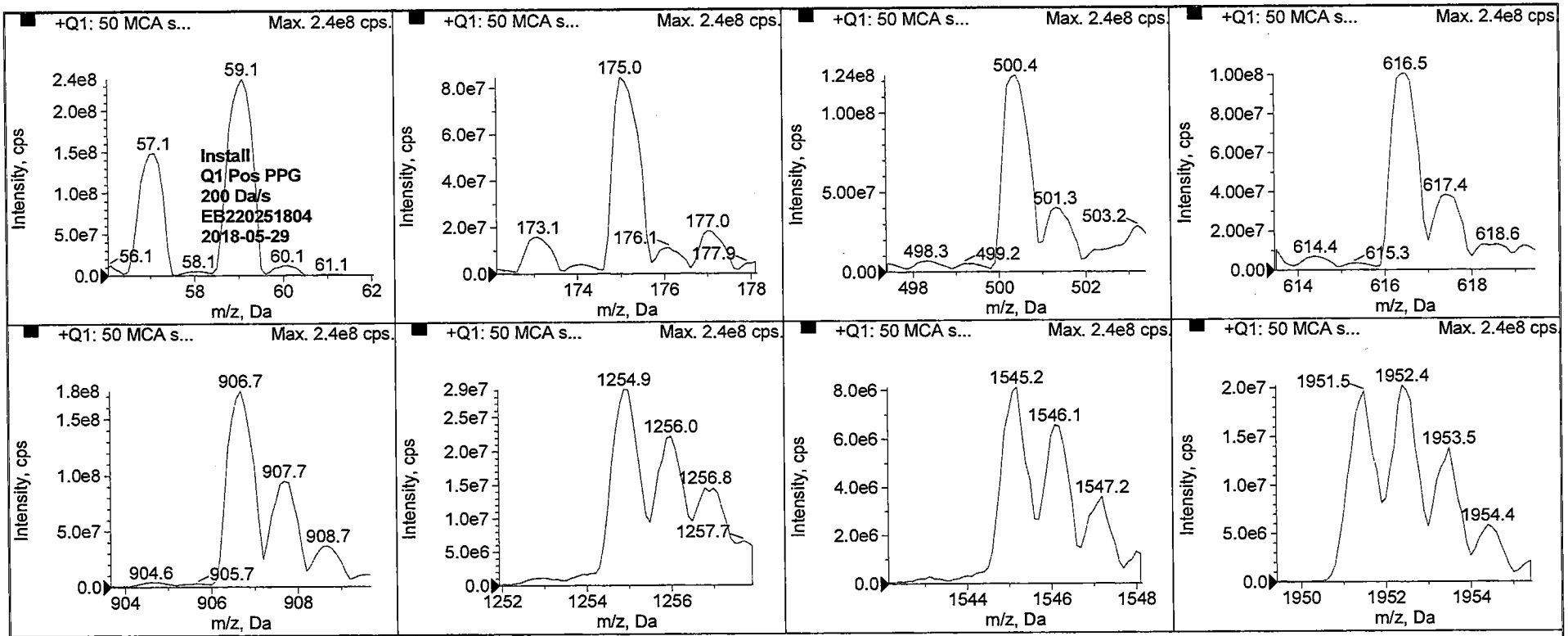
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

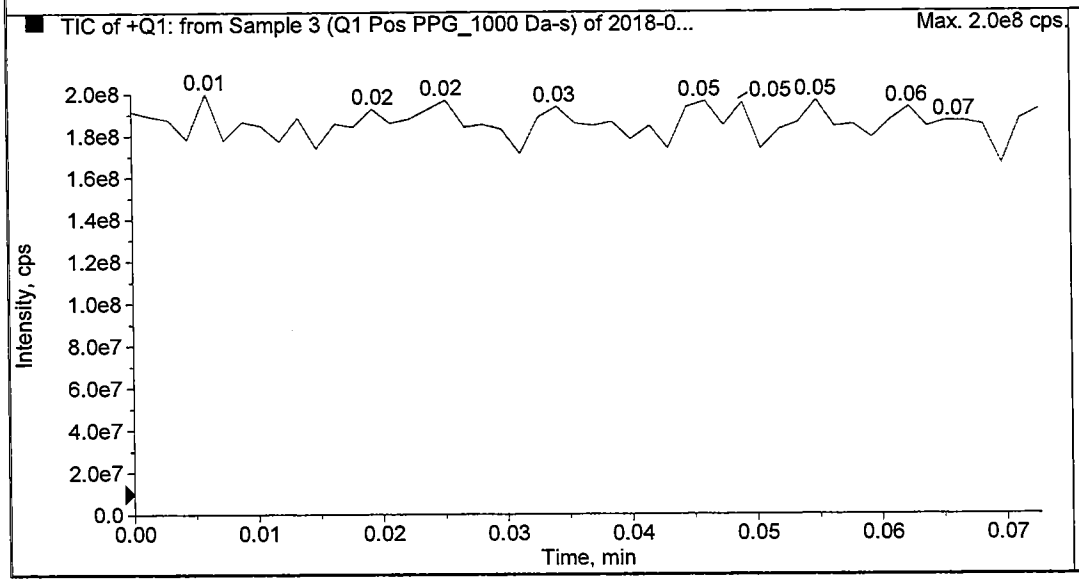
Mass Spectrometer Method Properties

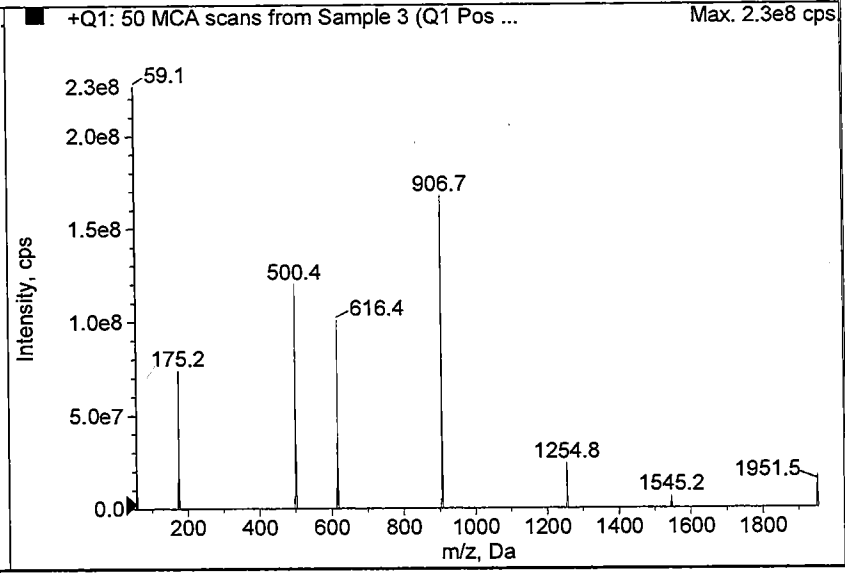
Period 1:

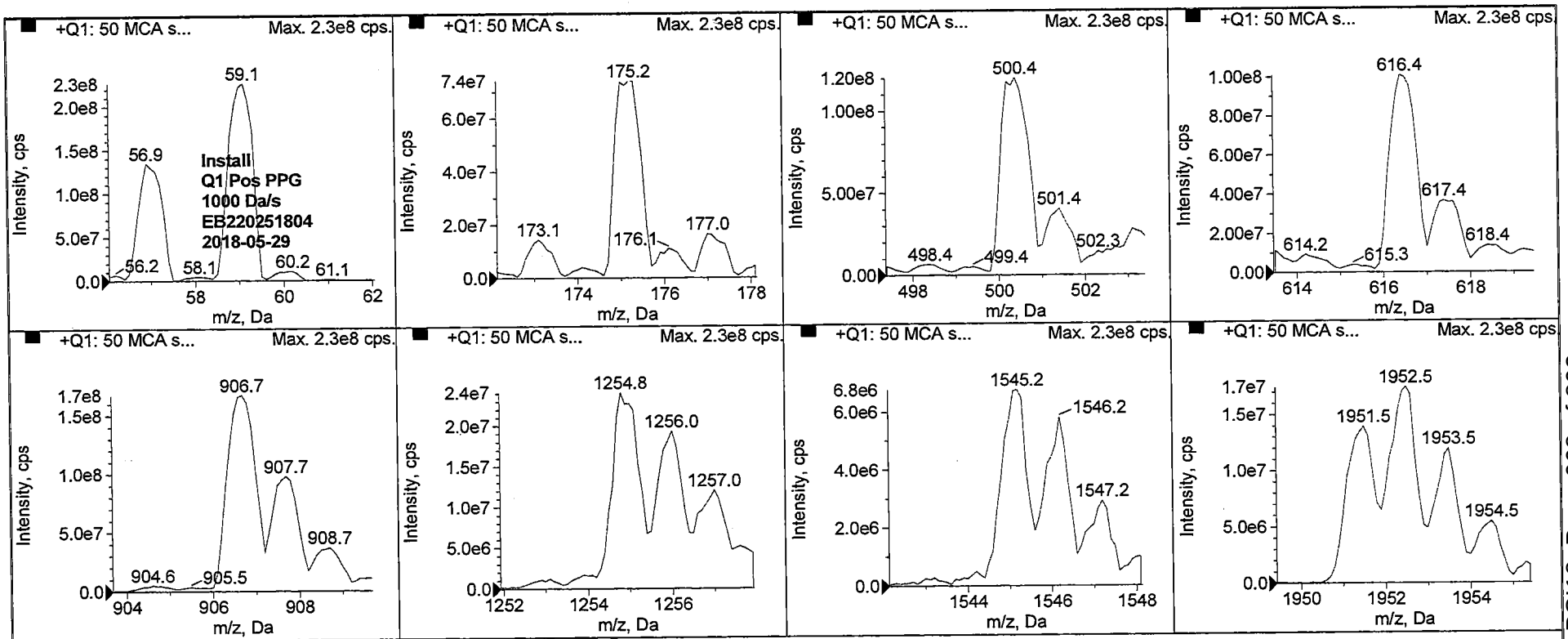
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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 |

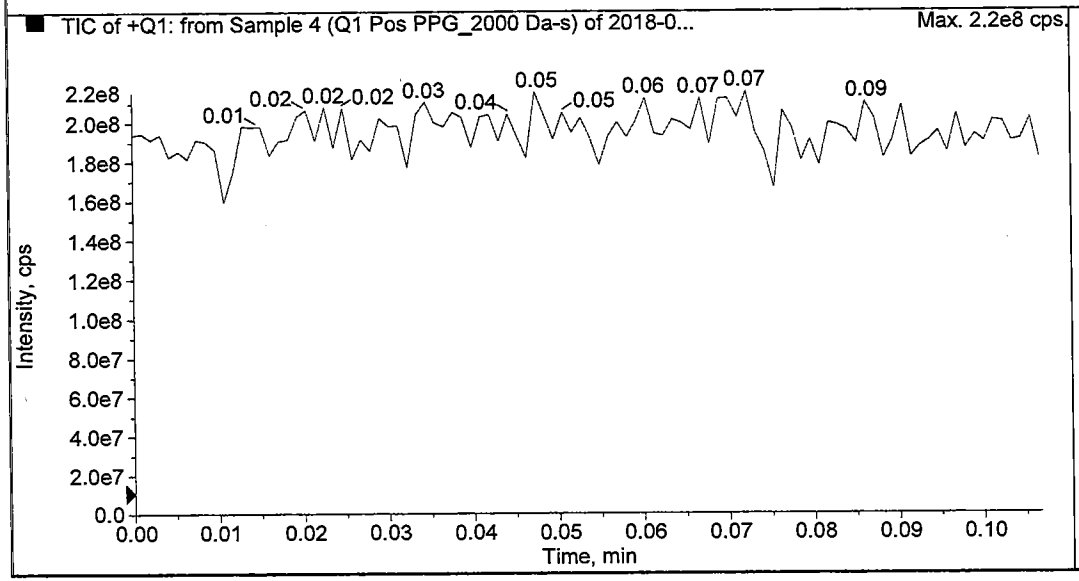
Mass Spectrometer Method Properties

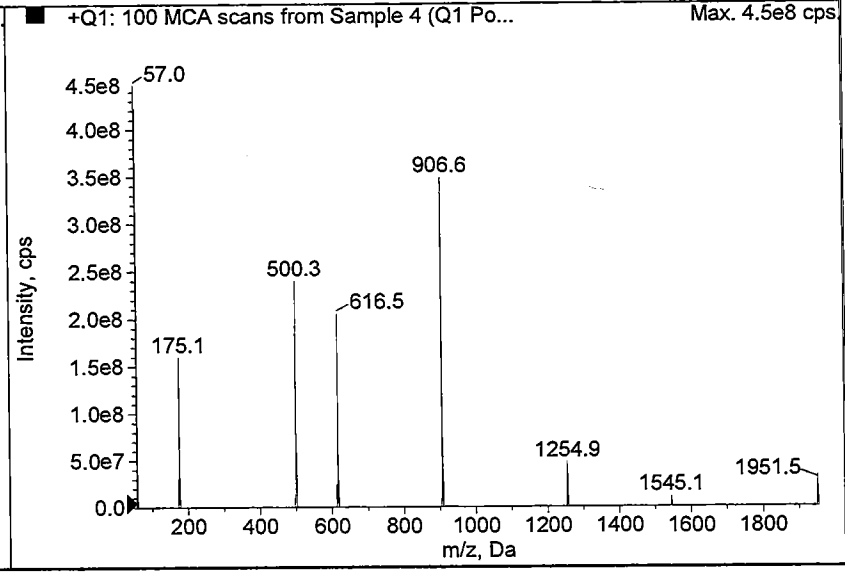
Period 1:

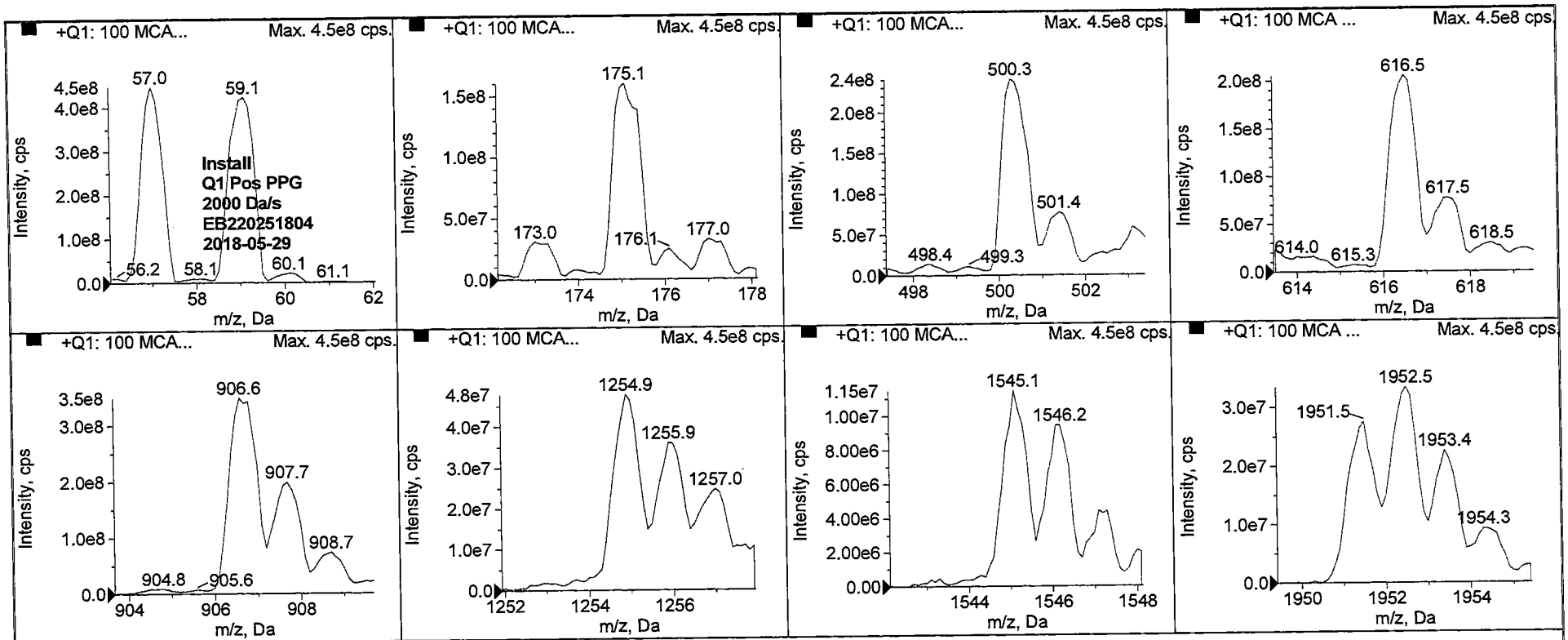
| | |
|---|---|
| Scans in Period: | 100 |
| Relative Start Time: | 0.00 msec |
| Scheduled Ionization: | Off |
| Experiments in Period: | 1 |

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 |

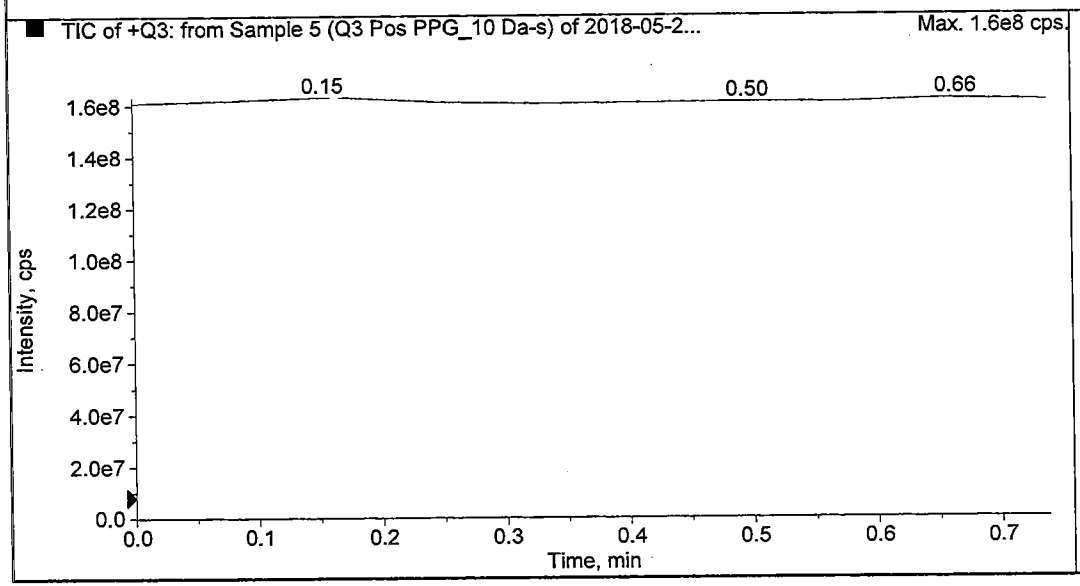
Mass Spectrometer Method Properties

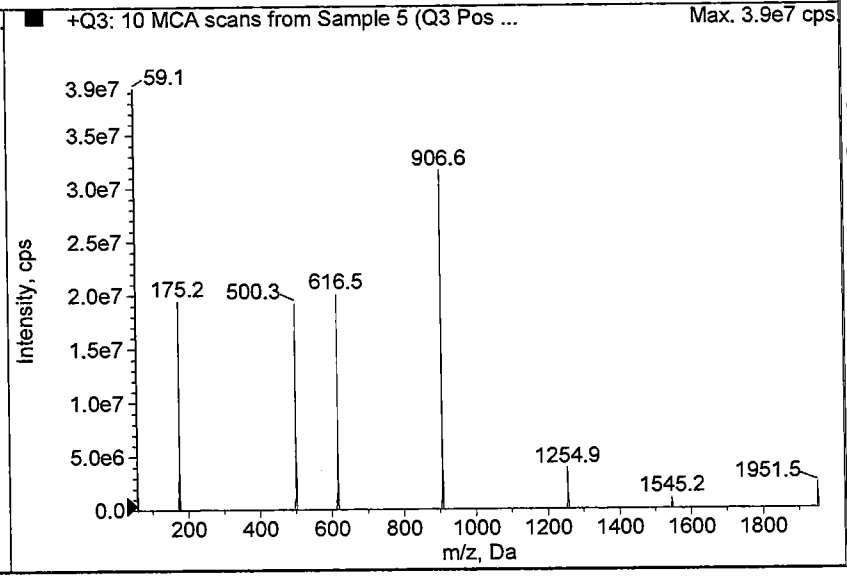
Period 1:

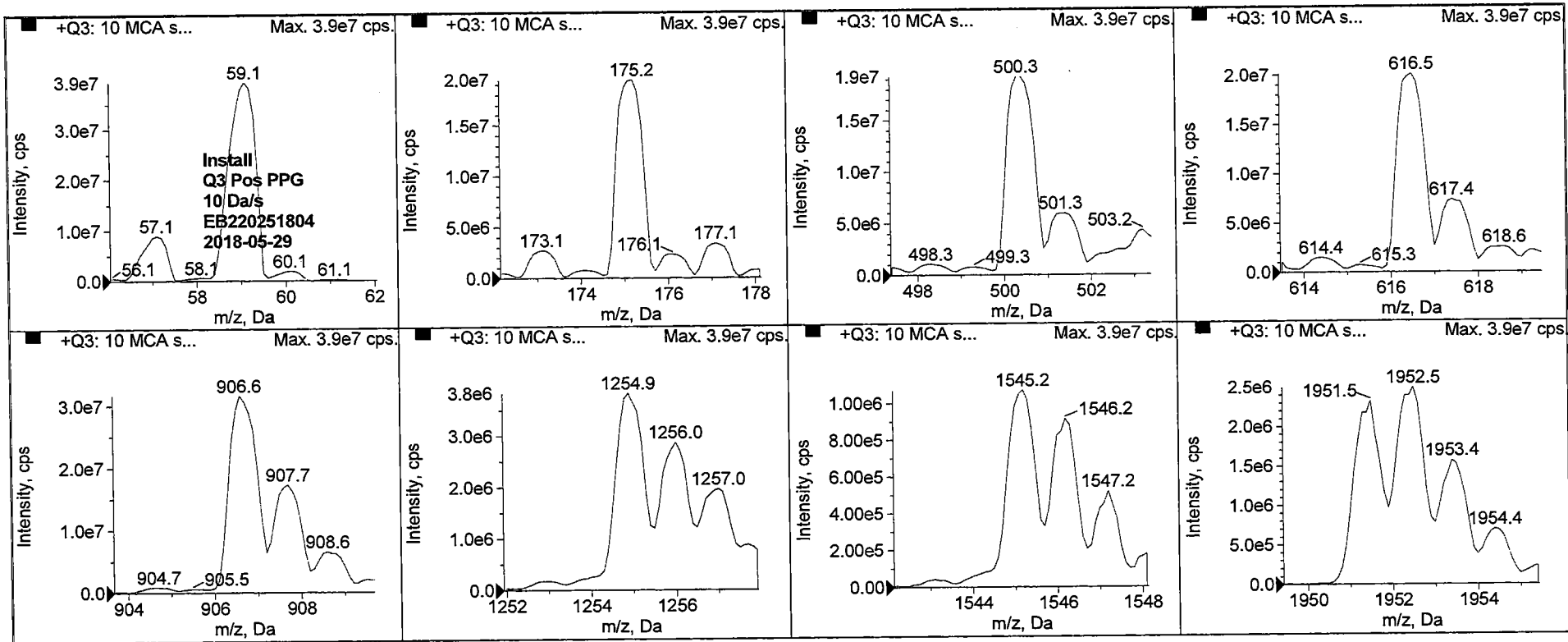
| | |
|---|---|
| Scans in Period: | 10 |
| Relative Start Time: | 0.00 msec |
| Scheduled Ionization: | Off |
| Experiments in Period: | 1 |

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

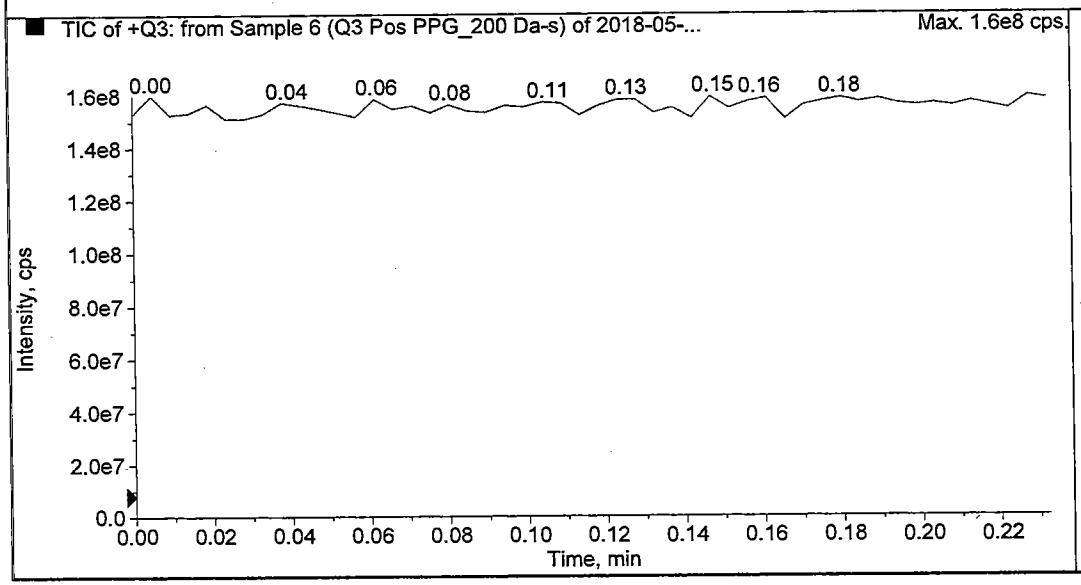
Mass Spectrometer Method Properties

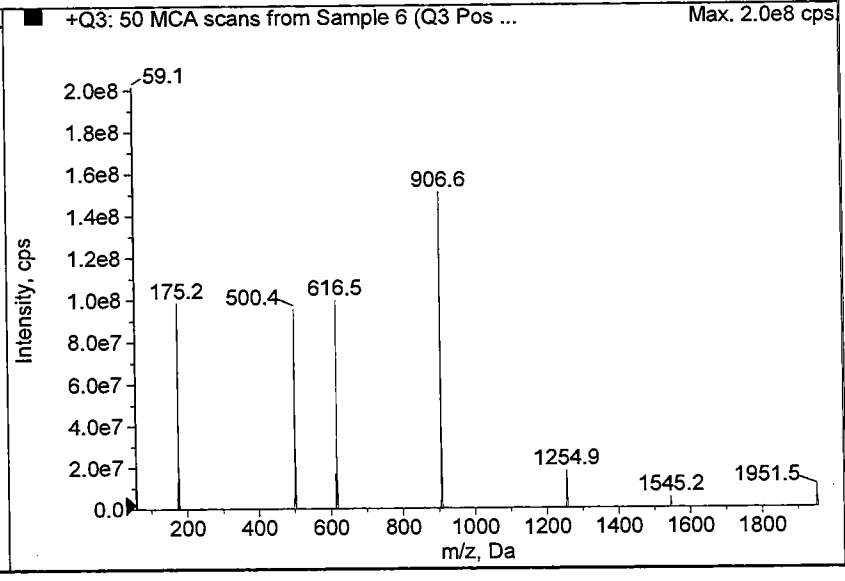
Period 1:

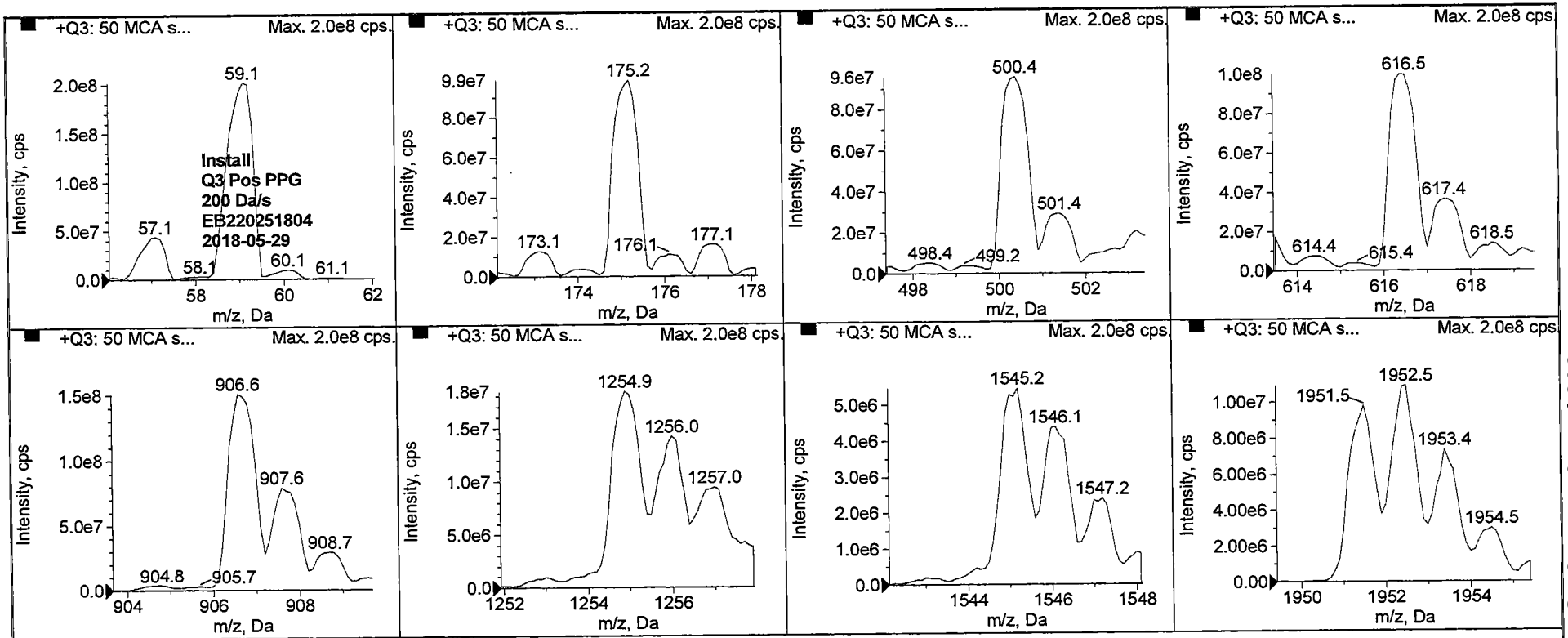
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

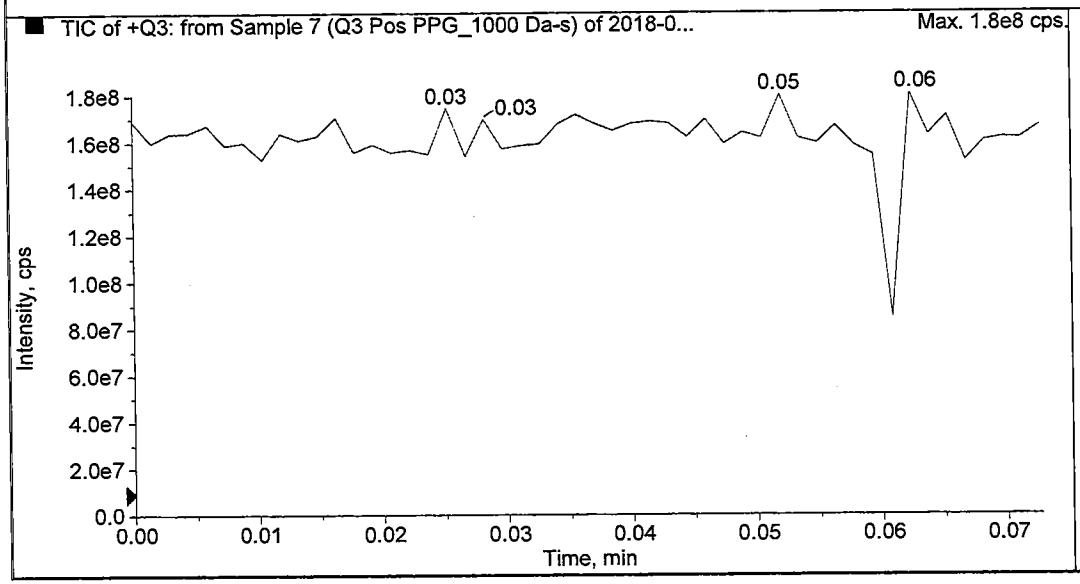
Mass Spectrometer Method Properties

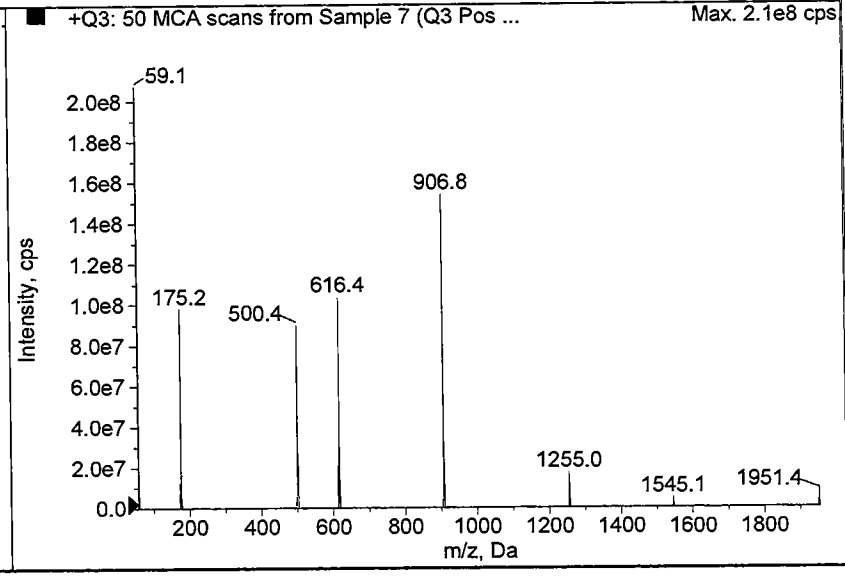
Period 1:

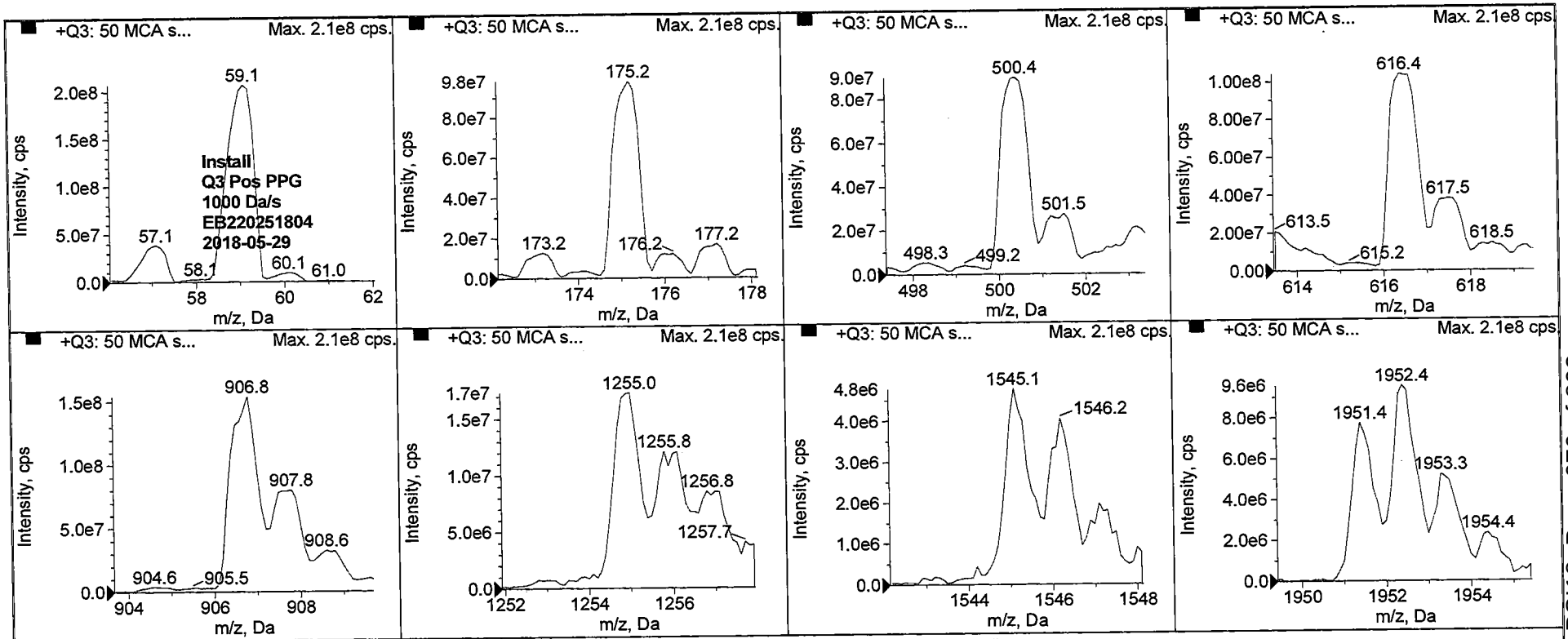
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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 |

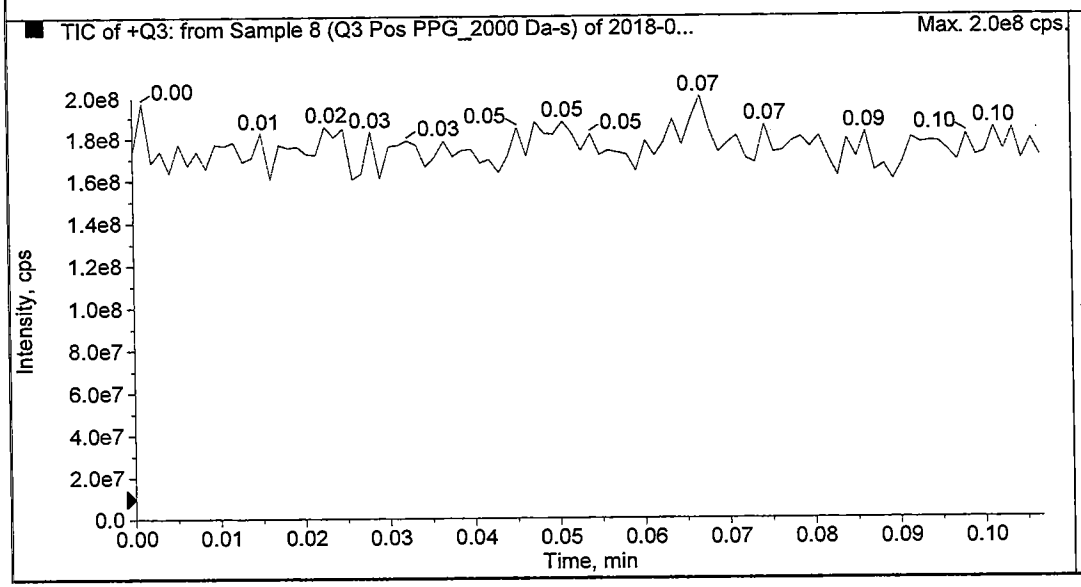
Mass Spectrometer Method Properties

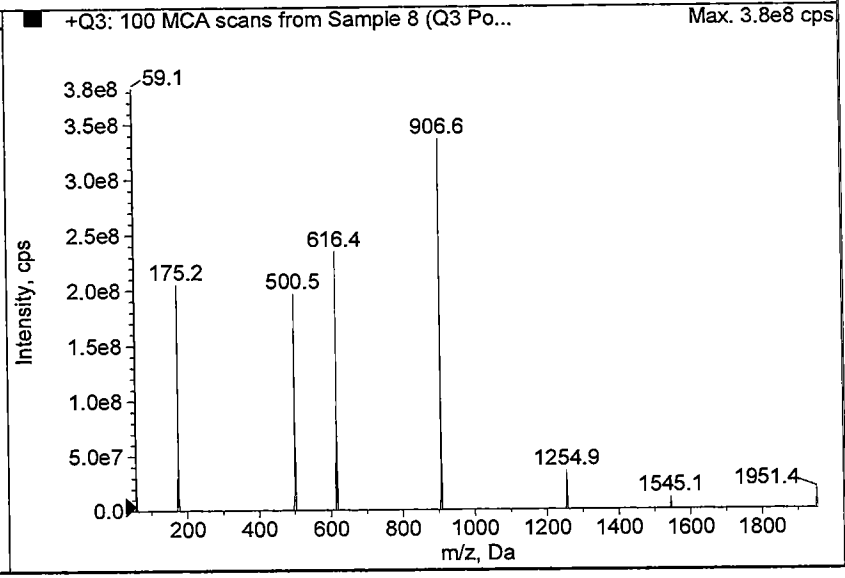
Period 1:

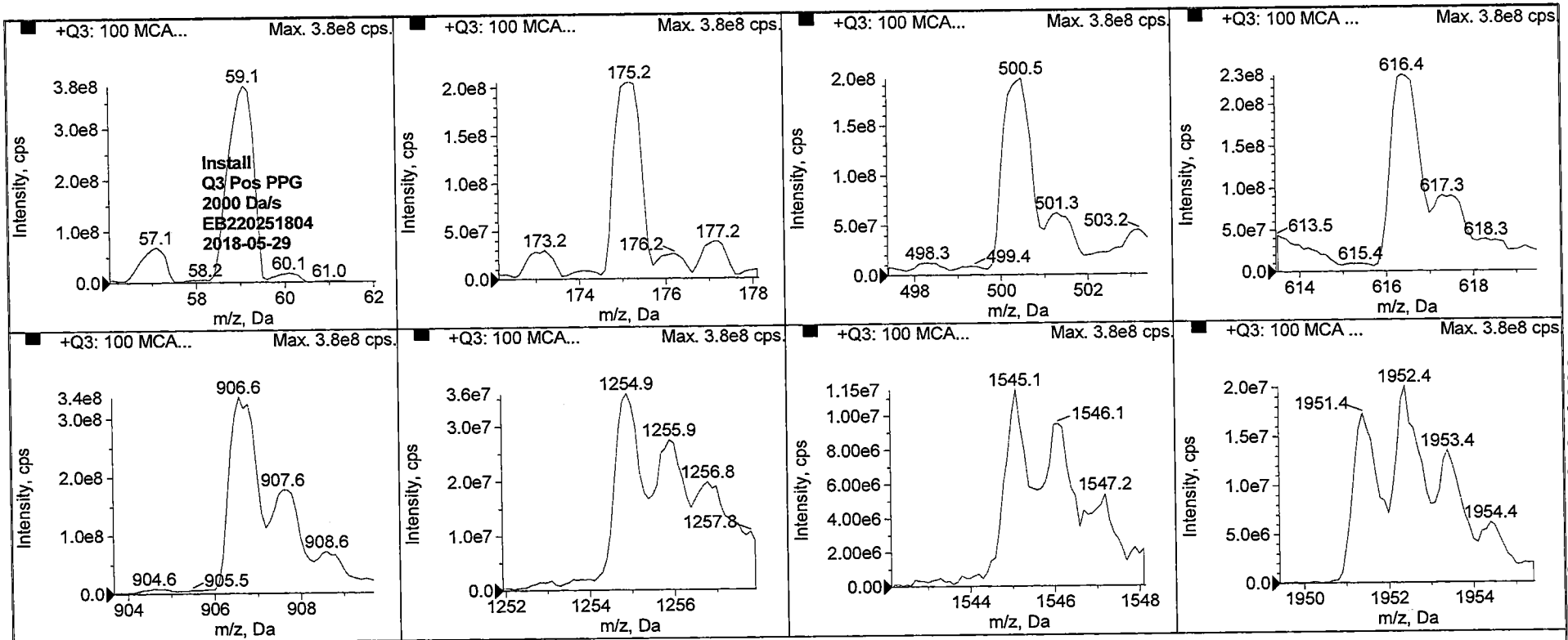
| | |
|---|---|
| Scans in Period: | 100 |
| Relative Start Time: | 0.00 msec |
| Scheduled Ionization: | Off |
| Experiments in Period: | 1 |

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

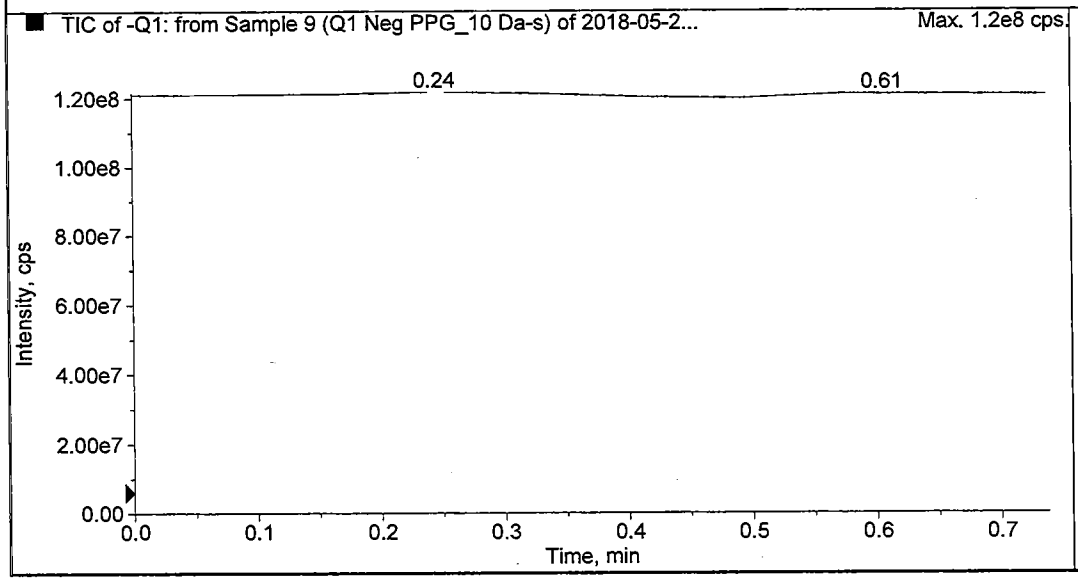
Mass Spectrometer Method Properties

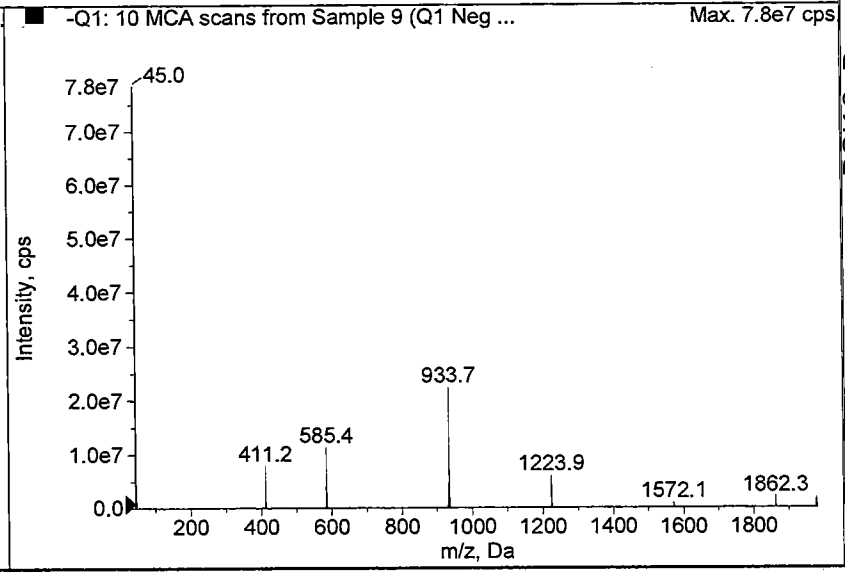
Period 1:

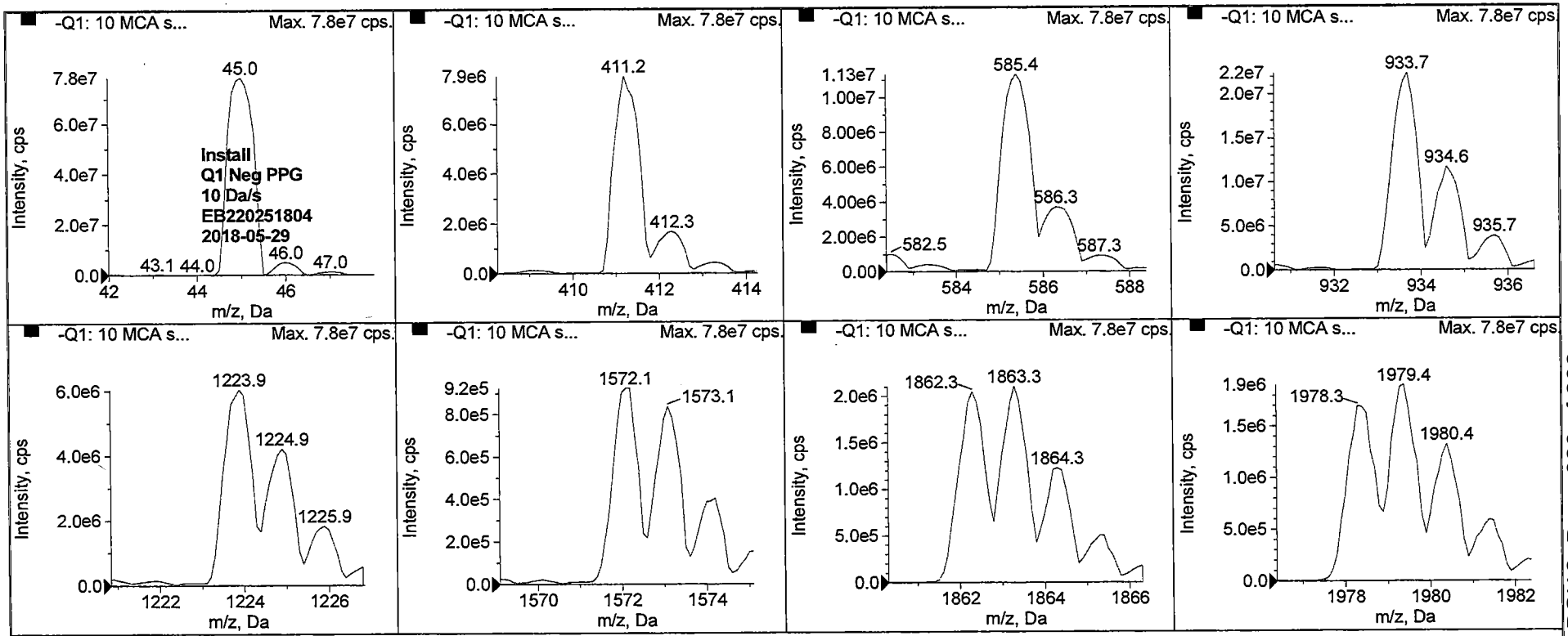
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

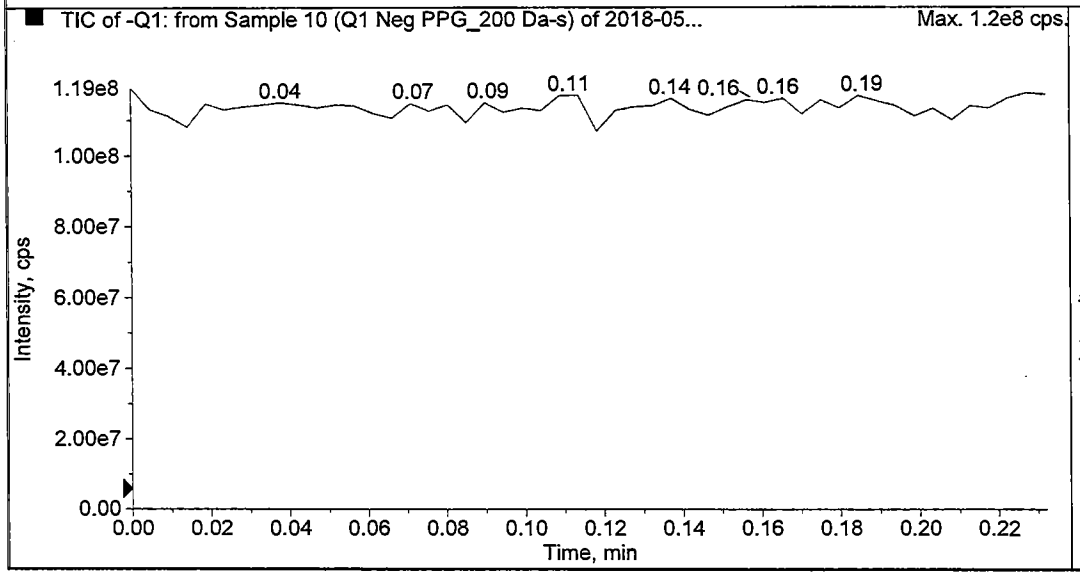
Mass Spectrometer Method Properties

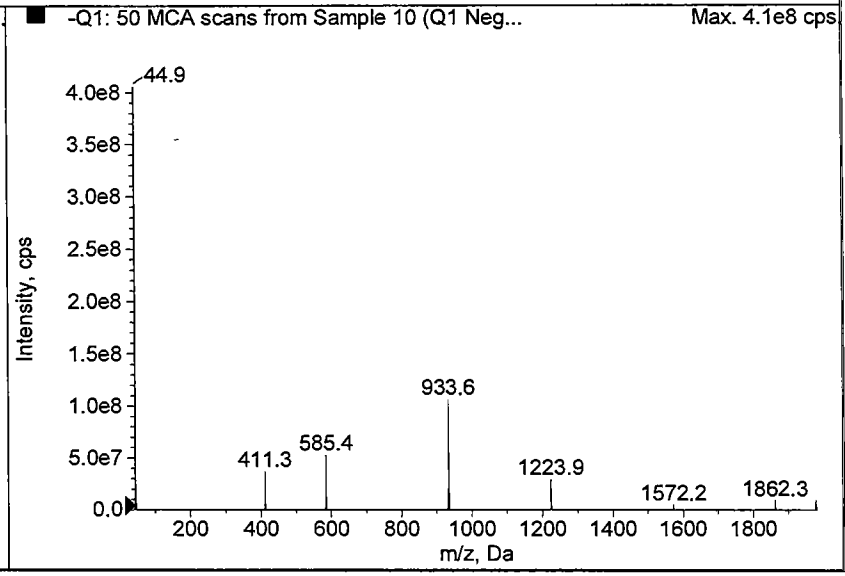
Period 1:

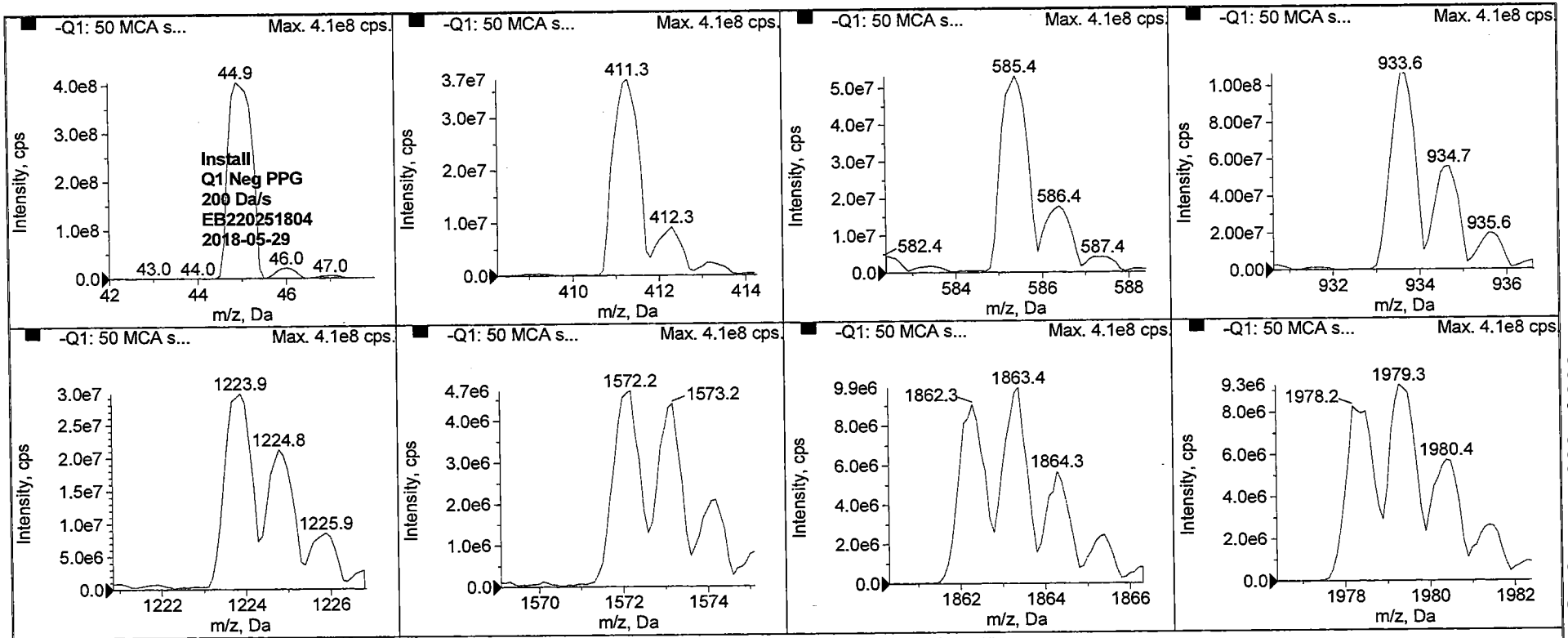
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

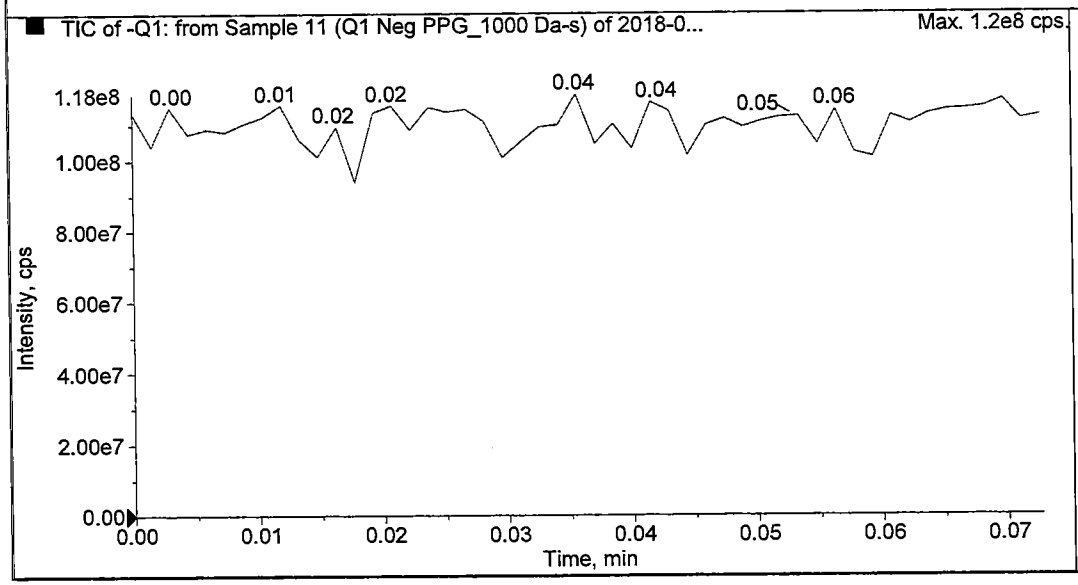
Mass Spectrometer Method Properties

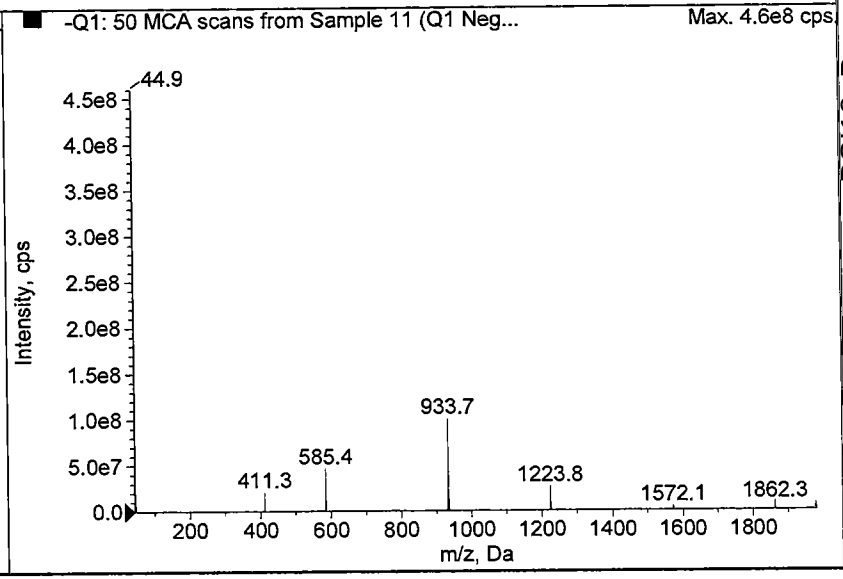
Period 1:

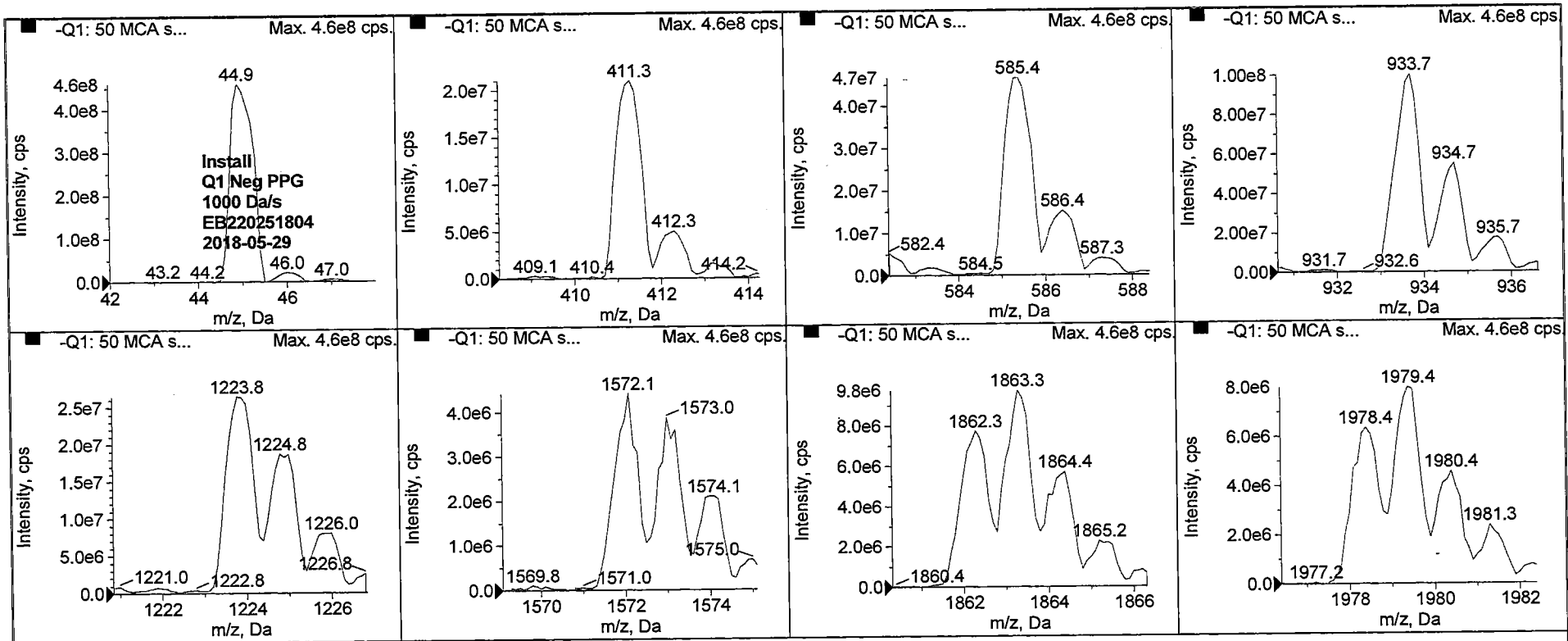
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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 |

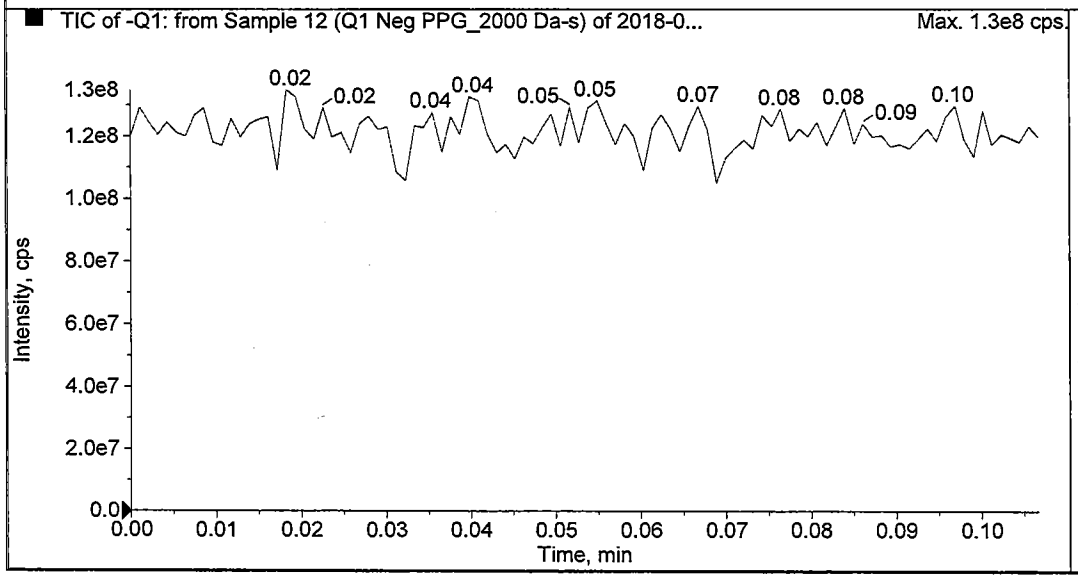
Mass Spectrometer Method Properties

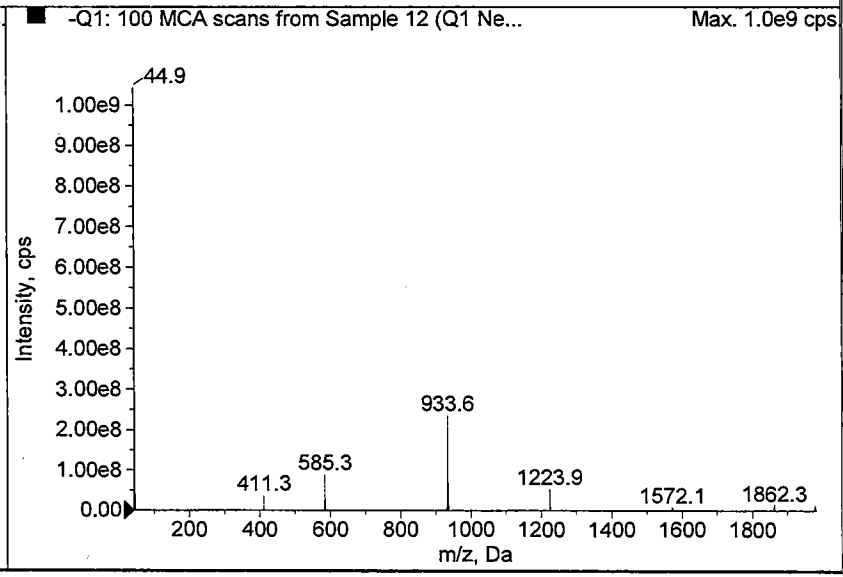
Period 1:

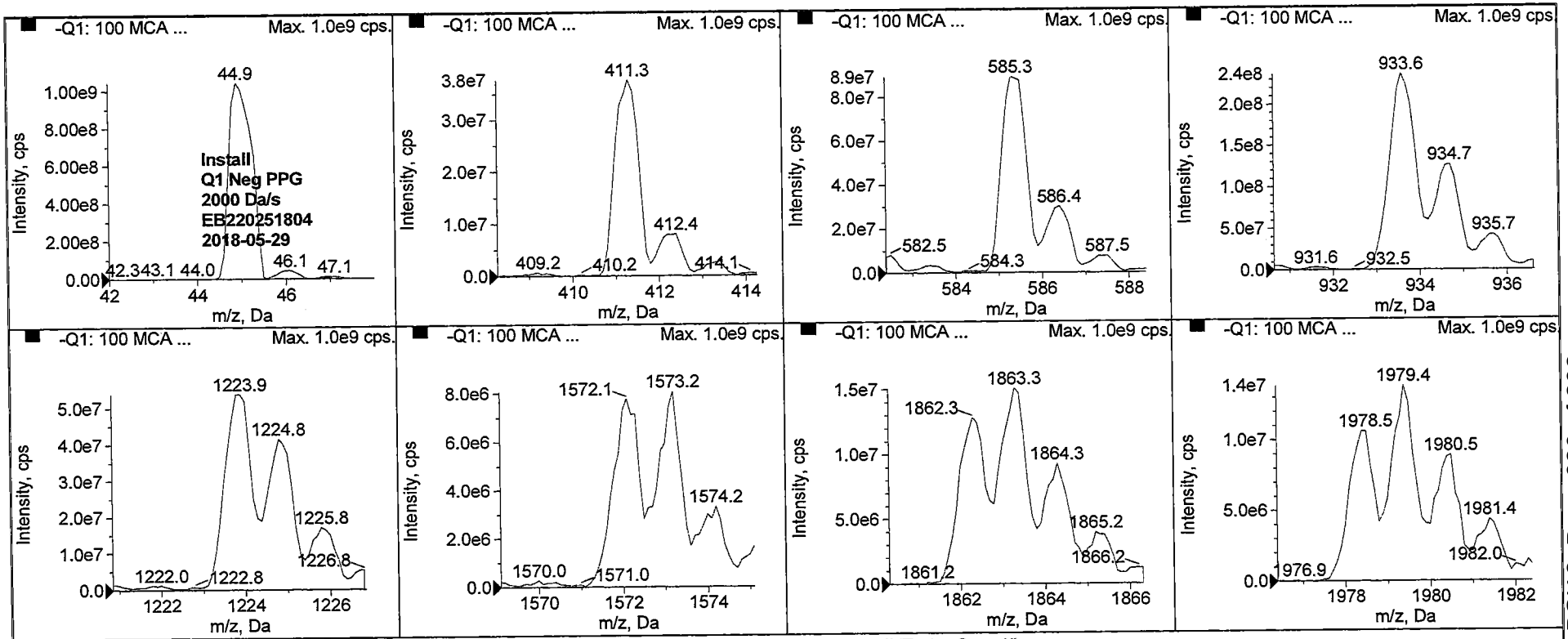
| | |
|---|---|
| Scans in Period: | 100 |
| Relative Start Time: | 0.00 msec |
| Scheduled Ionization: | Off |
| Experiments in Period: | 1 |

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

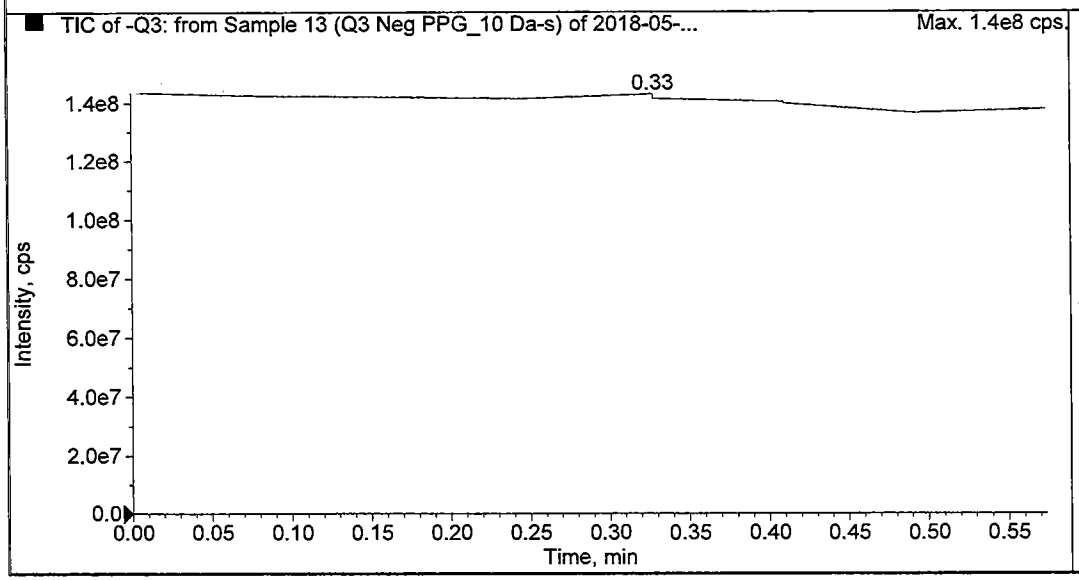
Mass Spectrometer Method Properties

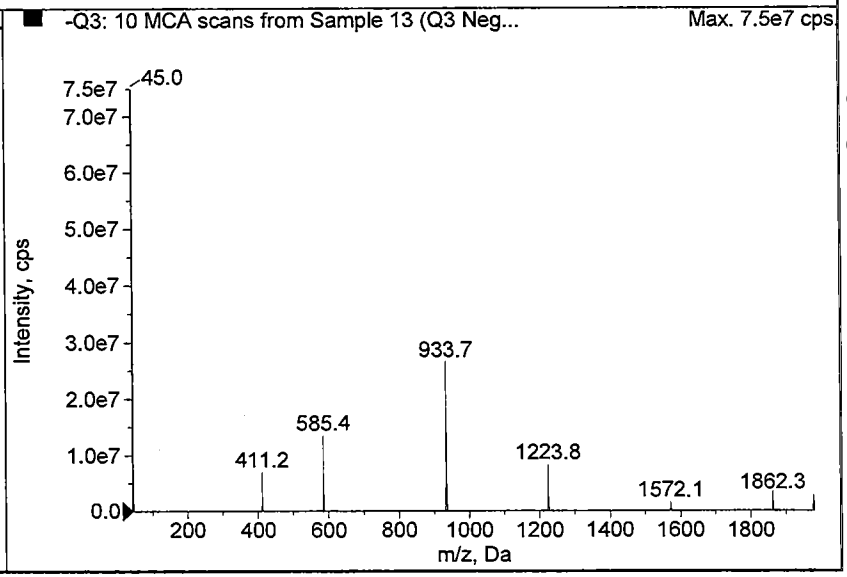
Period 1:

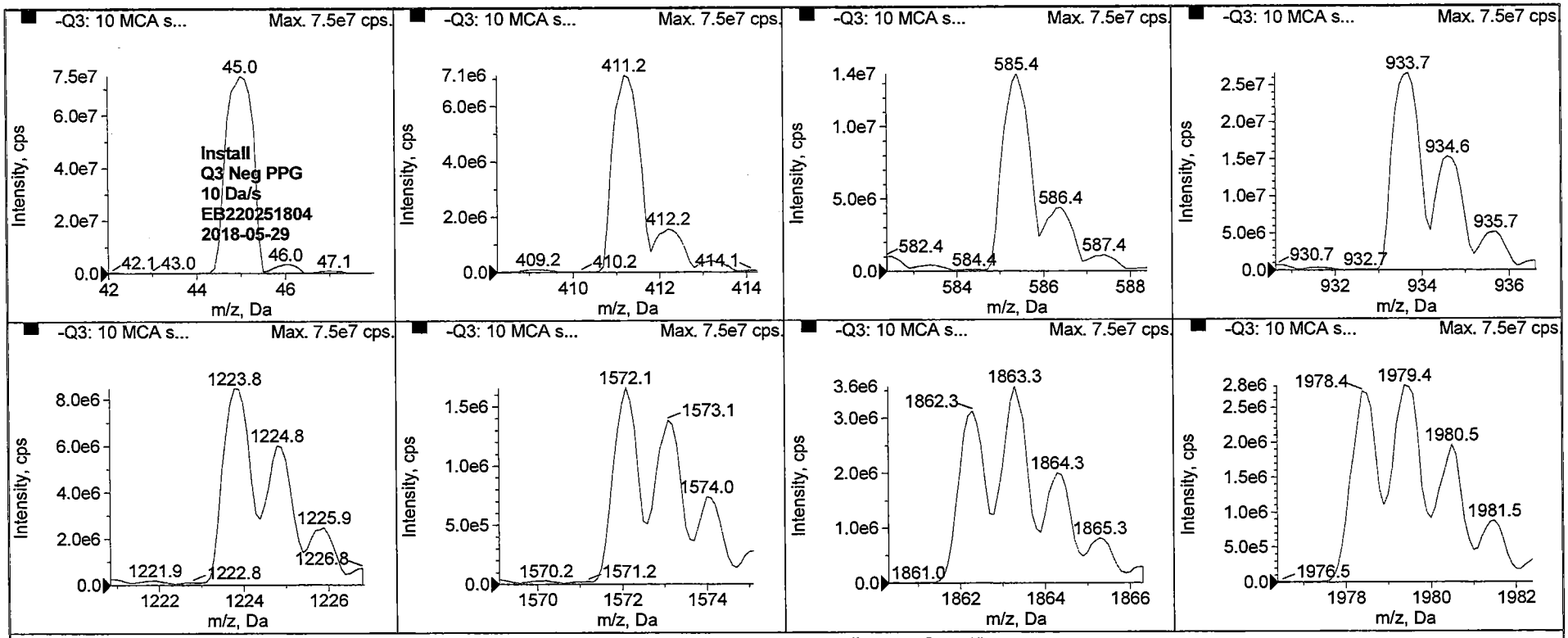
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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 |

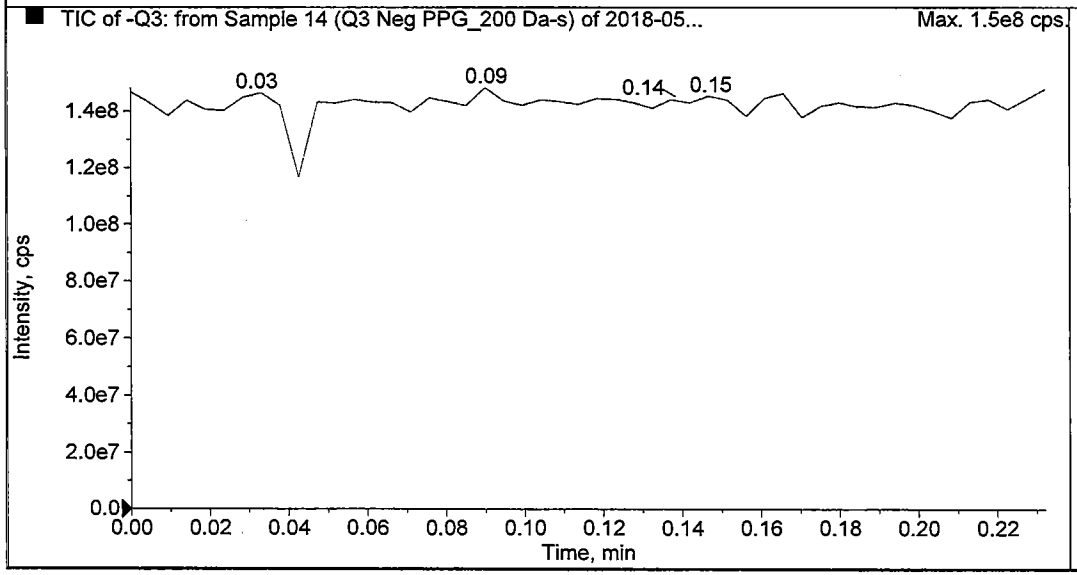
Mass Spectrometer Method Properties

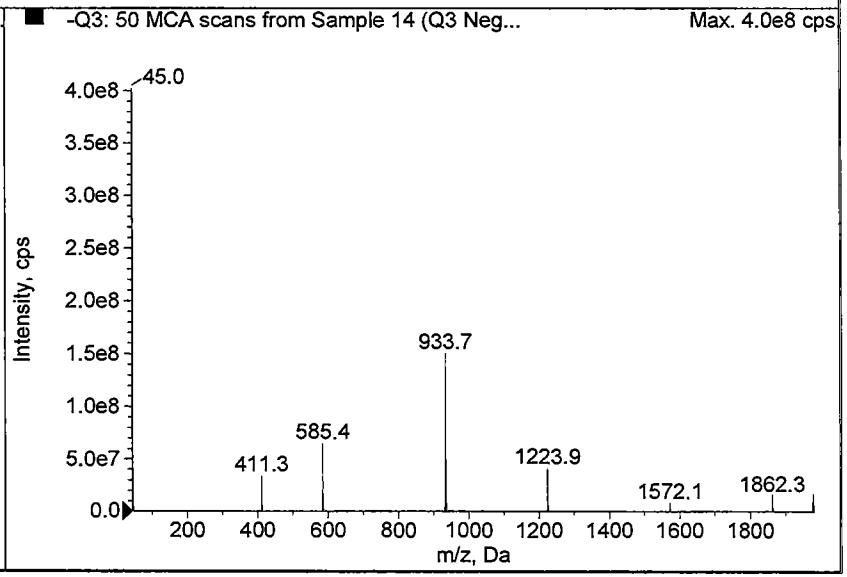
Period 1:

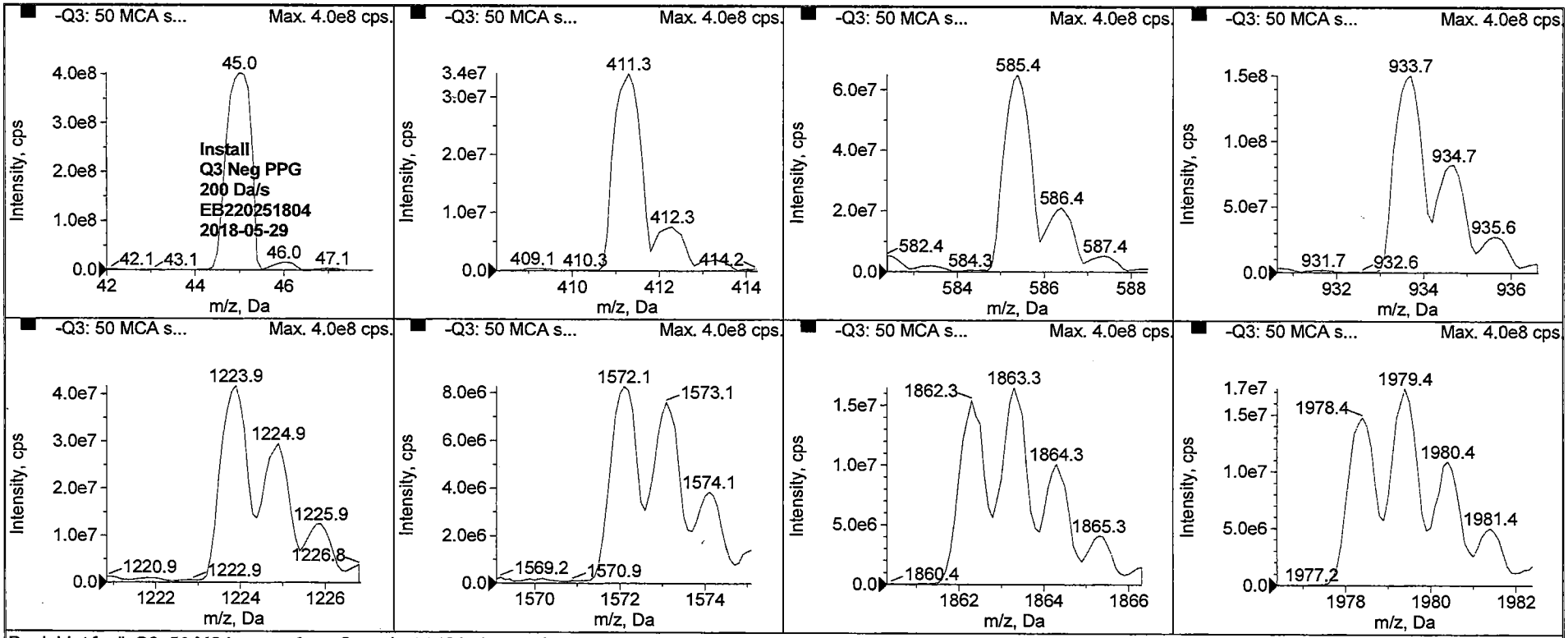
| | |
|---|---|
| Scans in Period: | 50 |
| Relative Start Time: | 0.00 msec |
| Scheduled Ionization: | Off |
| Experiments in Period: | 1 |

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

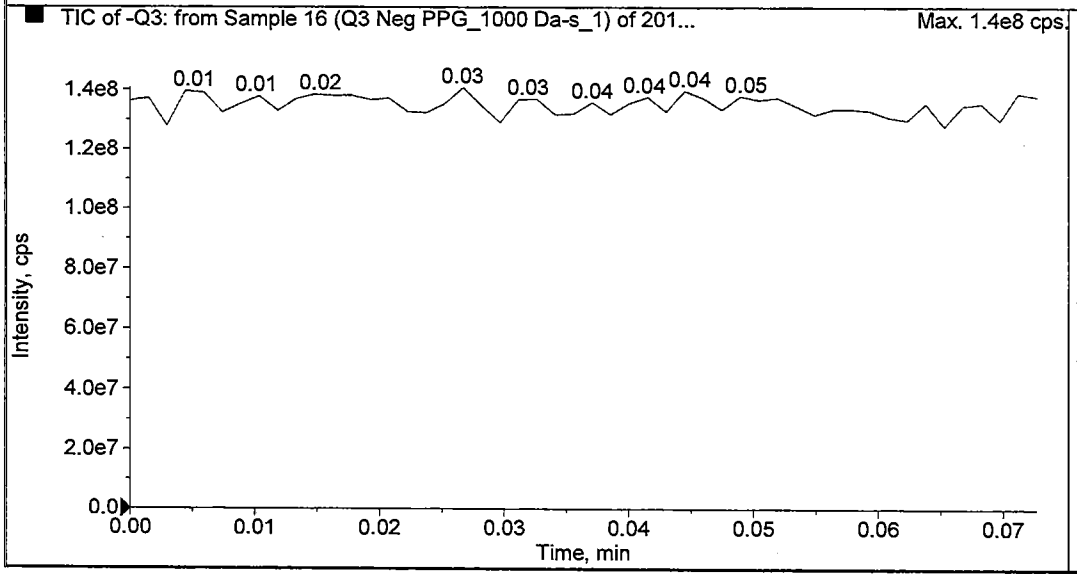
Mass Spectrometer Method Properties

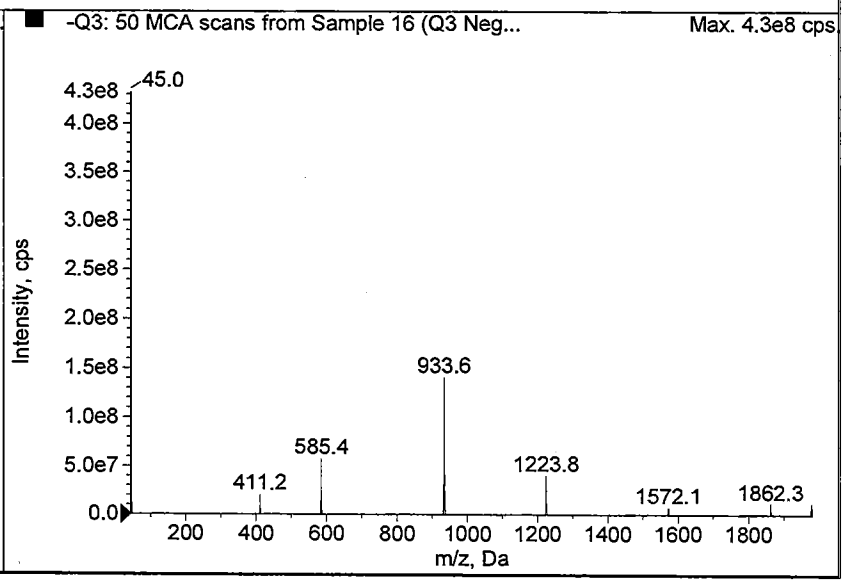
Period 1:

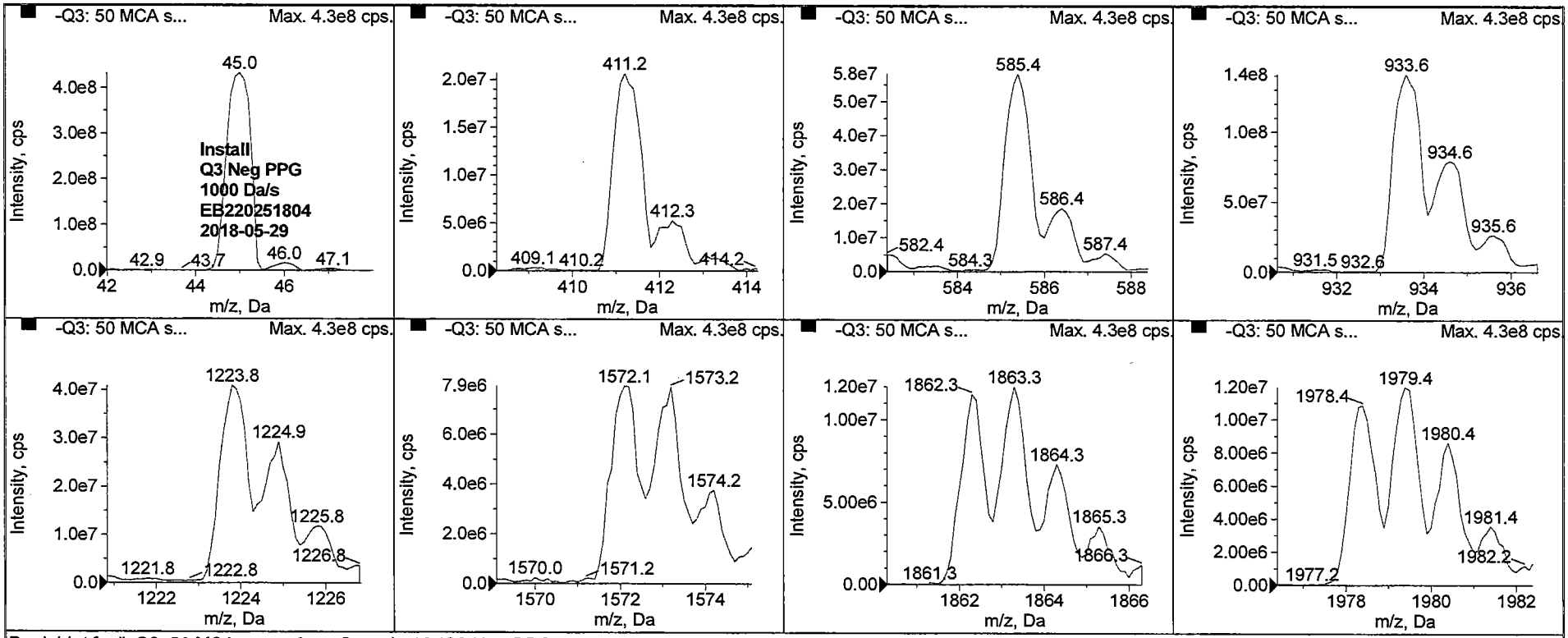
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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 |

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): -1.5

CEM (CEM): 1900.0

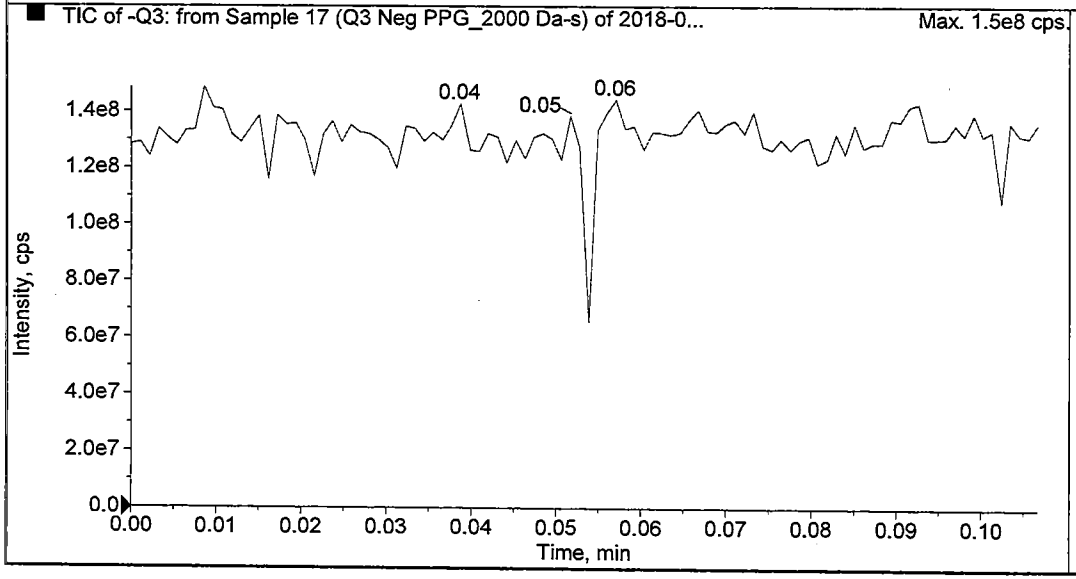
Mass Spectrometer Method Properties

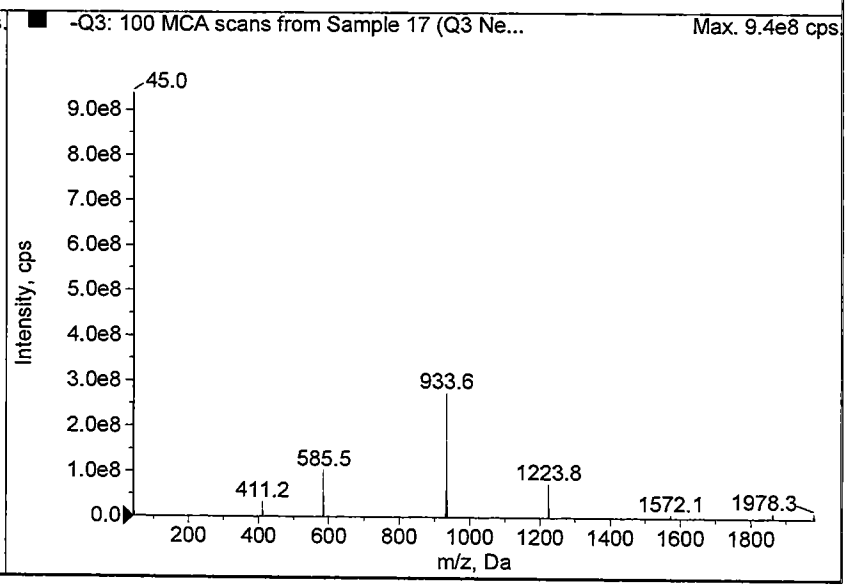
Period 1:

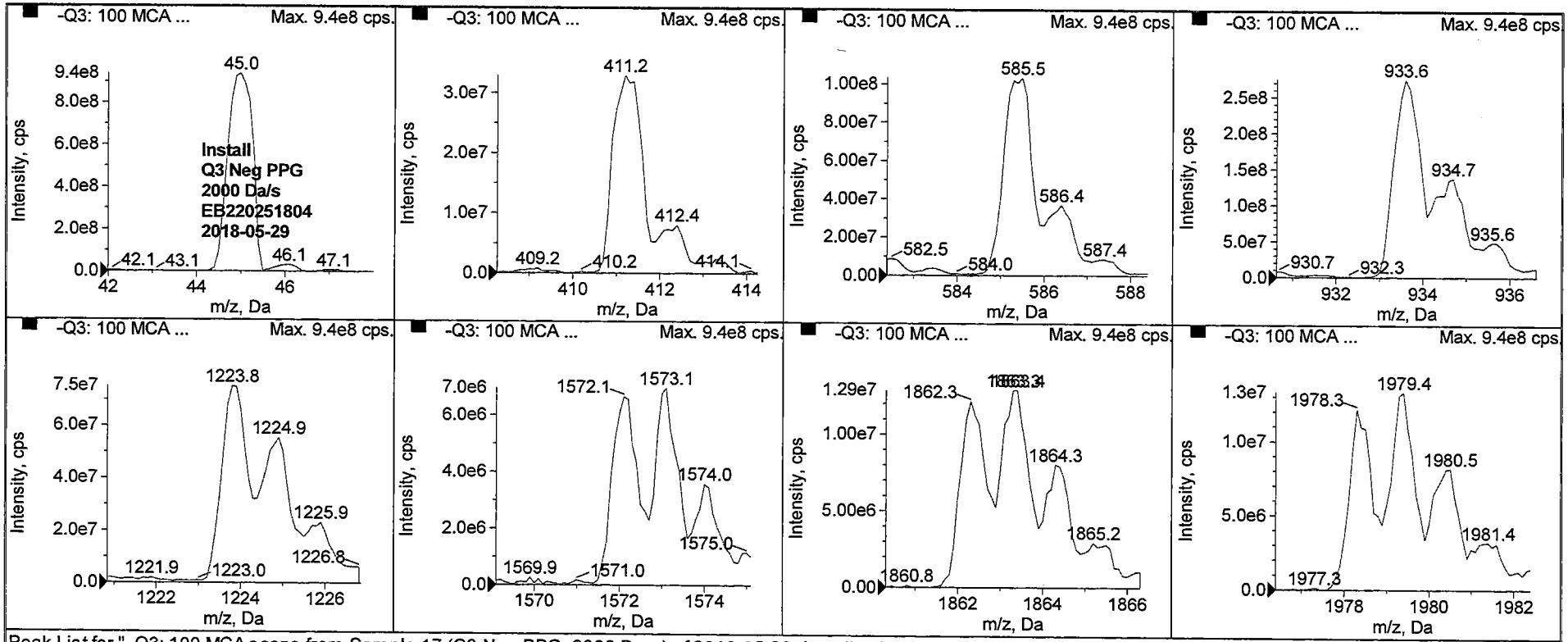
Scans in Period: 100
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
# Scans to Sum: 1
Resolution Q3: Unit






Peak List for "-Q3: 100 MCA scans from Sample 17 (Q3 Neg PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

| | Target Mass (Da) | Found At (Da) | Intensity (cps) | Width (Da) | Mass Shift (Da) |
|---|---|---|---|---|---|
| 1 | 44.9980 | 44.9950 | 9.3786e8 | 0.6643 | 2.9882e-3 |
| 2 | 411.2590 | 411.2370 | 3.2920e7 | 0.7732 | 0.0220 |
| 3 | 585.3850 | 585.3850 | 1.0332e8 | 0.6994 | -4.8105e-6 |
| 4 | 933.6360 | 933.6288 | 2.7486e8 | 0.7105 | 7.2155e-3 |
| 5 | 1223.8450 | 1223.8546 | 7.5140e7 | 0.6946 | -9.5568e-3 |
| 6 | 1572.0970 | 1572.1115 | 6.6600e6 | 0.6890 | -0.0145 |
| 7 | 1863.3060 | 1863.3250 | 1.2880e7 | 0.7704 | -0.0190 |
| 8 | 1979.3890 | 1979.3741 | 1.3320e7 | 0.6259 | 0.0149 |

State Parameter Editor

| | |
|---|---|
| Ion Source: | Turbo Spray |
| Ion Source Temperature Reached | |
| Curtain Gas (CUR): | 28.0 |
| IonSpray Voltage (IS): | 5500.0 |
| Temperature (TEM): | 0.0 |
| Ion Source Gas 1 (GS1): | 17.0 |
| Ion Source Gas 2 (GS2): | 0.0 |
| Declustering Potential (DP): | 135.0 |
| Entrance Potential (EP): | 10.0 |
| Q1 Resolution: | Unit |
| Ion Energy 1 (IE1): | 1.2 |
| CEM (CEM): | 1800.0 |

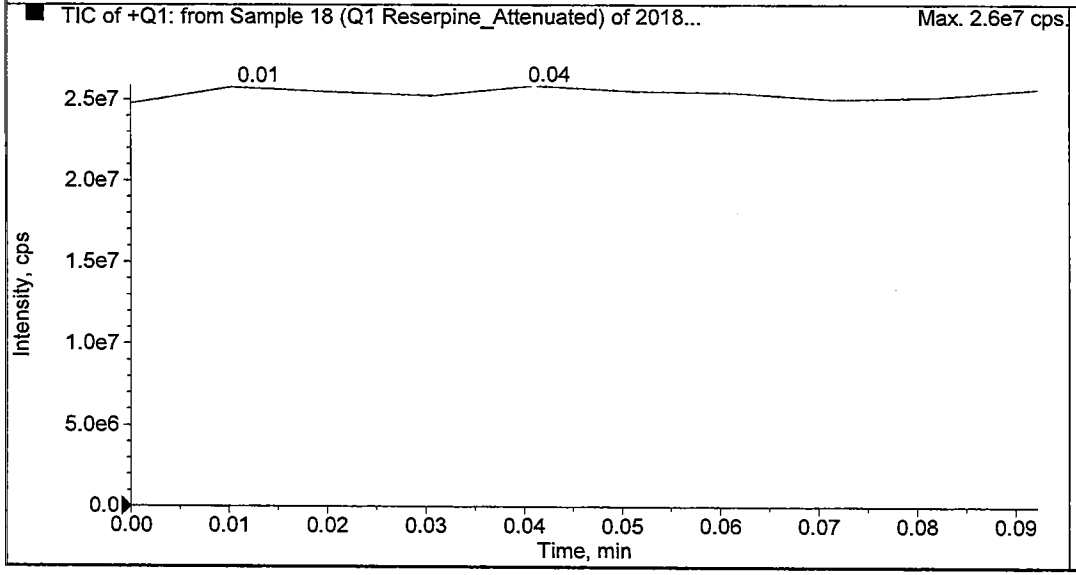
Mass Spectrometer Method Properties

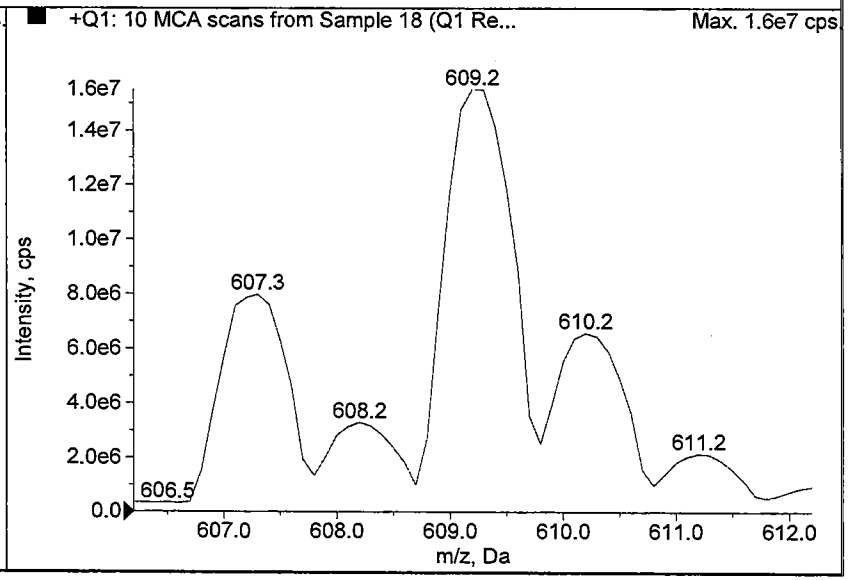
Period 1:

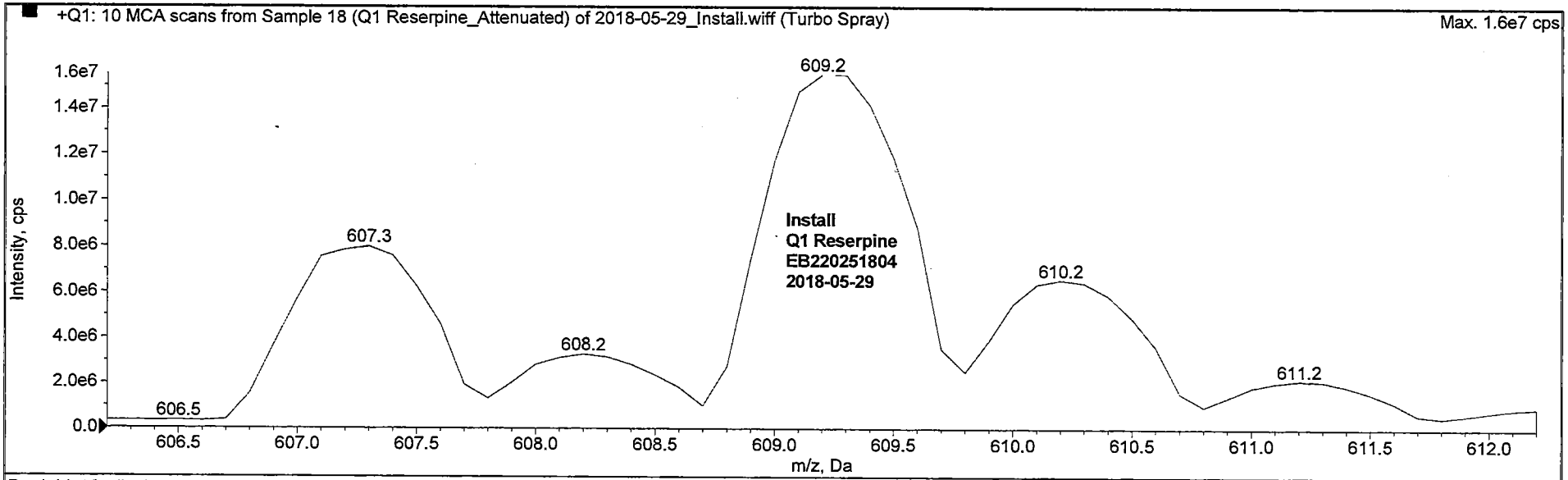
| | |
|---|---|
| Scans in Period: | 10 |
| Relative Start Time: | 0.00 msec |
| Scheduled Ionization: | Off |
| Experiments in Period: | 1 |

Period 1 Experiment 1:

| | |
|---|---|
| Scan Type: | Q1 MS (Q1) |
| Polarity: | Positive |
| Scan Mode: | Profile |
| Ion Source: | Turbo Spray |
| # Scans to Sum: | 1 |
| Resolution Q1: | Unit |






Peak List for " +Q1: 10 MCA scans from Sample 18 (Q1 Reserpine_Attenuated) of 2018-05-29_Install.wiff (Turbo Spray)"

| | Target Mass (Da) | Found At (Da) | Intensity (cps) | Width (Da) | Mass Shift (Da) |
|---|---|---|---|---|---|
| 1 | 195.1000 | n/a | n/a | n/a | n/a |
| 2 | 609.2810 | 609.2580 | 1.5520e7 | 0.7138 | 0.0230 |

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 28.0
Collision Gas (CAD): 9
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Declustering Potential (DP): 135.0
Entrance Potential (EP): 10.0
Collision Energy (CE): 44.5
Collision Cell Exit Potential (CXP): 6.2

Q1 Resolution: Unit Q3 Resolution: Unit
Ion Energy 1 (IE1): 1.2

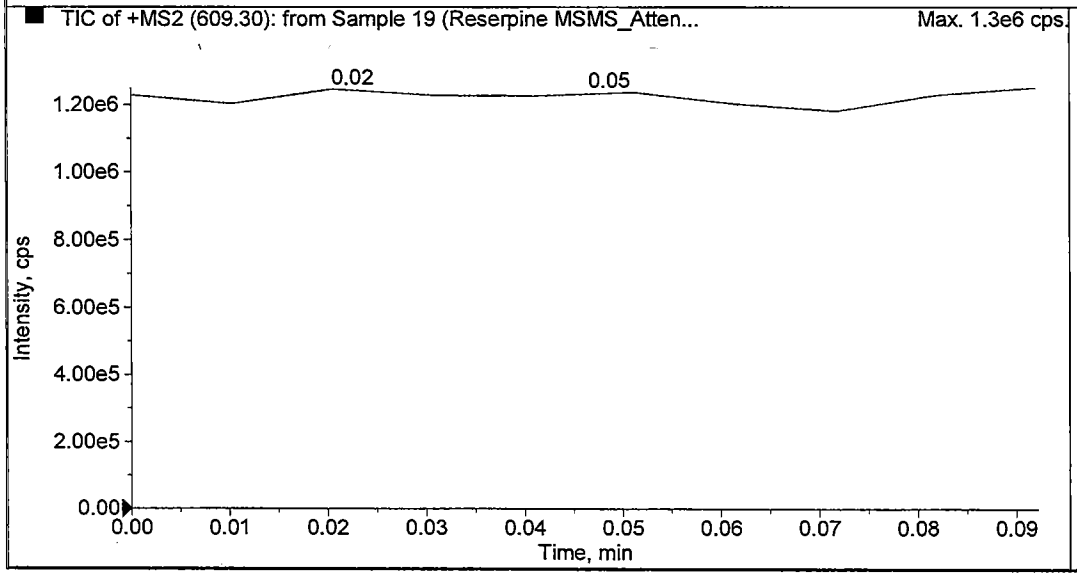
Mass Spectrometer Method Properties

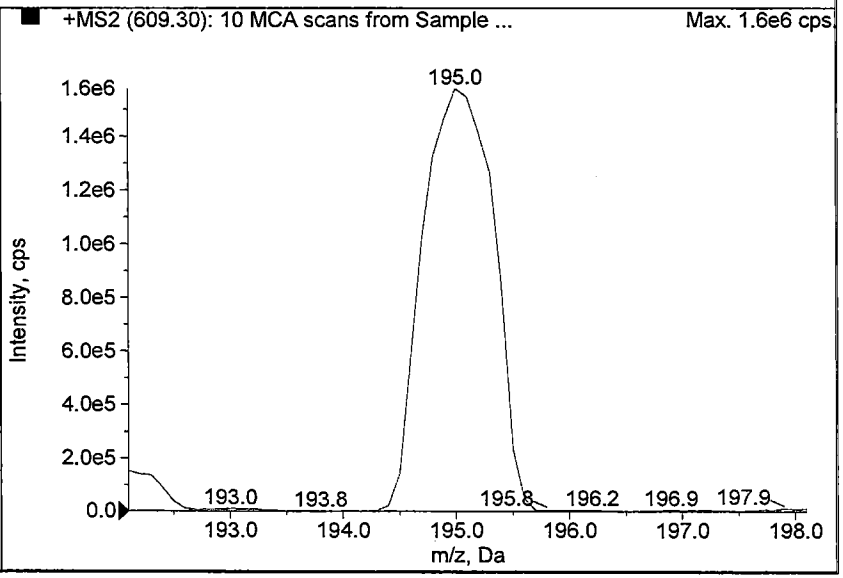
Period 1:

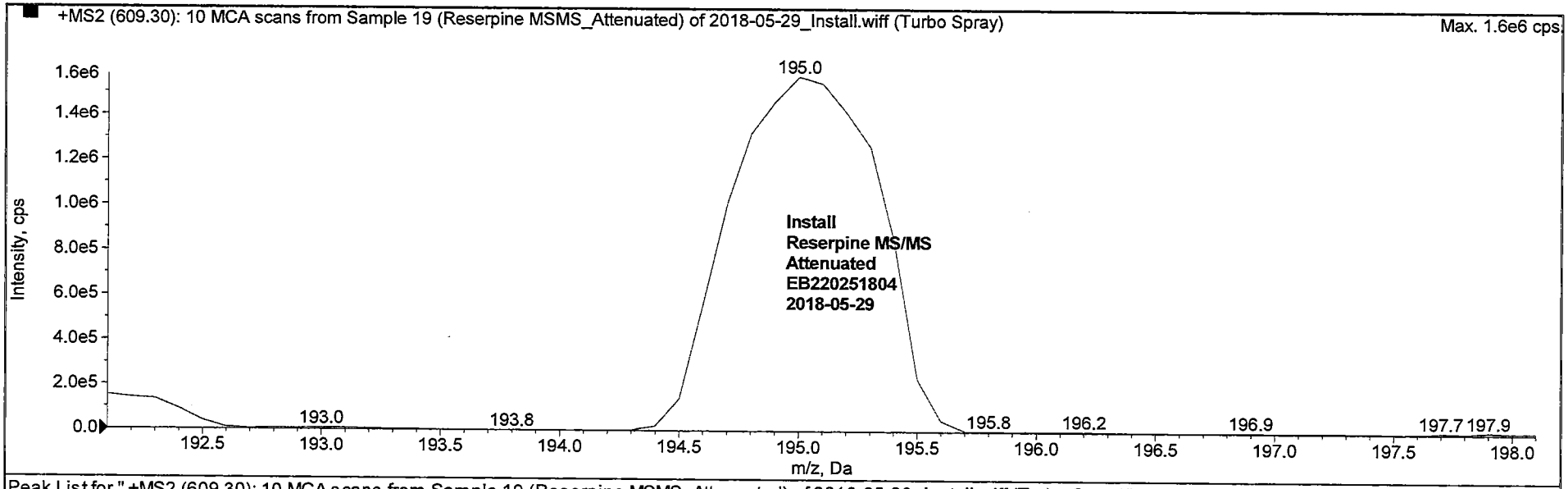
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Product Ion (MS2)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
# Scans to Sum: 1
Product Of: 609.30 Da






Peak List for "+MS2 (609.30): 10 MCA scans from Sample 19 (Reserpine MSMS_Attenuated) of 2018-05-29_Install.wiff (Turbo Spray)"

| | Target Mass (Da) | Found At (Da) | Intensity (cps) | Width (Da) | Mass Shift (Da) |
|---|---|---|---|---|---|
| 1 | 195.1000 | 195.0306 | 1.5772e6 | 0.7615 | 0.0694 |
| 2 | 609.2810 | n/a | n/a | n/a | n/a |

# Raw QC Data

# PFAS by LC/MS/MS

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | BLK316029 | | | **Data File:** | | 18NOV13D-90.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 | | | **Acquis Date:** | | 2018-11-13T23:06:02 |
| **Sample Type:** | Unknown | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 84 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 737180.2 | 661126.9 | 12 | 50 | |
| 13C2-PFOA | 5.0 | 517902.6 | 466902.6 | 11 | 50 | |
| 13C4-PFOS | 4.8 | 276058.5 | 247446.9 | 12 | 50 | |
| 13C2-PFDA | 5.0 | 335561.1 | 295381.6 | 14 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 754985.8 | 13C3-PFBA | 737180.2 | 1.024 | 10.000 | 9.183 | 92 | 50-150 | |
| E13C5-PFPeA | 741891.1 | 13C3-PFBA | 737180.2 | 1.006 | 10.000 | 9.028 | 90 | 50-150 | |
| E13C3-PFBS | 421217.4 | 13C3-PFBA | 737180.2 | 0.571 | 9.300 | 8.067 | 87 | 50-150 | |
| E13C2-4:2-FTS | 54071.3 | 13C2-PFOA | 517902.6 | 0.104 | 9.340 | 9.300 | 100 | 50-150 | |
| E13C5-PFHxA | 665660.6 | 13C2-PFOA | 517902.6 | 1.285 | 10.000 | 9.286 | 93 | 50-150 | |
| E13C3-PFHxS | 324763.2 | 13C2-PFOA | 517902.6 | 0.627 | 9.460 | 8.606 | 91 | 50-150 | |
| E13C4-PFHpA | 537989.1 | 13C2-PFOA | 517902.6 | 1.039 | 10.000 | 9.360 | 94 | 50-150 | |
| E13C2-6:2-FTS | 35759.2 | 13C2-PFOA | 517902.6 | 0.069 | 9.500 | 9.239 | 97 | 50-150 | |
| E13C8-PFOA | 908223.7 | 13C2-PFOA | 517902.6 | 1.754 | 10.000 | 9.663 | 97 | 50-150 | |
| E13C8-PFOS | 277365.0 | 13C4-PFOS | 276058.5 | 1.005 | 9.560 | 8.904 | 93 | 50-150 | |
| E13C9-PFNA | 486627.0 | 13C4-PFOS | 276058.5 | 1.763 | 10.000 | 9.830 | 98 | 50-150 | |
| E13C6-PFDA | 639102.5 | 13C2-PFDA | 335561.1 | 1.905 | 10.000 | 8.889 | 89 | 50-150 | |
| E13C2-8:2-FTS | 24158.5 | 13C2-PFDA | 335561.1 | 0.072 | 9.580 | 7.181 | 75 | 50-150 | |
| E13C8-PFOSA | 662199.6 | 13C2-PFDA | 335561.1 | 1.973 | 10.000 | 8.750 | 88 | 50-150 | |
| Ed3-NMeFOSAA | 78540.6 | 13C2-PFDA | 335561.1 | 0.234 | 10.000 | 8.450 | 84 | 50-150 | |
| E13C7-PFUnDA | 257474.8 | 13C2-PFDA | 335561.1 | 0.767 | 10.000 | 8.910 | 89 | 50-150 | |
| Ed5-NEtFOSAA | 62590.1 | 13C2-PFDA | 335561.1 | 0.187 | 10.000 | 7.892 | 79 | 50-150 | |
| E13C2-PFDoDA | 557864.6 | 13C2-PFDA | 335561.1 | 1.662 | 10.000 | 8.633 | 86 | 50-150 | |
| Ed7-NMePFOSAE | 335466.9 | 13C2-PFDA | 335561.1 | 1.000 | 10.000 | 8.652 | 87 | 50-150 | |
| Ed3-NMePFOSA | 77628.2 | 13C2-PFDA | 335561.1 | 0.231 | 10.000 | 8.406 | 84 | 50-150 | |
| Ed9-NEtPFOSAE | 286394.9 | 13C2-PFDA | 335561.1 | 0.853 | 10.000 | 8.878 | 89 | 50-150 | |
| Ed5-NEtPFOSA | 60630.5 | 13C2-PFDA | 335561.1 | 0.181 | 10.000 | 8.477 | 85 | 50-150 | |
| E13C2-PFTeDA | 386845.4 | 13C2-PFDA | 335561.1 | 1.153 | 10.000 | 8.094 | 81 | 50-150 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

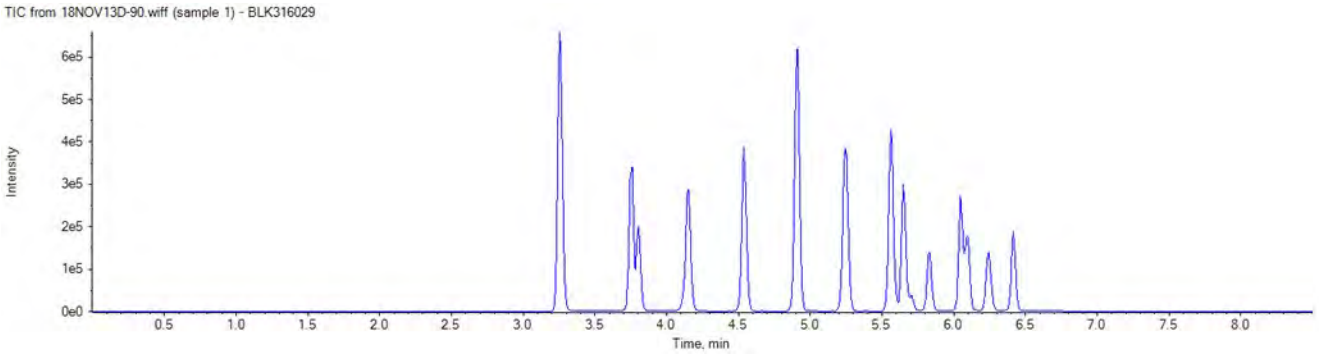
## Analyte Quantitation Peak Table

**Sample Name:** BLK316029 **Instrument Name:** LM27631 **File Name:** 18NOV13D-90.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 | 754985.8 | N/A | |
| PFPeA | N/A | N/A | N/A | | A | 13C5-PFPeA | 3.75 | 741891.1 | N/A | |
| PFBS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.80 | 421217.4 | N/A | |
| 4:2-FTS | N/A | N/A | N/A | | A | 13C2-4:2-FTS | 4.12 | 54071.3 | N/A | |
| PFHxA | N/A | N/A | N/A | | A | 13C5-PFHxA | 4.15 | 665660.6 | N/A | |
| PFPeS | N/A | N/A | N/A | | A | 13C3-PFBS | 3.80 | 421217.4 | N/A | |
| PFHpA | N/A | N/A | N/A | | A | 13C4-PFHpA | 4.54 | 537989.1 | N/A | |
| PFHxS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.54 | 324763.2 | N/A | |
| 6:2-FTS | N/A | N/A | N/A | | A | 13C2-6:2-FTS | 4.90 | 35759.2 | N/A | |
| PFHpS | N/A | N/A | N/A | | A | 13C3-PFHxS | 4.54 | 324763.2 | N/A | |
| PFOA | N/A | N/A | N/A | | A | 13C8-PFOA | 4.91 | 908223.7 | N/A | |
| PFOS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 277365.0 | N/A | |
| PFNA | N/A | N/A | N/A | | A | 13C9-PFNA | 5.25 | 486627.0 | N/A | |
| PFNS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 277365.0 | N/A | |
| PFDA | N/A | N/A | N/A | | A | 13C6-PFDA | 5.56 | 639102.5 | N/A | |
| 8:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.57 | 24158.5 | N/A | |
| PFOSA | N/A | N/A | N/A | | A | 13C8-PFOSA | 5.65 | 662199.6 | N/A | |
| NMeFOSAA | N/A | N/A | N/A | | A | d3-NMeFOSAA | 5.70 | 78540.6 | N/A | |
| PFDS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 277365.0 | N/A | |
| PFUnDA | N/A | N/A | N/A | | A | 13C7-PFUnDA | 5.83 | 257474.8 | N/A | |
| NEtFOSAA | N/A | N/A | N/A | | A | d5-NEtFOSAA | 5.84 | 62590.1 | N/A | |
| PFDoDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 557864.6 | N/A | |
| 10:2-FTS | N/A | N/A | N/A | | A | 13C2-8:2-FTS | 5.57 | 24158.5 | N/A | |
| NMePFOSAE | N/A | N/A | N/A | | A | d7-NMePFOSAE | 6.09 | 335466.9 | N/A | |
| NMePFOSA | N/A | N/A | N/A | | A | d3-NMePFOSA | 6.10 | 77628.2 | N/A | |
| PFDoS | N/A | N/A | N/A | | A | 13C8-PFOS | 5.24 | 277365.0 | N/A | |
| NEtPFOSAE | N/A | N/A | N/A | | A | d9-NEtPFOSAE | 6.24 | 286394.9 | N/A | |
| NEtPFOSA | N/A | N/A | N/A | | A | d5-NEtPFOSA | 6.26 | 60630.5 | N/A | |
| PFTrDA | N/A | N/A | N/A | | A | 13C2-PFDoDA | 6.05 | 557864.6 | N/A | |
| PFTeDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 386845.4 | N/A | |
| PFHxDA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 386845.4 | N/A | |
| PFODA | N/A | N/A | N/A | | A | 13C2-PFTeDA | 6.42 | 386845.4 | N/A | |

## Total Ion Chromatogram



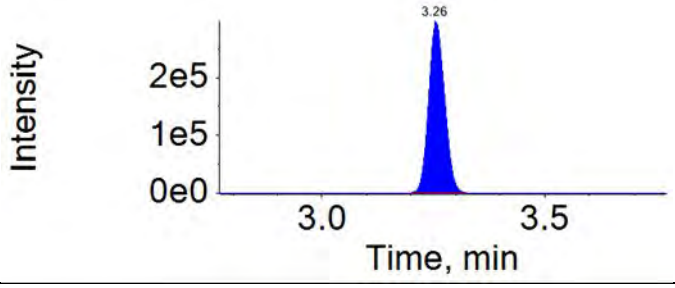

APPROVED
*By MCD at 6:55 pm, 11/14/18*



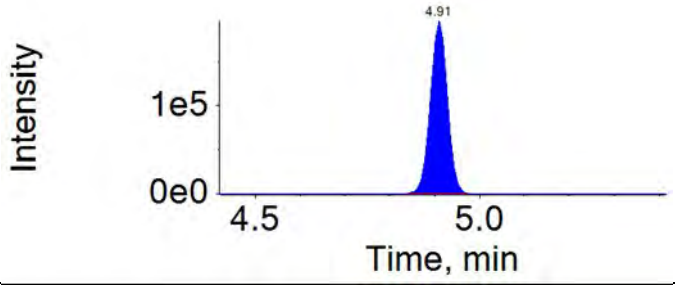
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

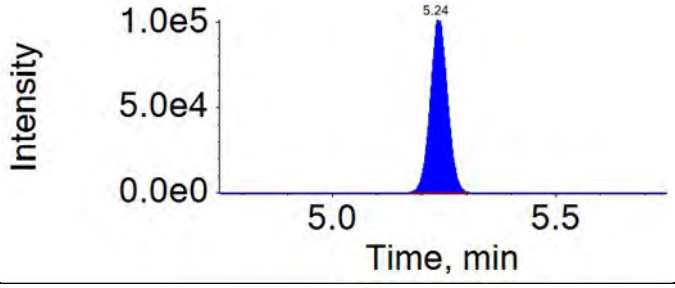
Injection Standard: 13C3-PFBA
216.0 / 172.0



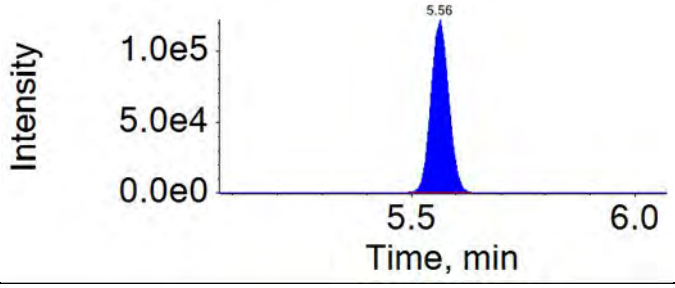

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0



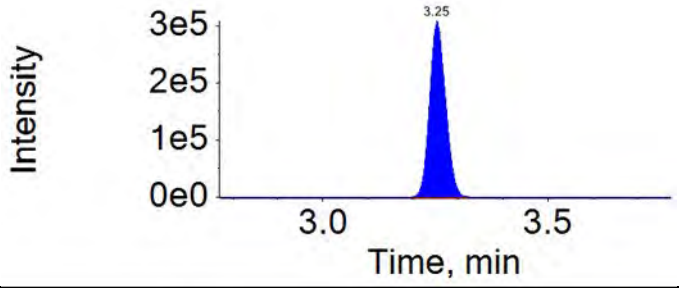

APPROVED
*By MCD at 6:55 pm, 11/14/18*

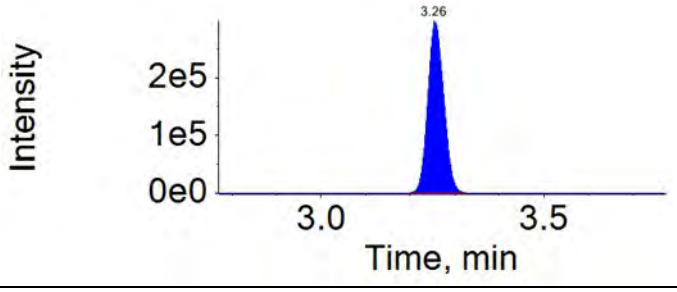


REVIEWED
*By HMK at 11:03 am, 11/15/18*

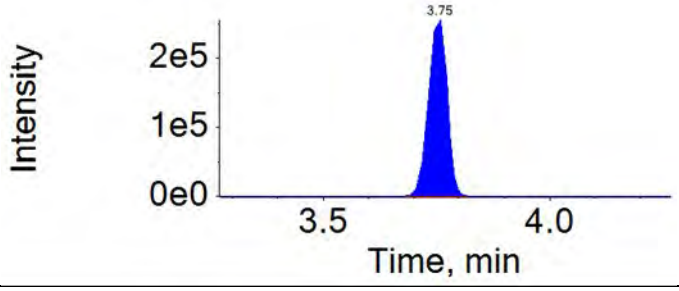
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

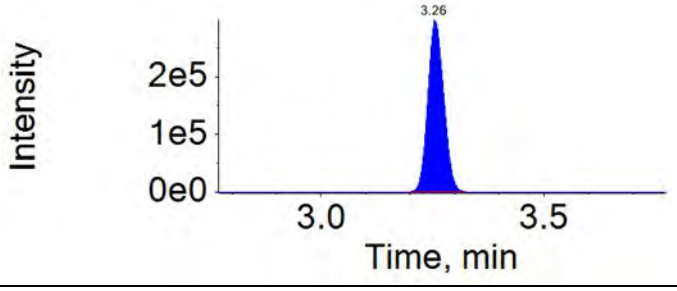
| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |



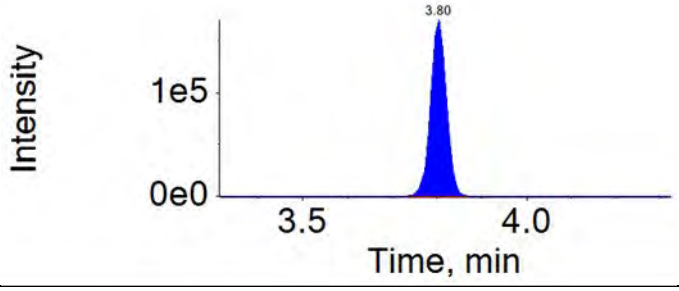



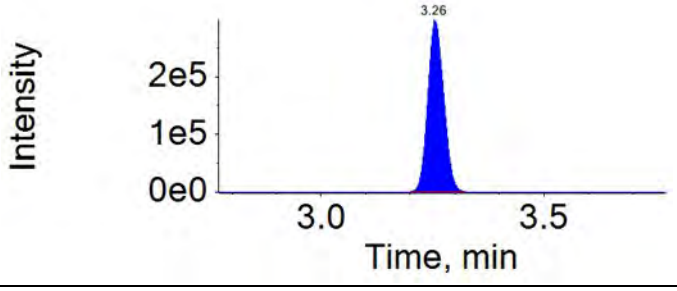

| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |



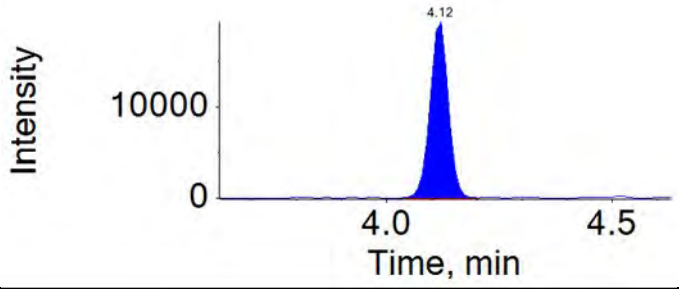



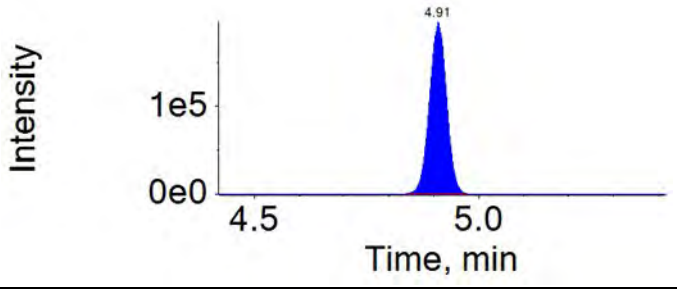

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |




| Extraction Standard: E13C2-4:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 329.0 / 81.0 | 415.0 / 370.0 |



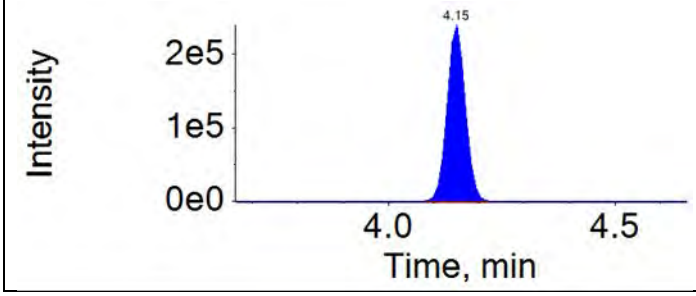
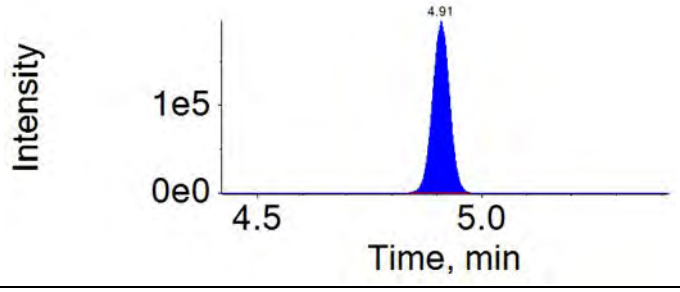




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*By MCD at 6:55 pm, 11/14/18*



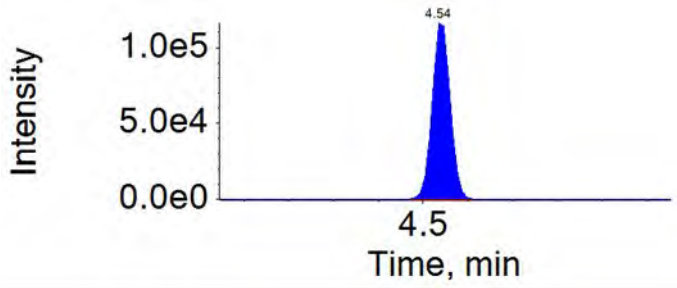
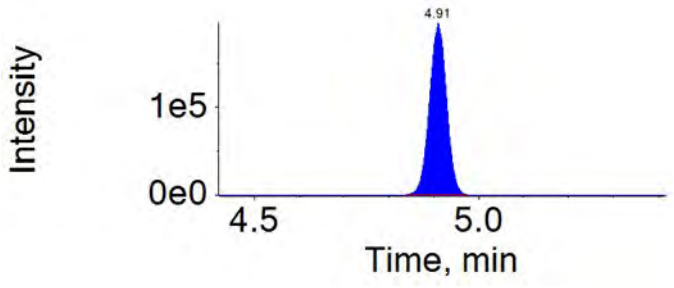
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |
|  |  |

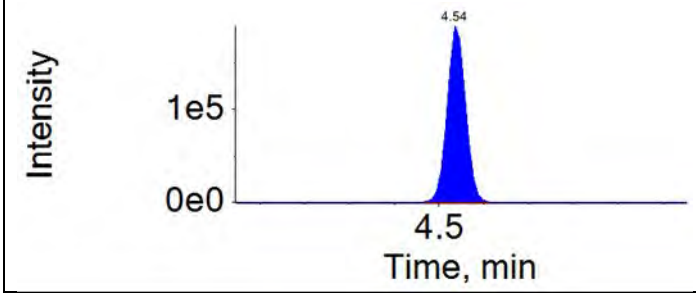
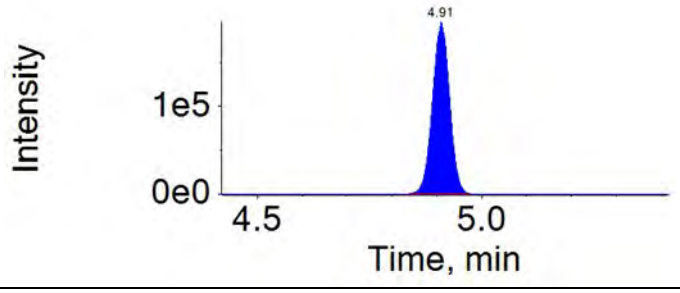




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |

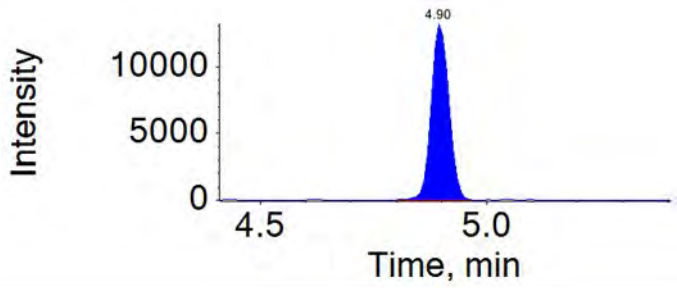
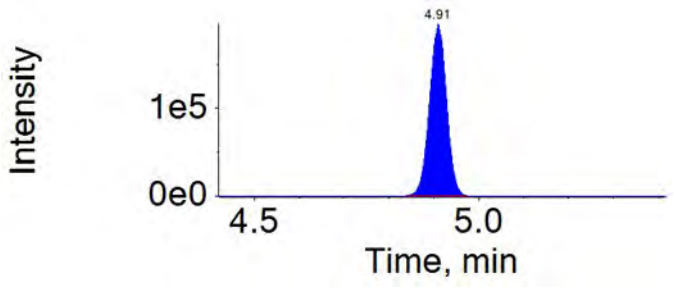




| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |
|  |  |





| Extraction Standard: E13C2-6:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 429.0 / 81.0 | 415.0 / 370.0 |
|  |  |



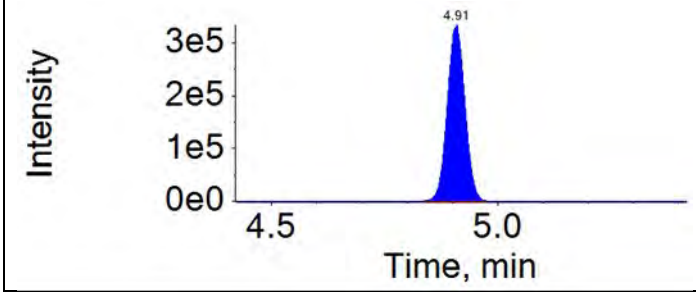
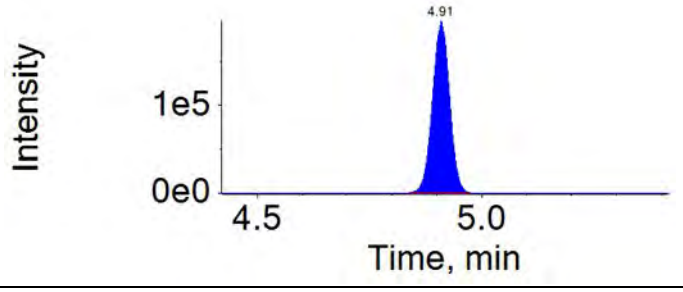


APPROVED
*By MCD at 6:55 pm, 11/14/18*



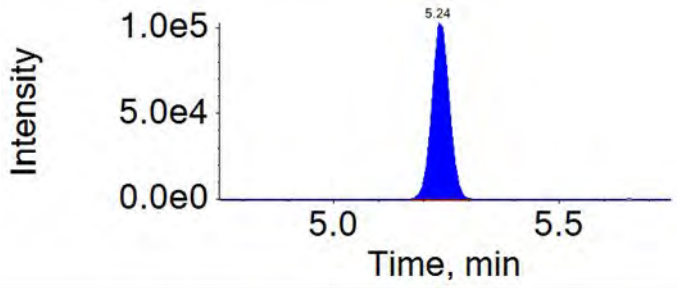
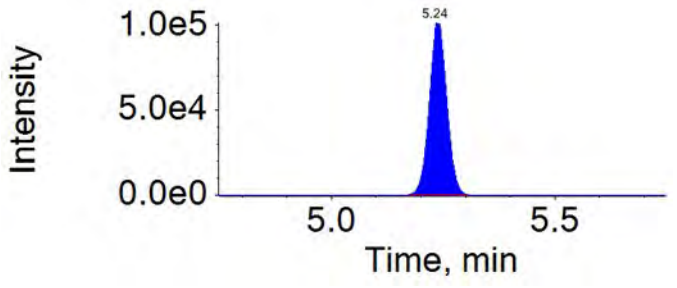
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

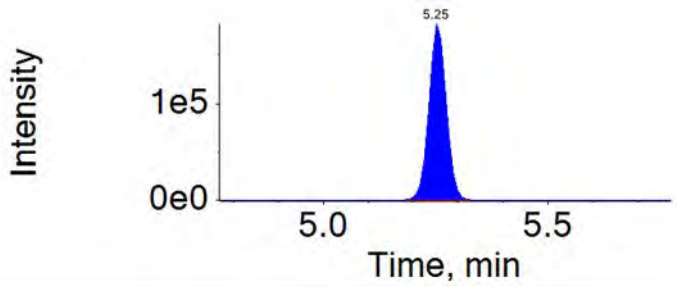
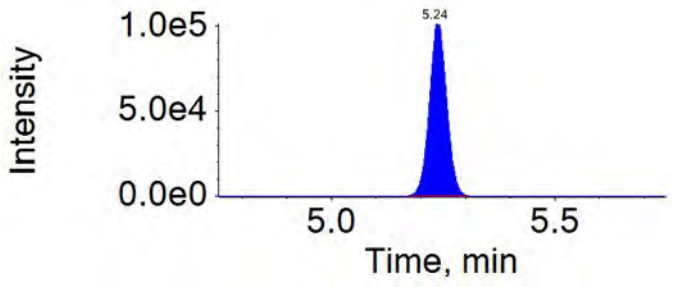




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

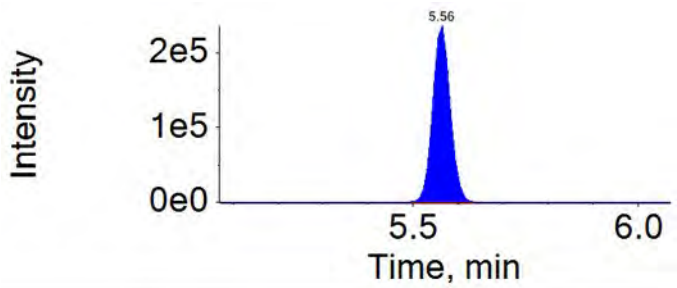
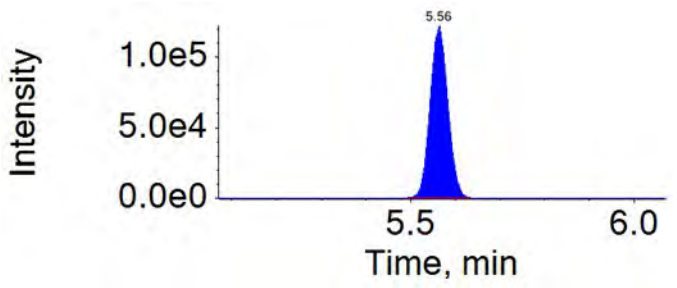




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |



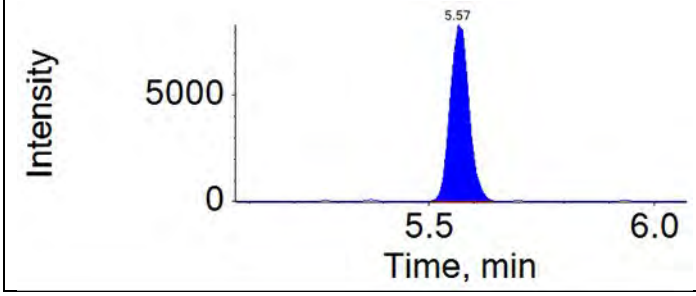
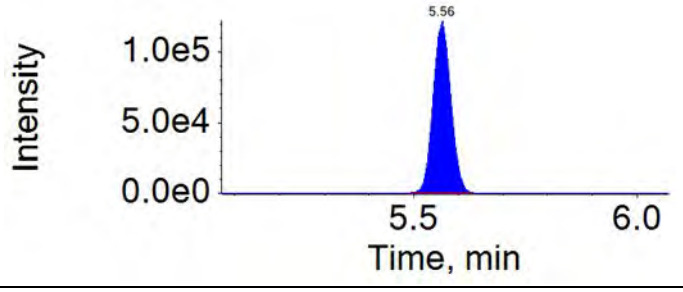


APPROVED
*By MCD at 6:55 pm, 11/14/18*



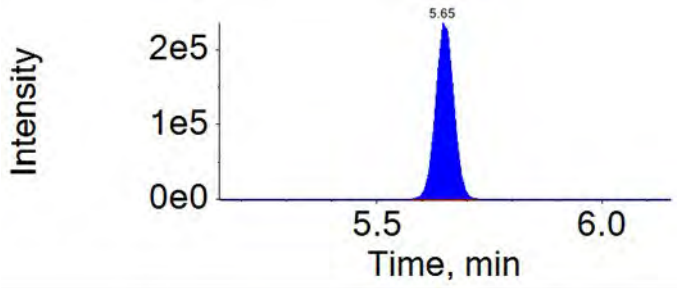
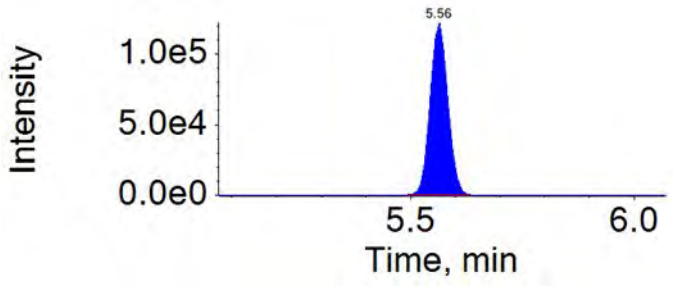
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

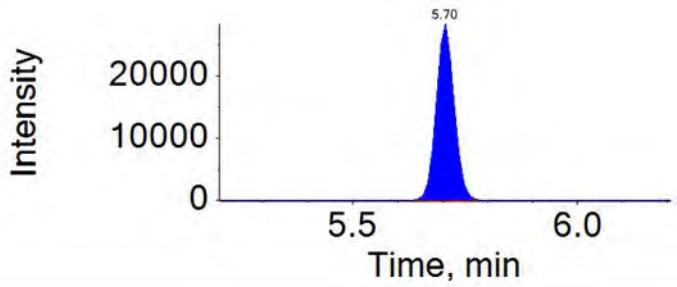
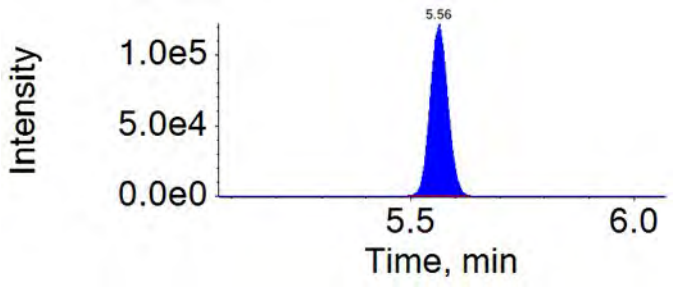




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

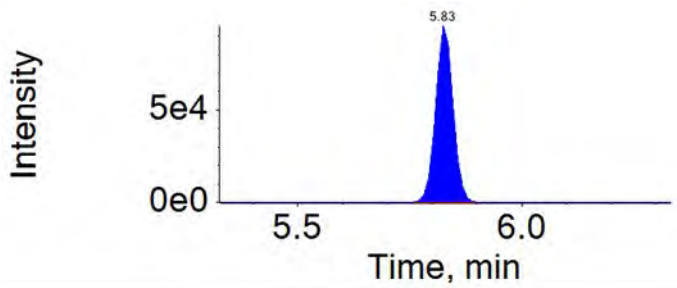
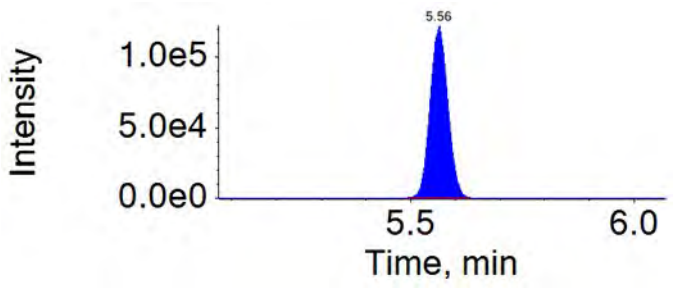




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |



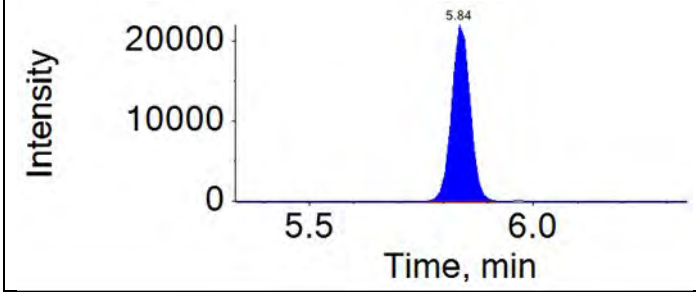
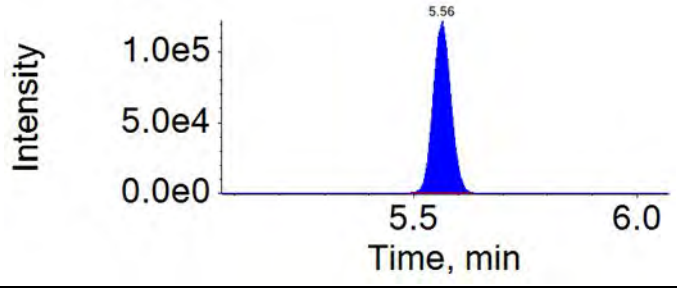


APPROVED
*By MCD at 6:55 pm, 11/14/18*



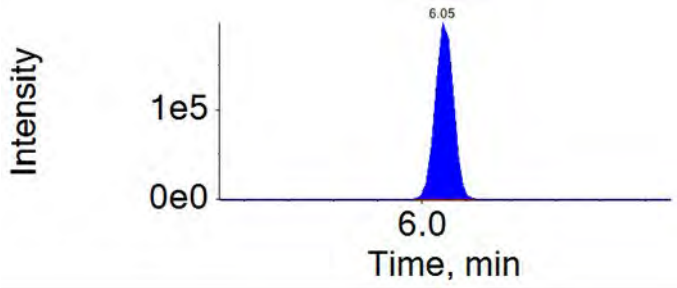
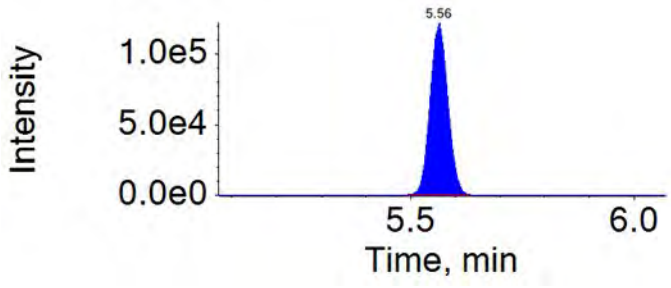
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |

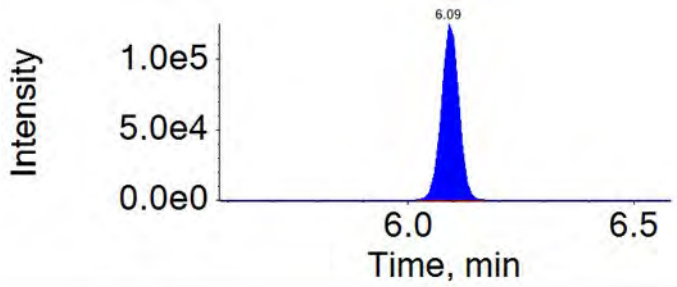
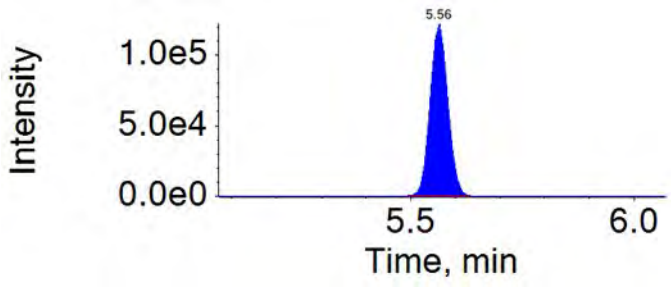




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

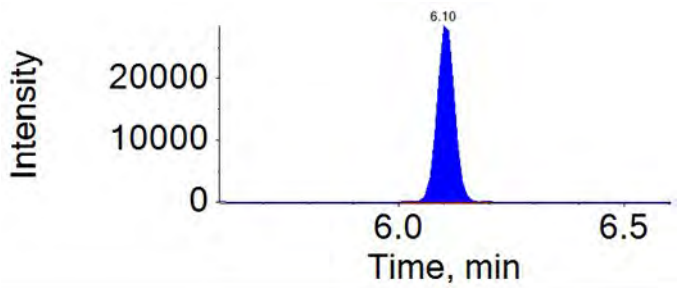
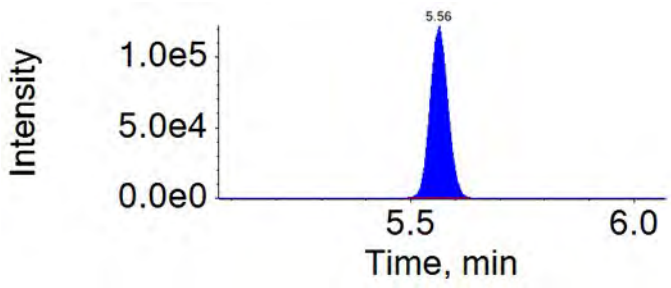




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |
|  |  |



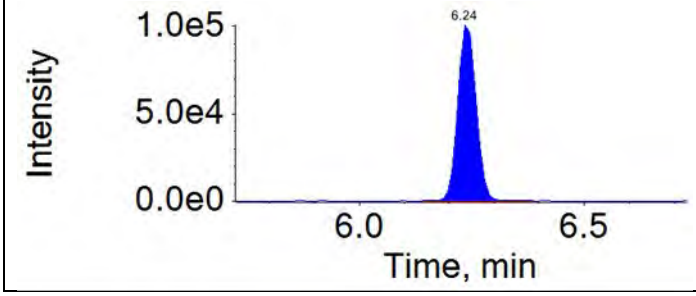
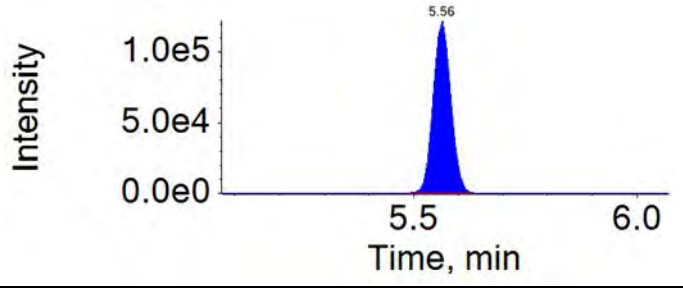


APPROVED
*By MCD at 6:55 pm, 11/14/18*



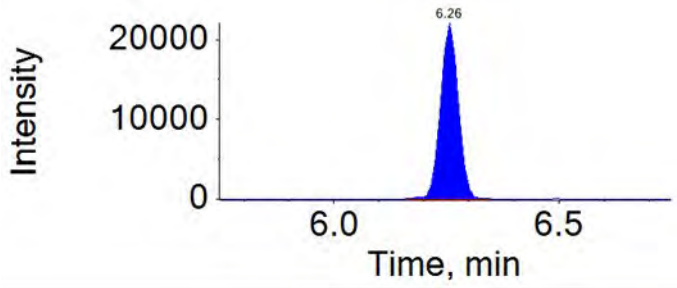
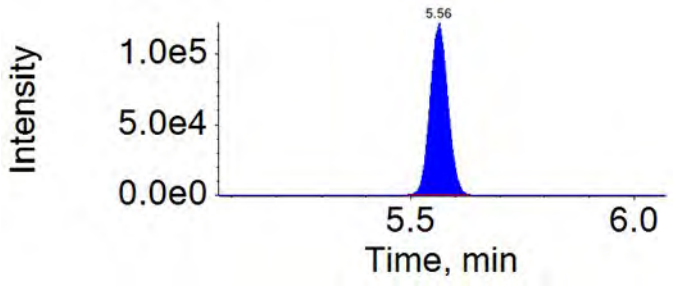
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |
|  |  |

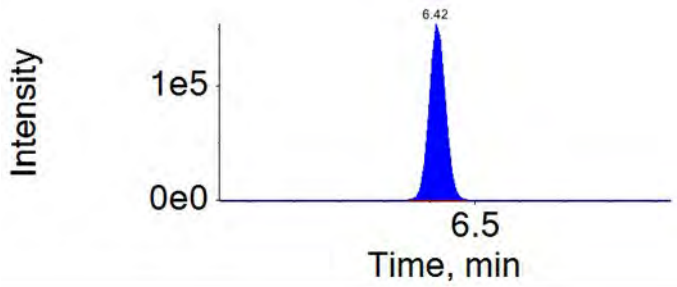
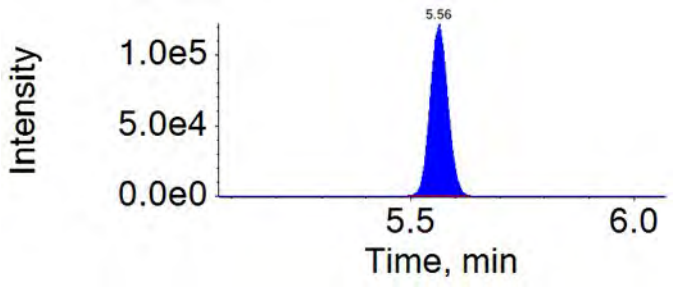




| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |
|  |  |





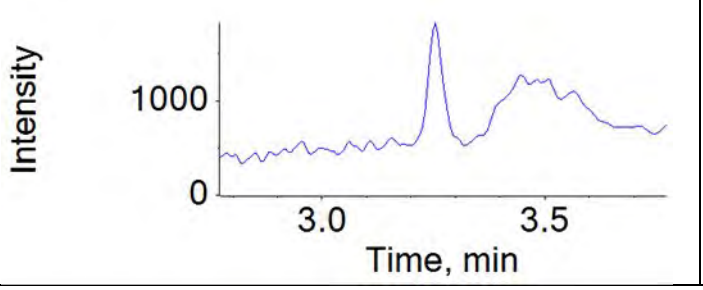
APPROVED
*By MCD at 6:55 pm, 11/14/18*

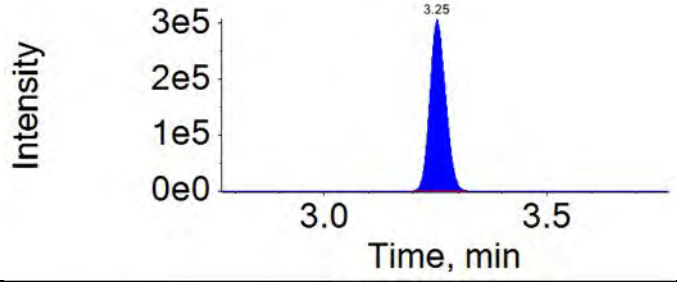


REVIEWED
*By HMK at 11:03 am, 11/15/18*

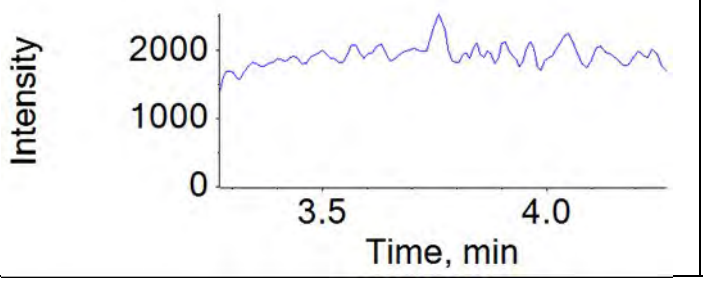
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

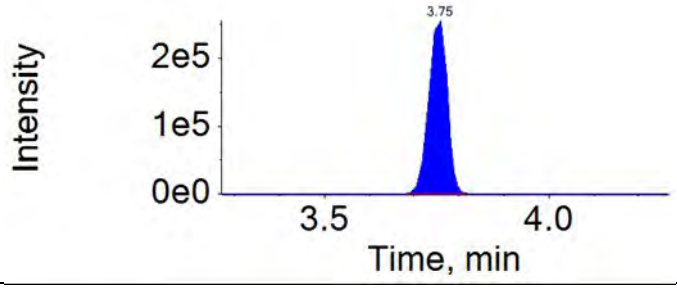
| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |



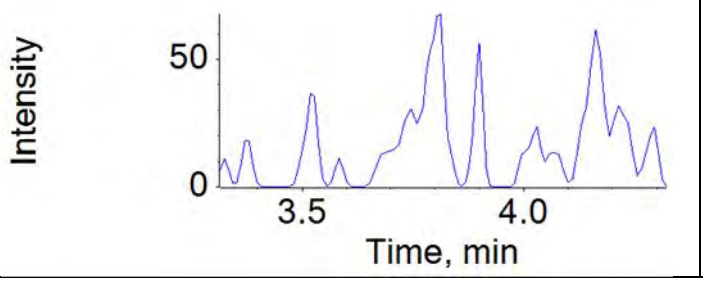



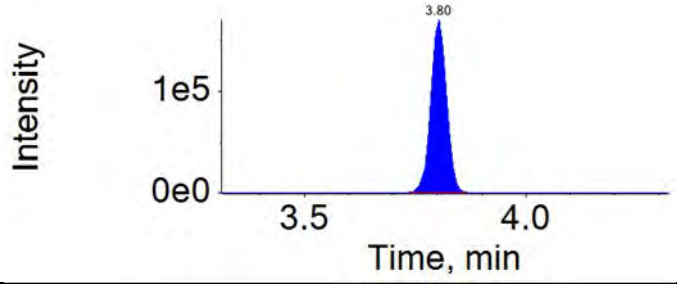

| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |



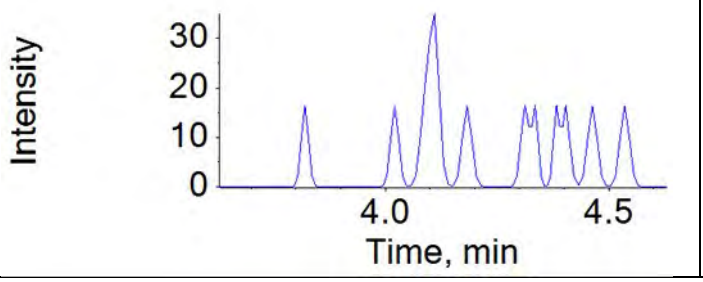



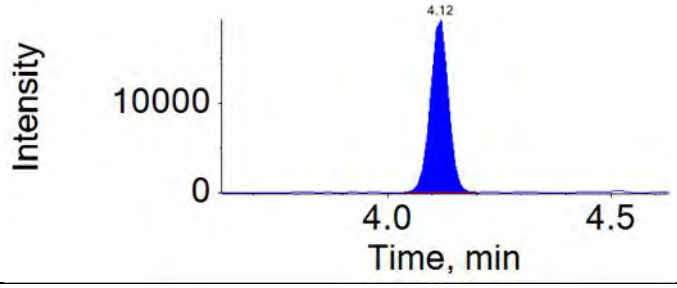

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |




| Analyte: 4:2-FTS | Extraction Standard: 13C2-4:2-FTS |
|---|---|
| 327.0 / 307.0 | 329.0 / 81.0 |



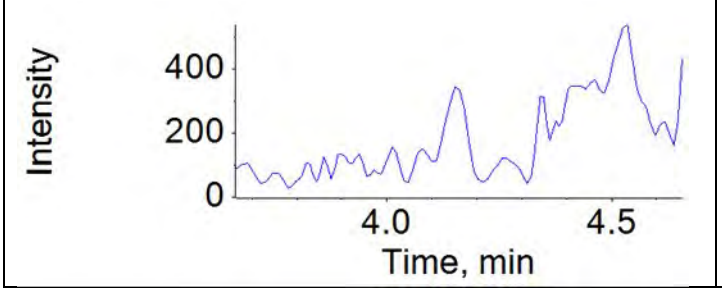

APPROVED
*By MCD at 6:55 pm, 11/14/18*

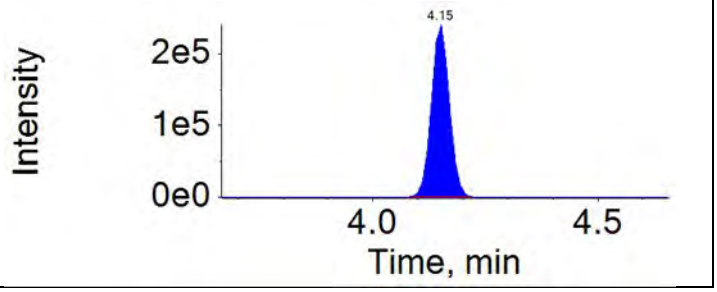


REVIEWED
*By HMK at 11:03 am, 11/15/18*

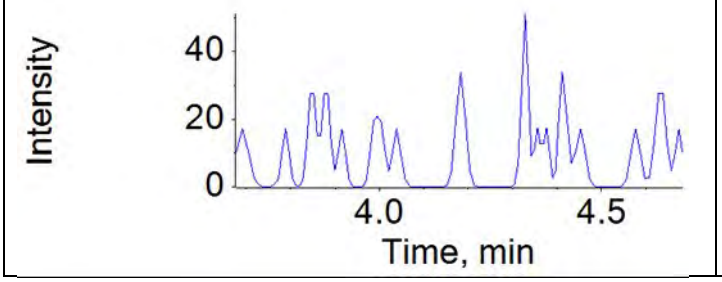
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

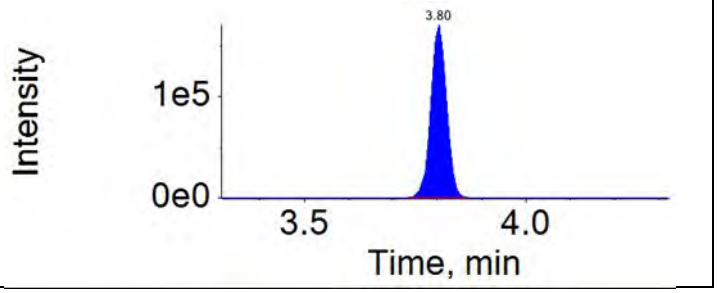
| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |



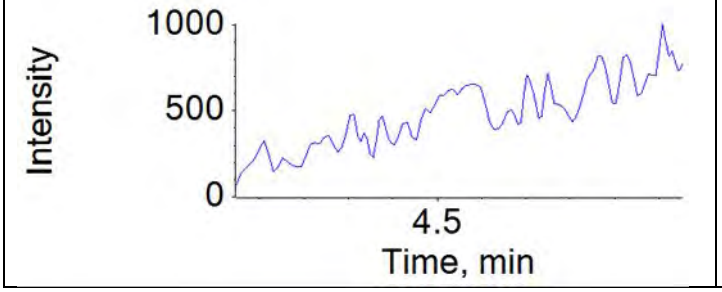



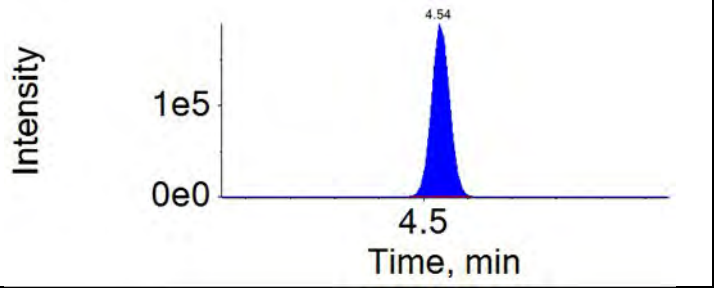

| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |



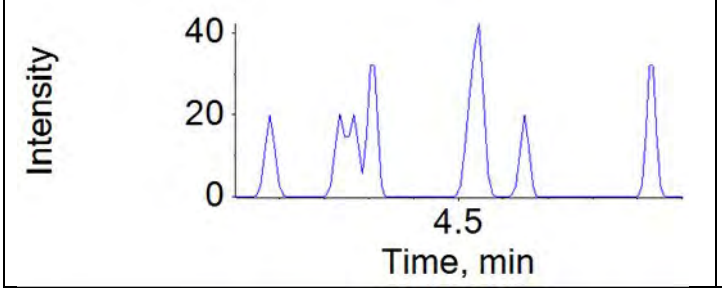



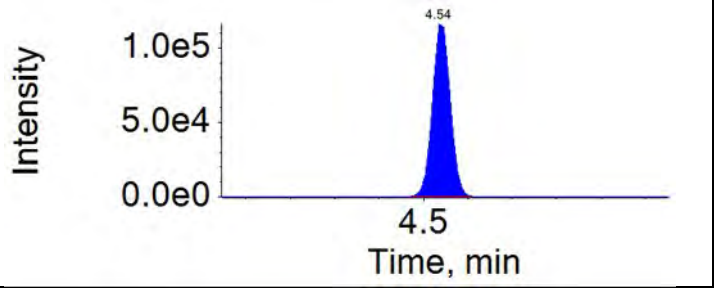

| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |




| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |



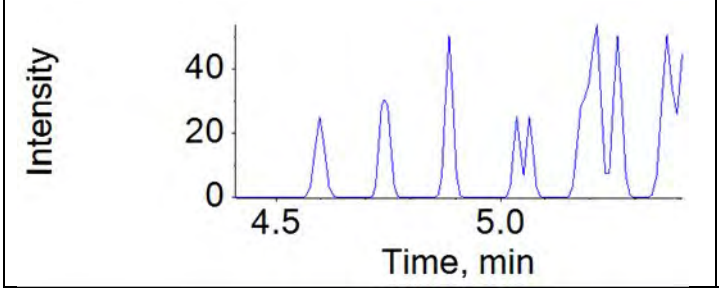

APPROVED
*By MCD at 6:55 pm, 11/14/18*

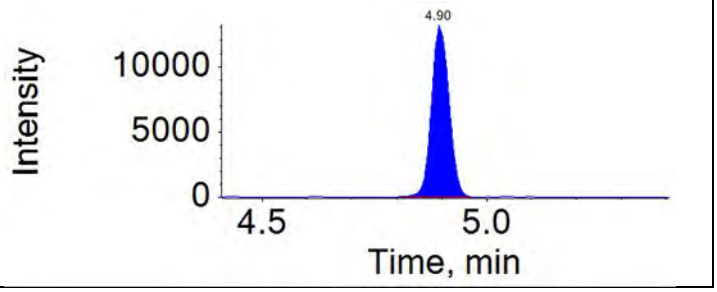


REVIEWED
*By HMK at 11:03 am, 11/15/18*

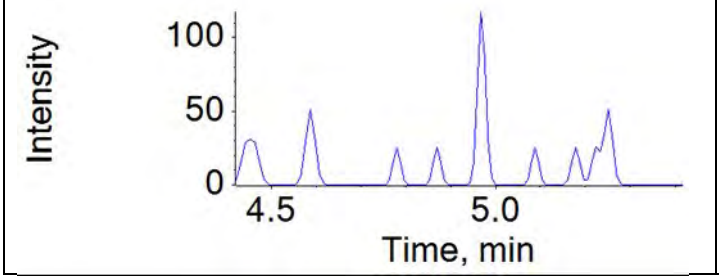
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

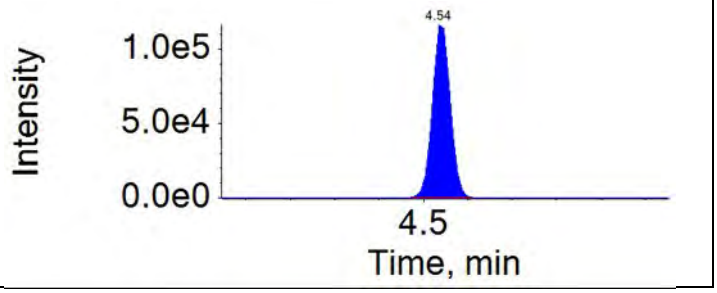
| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |



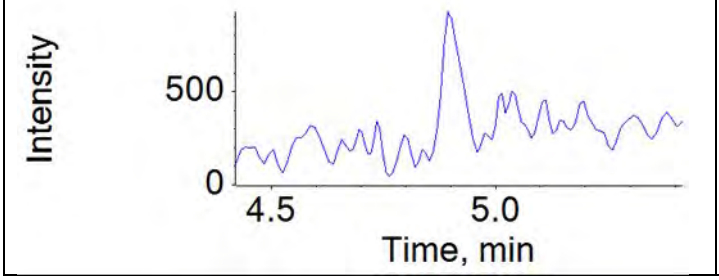



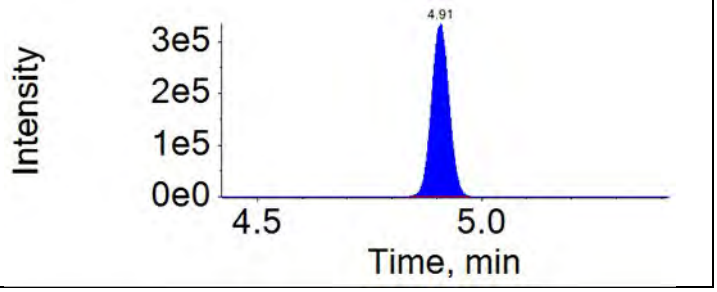

| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |



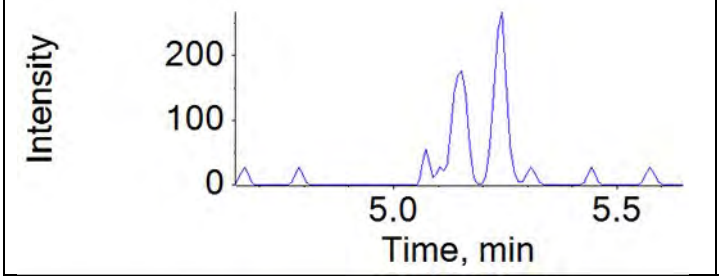



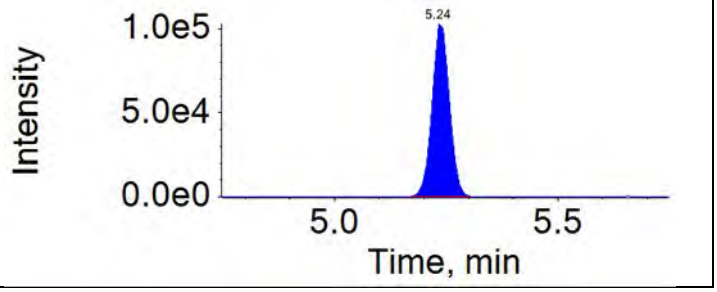

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |




| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



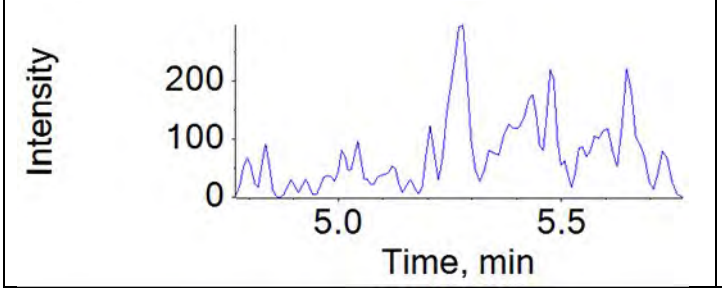

APPROVED
*By MCD at 6:55 pm, 11/14/18*

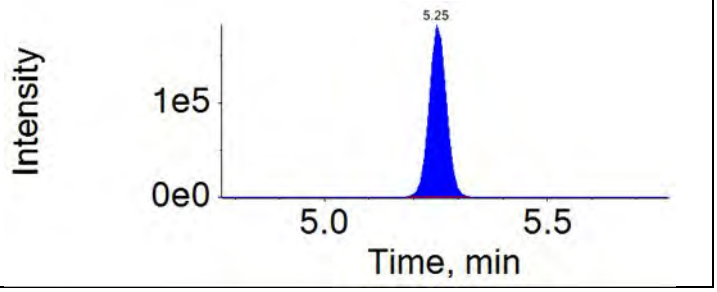


REVIEWED
*By HMK at 11:03 am, 11/15/18*

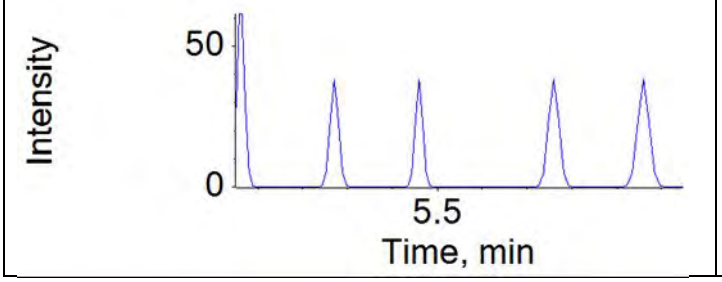
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

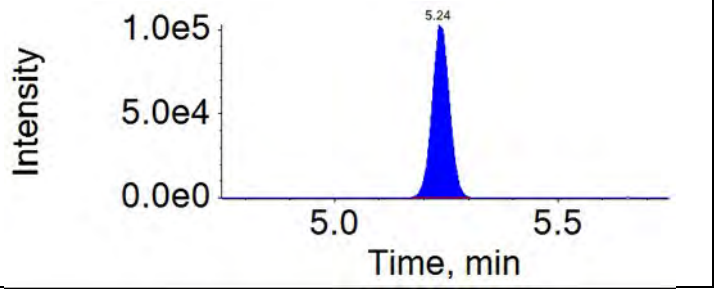
| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |



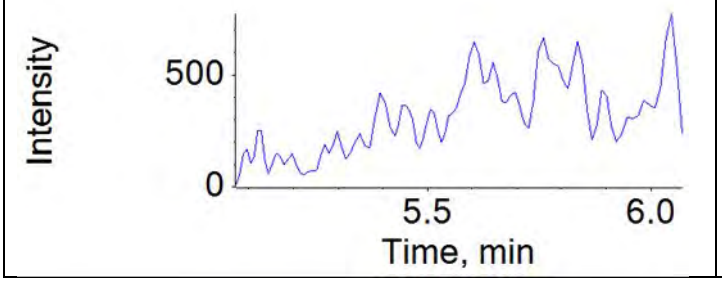



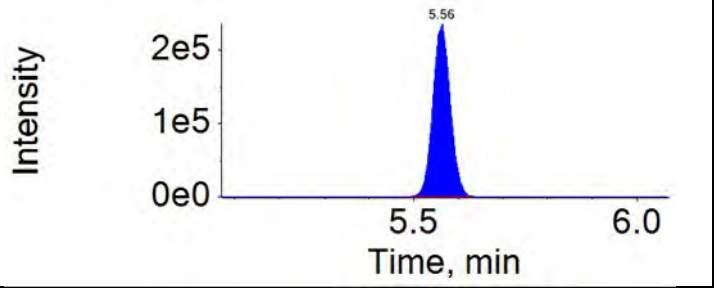

| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |



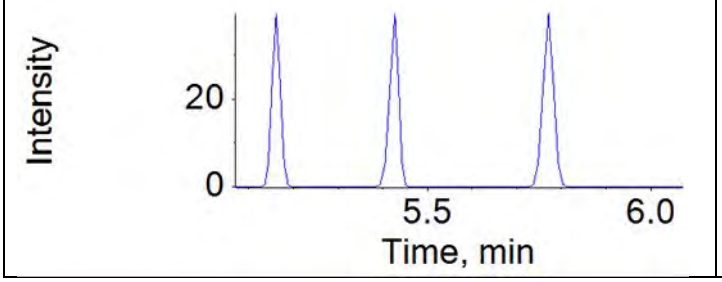



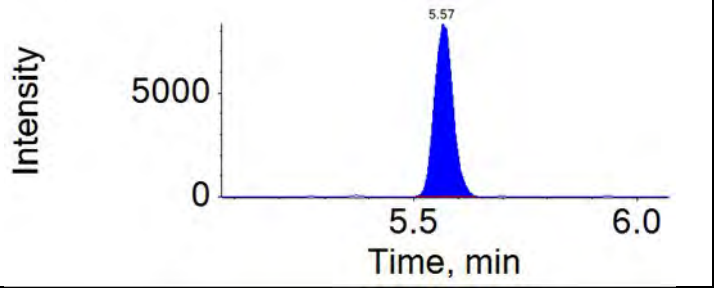

| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |




| Analyte: 8:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 527.0 / 507.0 | 529.0 / 81.0 |



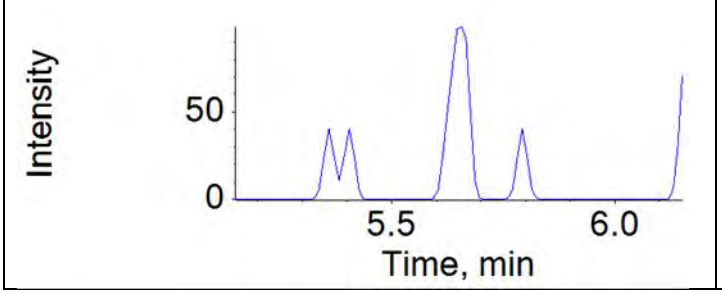

APPROVED
*By MCD at 6:55 pm, 11/14/18*

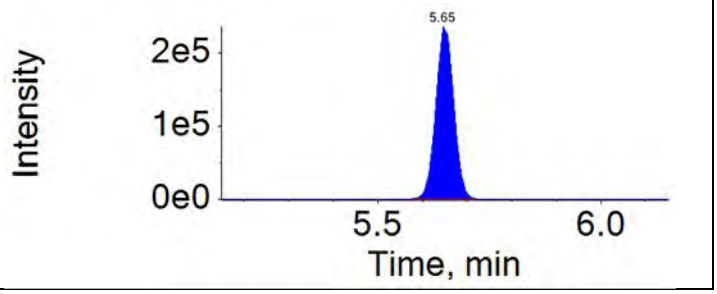


REVIEWED
*By HMK at 11:03 am, 11/15/18*

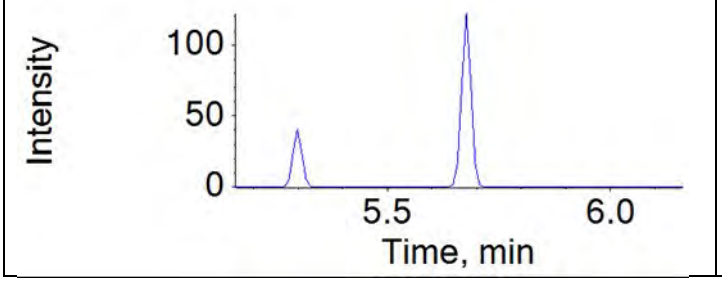
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

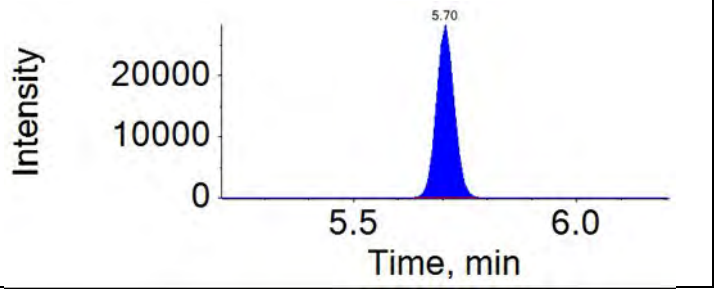
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



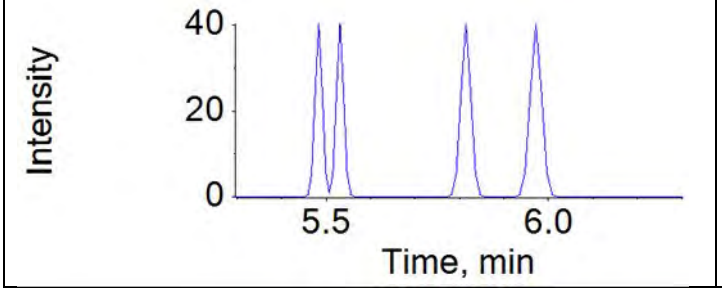



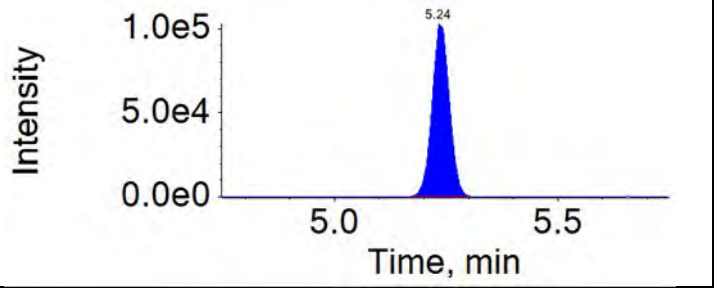

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



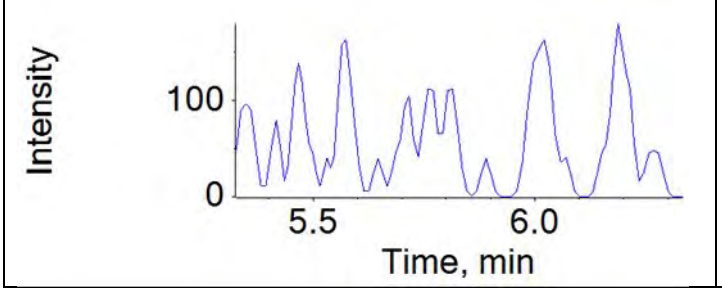



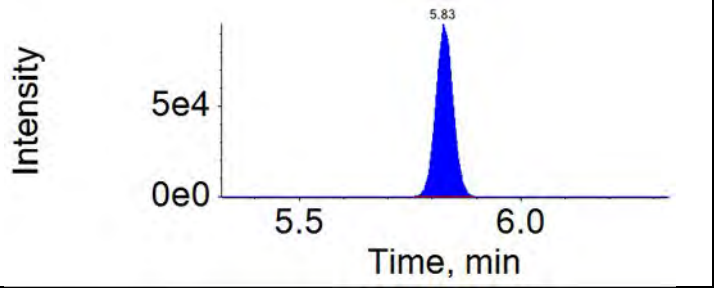

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



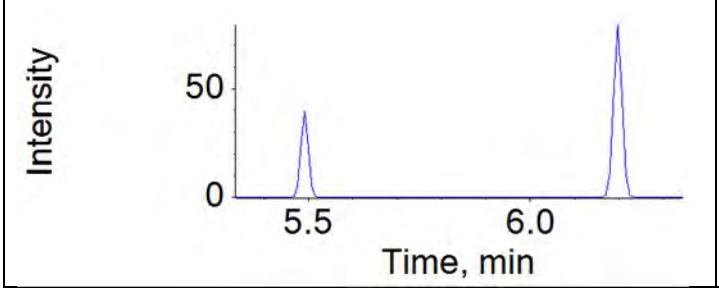

APPROVED
*By MCD at 6:55 pm, 11/14/18*

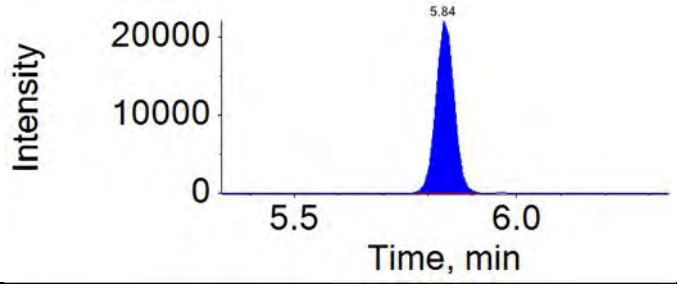


REVIEWED
*By HMK at 11:03 am, 11/15/18*

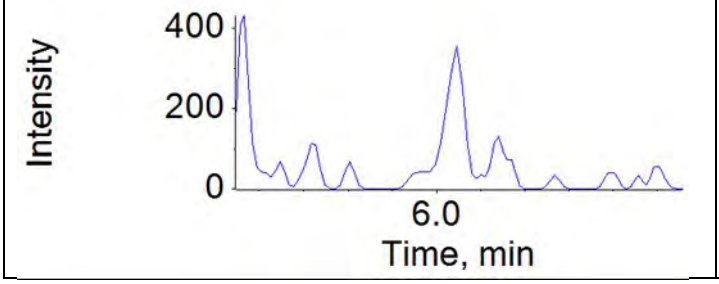
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

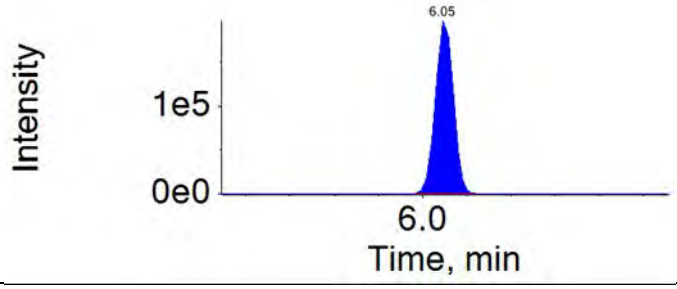
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



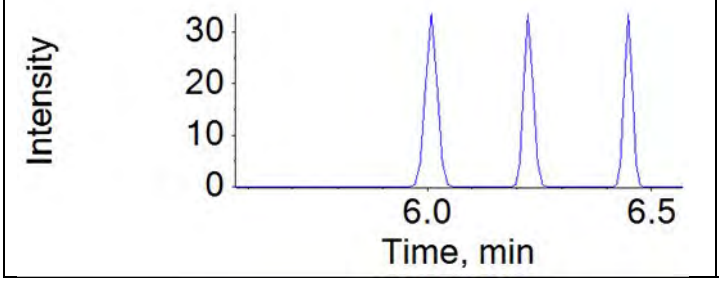



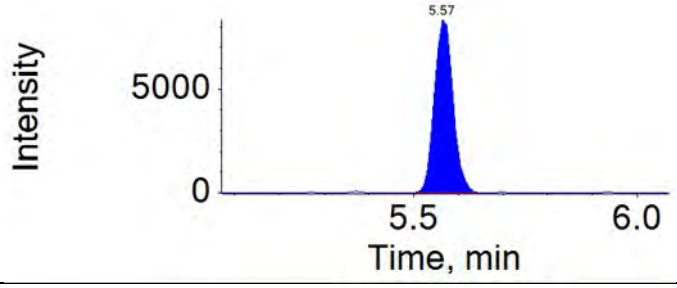

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



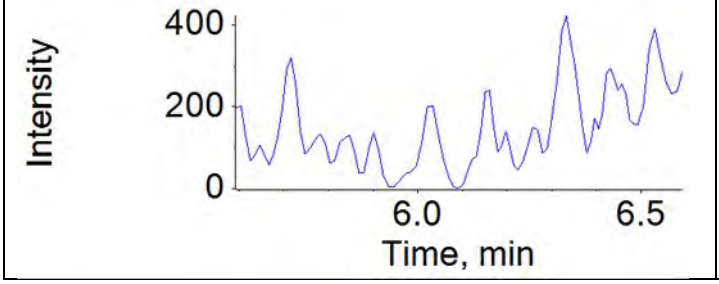



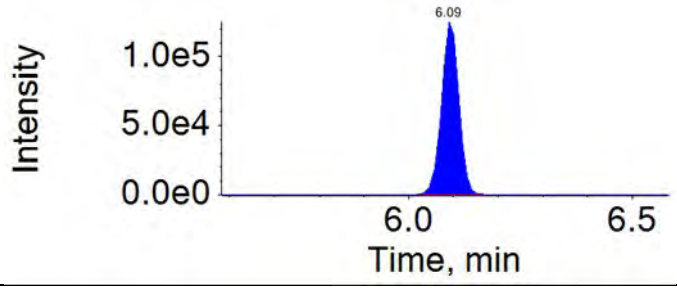

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




| Analyte: NMePFOSAE | Extraction Standard: d7-NMePFOSAE |
|---|---|
| 616.0 / 59.0 | 623.0 / 59.0 |



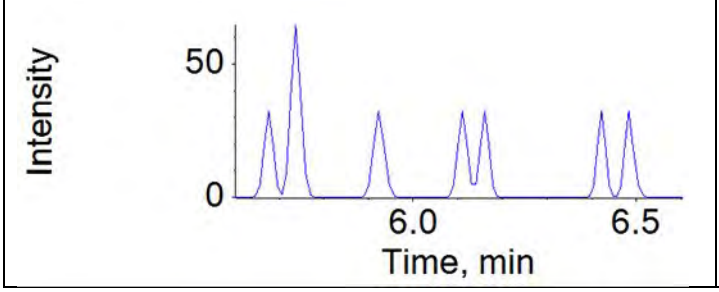

APPROVED
*By MCD at 6:55 pm, 11/14/18*

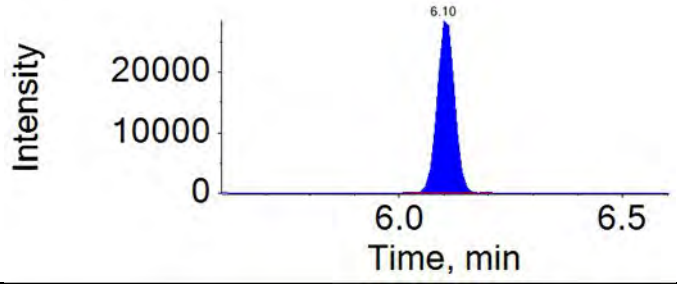


REVIEWED
*By HMK at 11:03 am, 11/15/18*

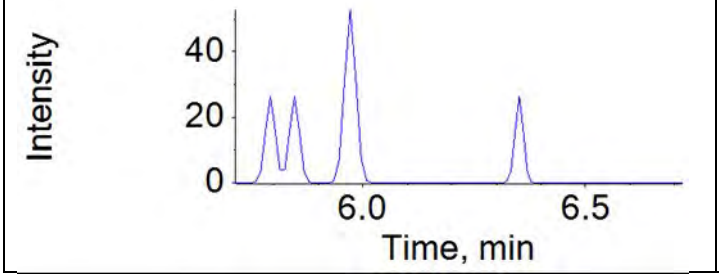
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

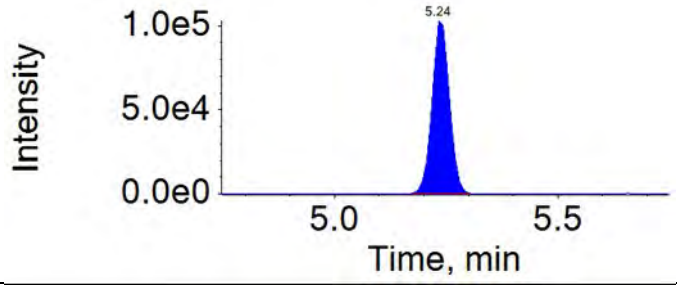
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



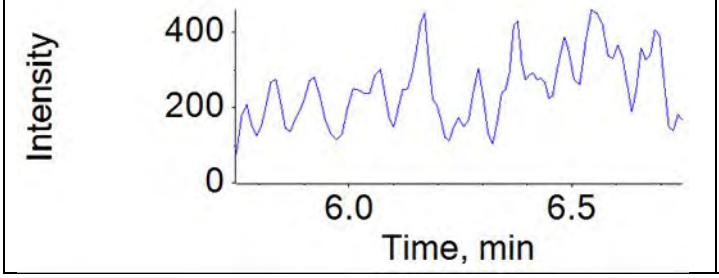



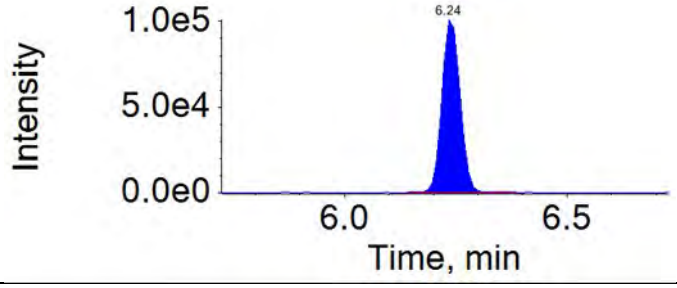

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



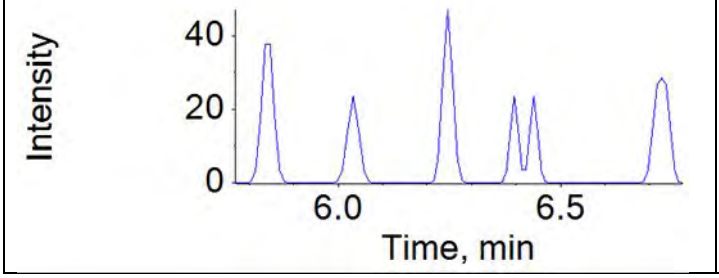



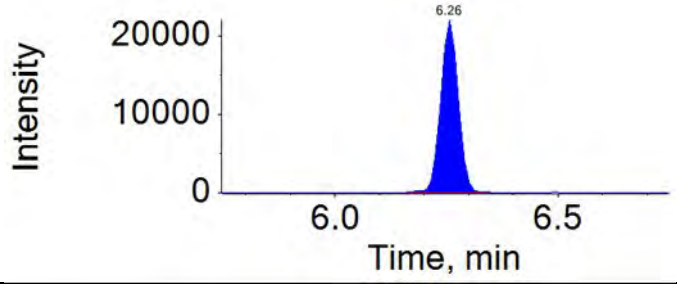

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




| Analyte: NEtPFOSA | Extraction Standard: d5-NEtPFOSA |
|---|---|
| 526.0 / 169.0 | 531.0 / 169.0 |



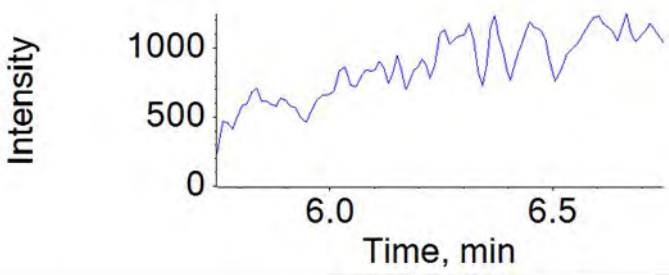
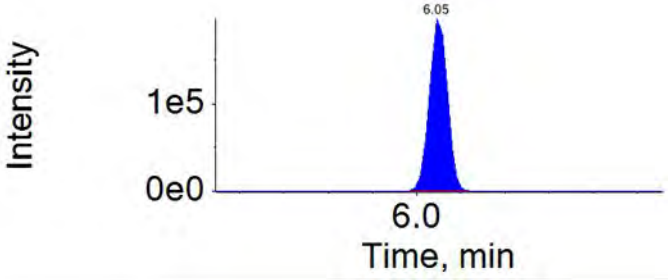




APPROVED
*By MCD at 6:55 pm, 11/14/18*



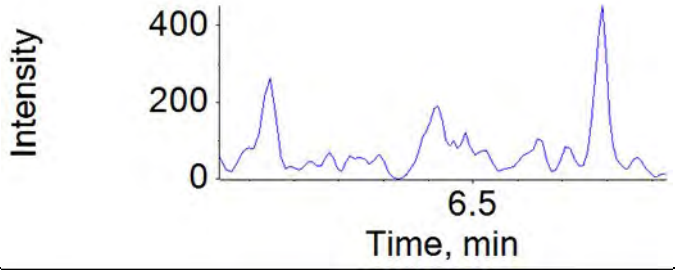
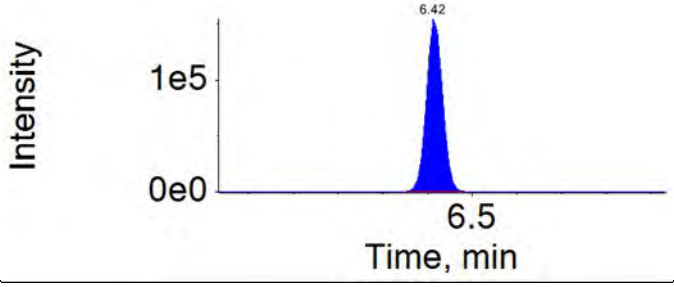
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |
|  |  |

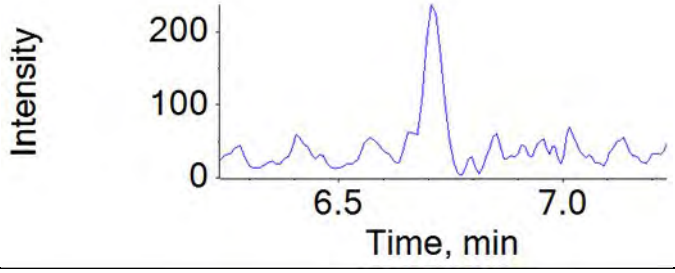
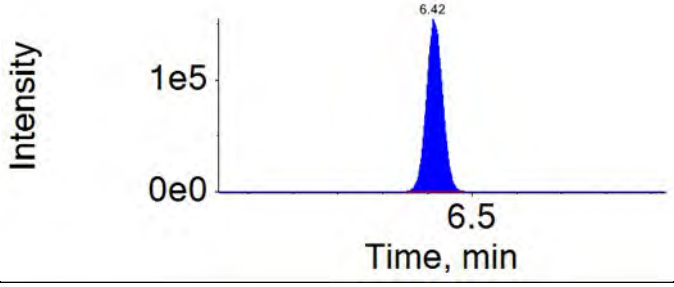




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

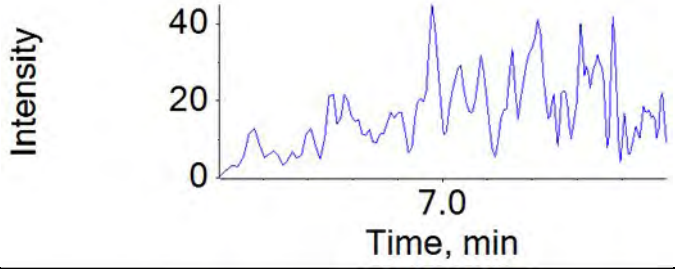
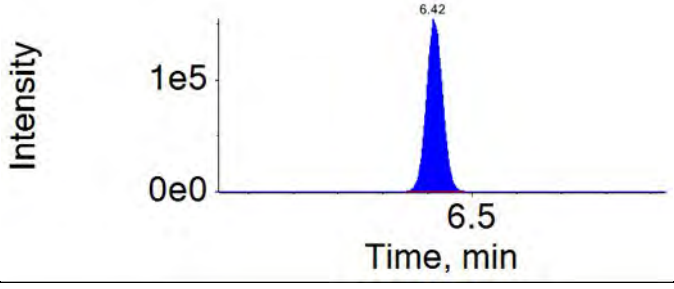




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





| Analyte: PFODA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 913.0 / 869.0 | 715.0 / 670.0 |
|  |  |





APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Ion Ratio Report

**Sample Name:** BLK316029 **Instrument Name:** LM27631 **File Name:** 18NOV13D-90.wiff

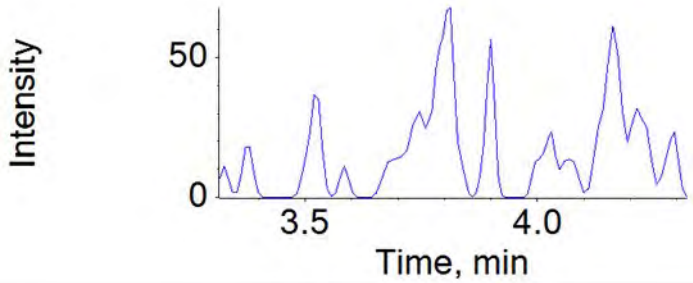
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFBS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| 4:2-FTS | 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 | | #NA! | |
| PFHxA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHxA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFPeS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFPeS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHpA | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHpA_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| PFHxS | N/A | N/A | N/A | A | N/A | N/A | | | |
| PFHxS_2 | N/A | N/A | N/A | A | N/A | N/A | | 50 | |
| 6:2-FTS | N/A | N/A | N/A | A | N/A | N/A | | | |
| 6:2 FTS_2 | N/A | N/A | N/A | A | N/A | N/A | | #NA! | |
| 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 | | #NA! | |
| 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 | | #NA! | |
| 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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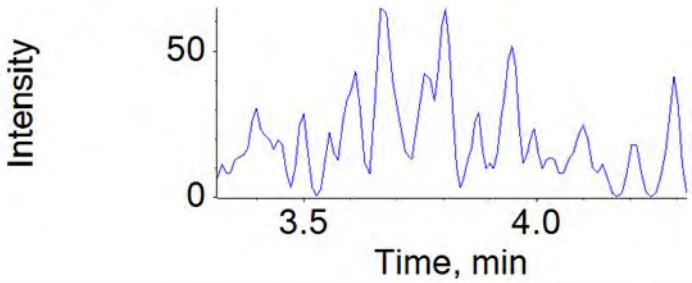


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*By HMK at 11:03 am, 11/15/18*

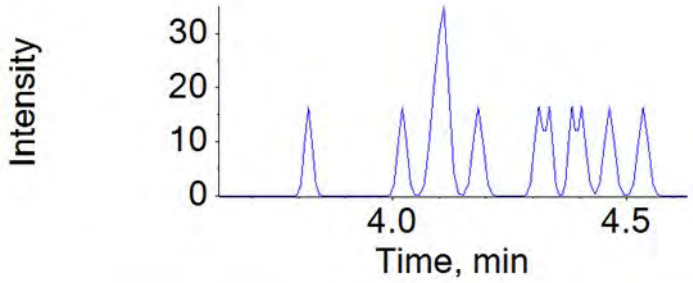
Component: PFBS
Primary Mass: 299.0 / 80.0



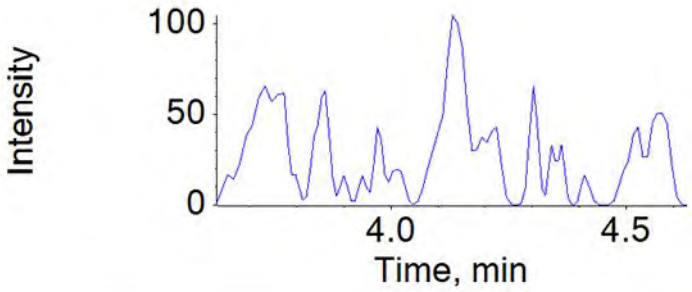

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



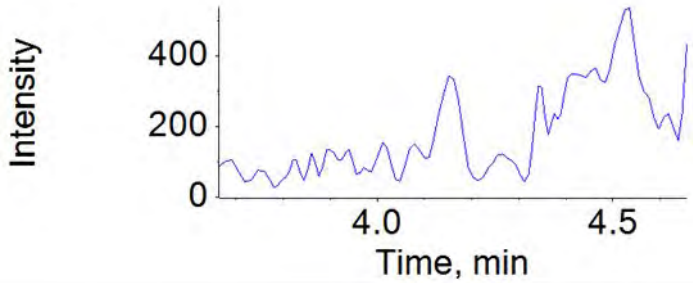

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



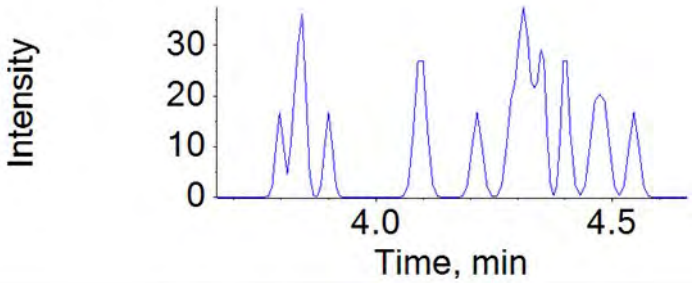

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



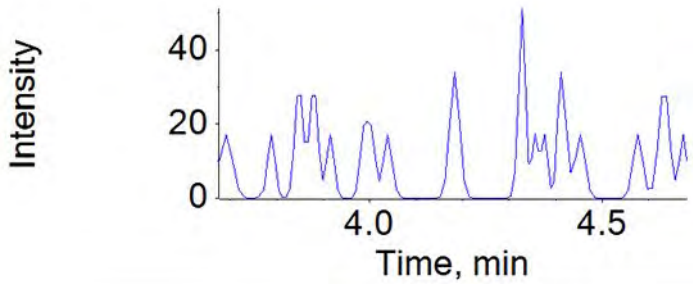

Component: PFHxA
Primary Mass: 313.0 / 269.0



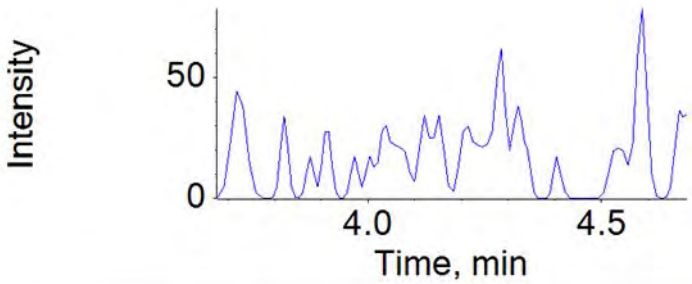

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

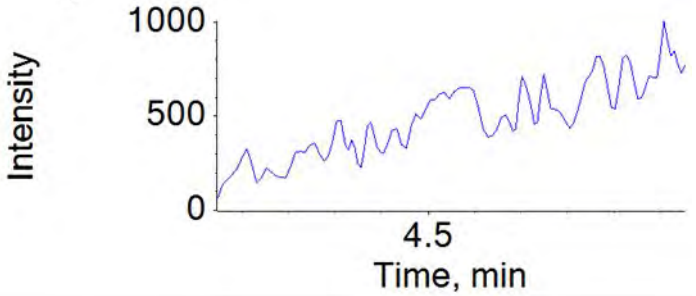



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*By MCD at 6:55 pm, 11/14/18*

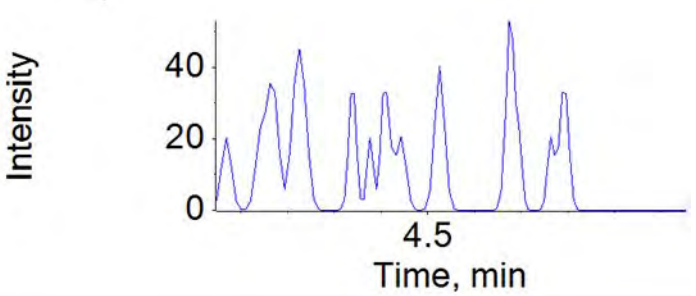


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*By HMK at 11:03 am, 11/15/18*

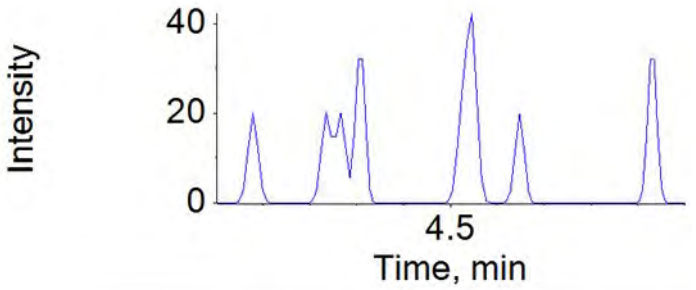
Component: PFHpA
Primary Mass: 363.0 / 319.0



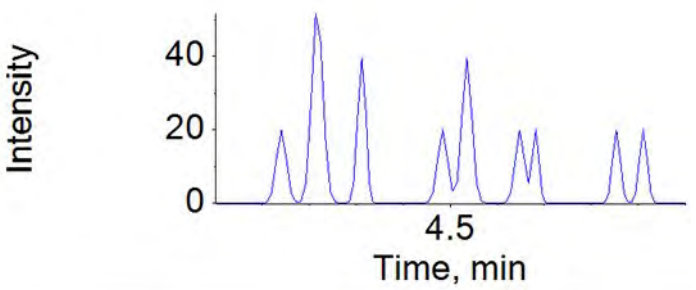

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



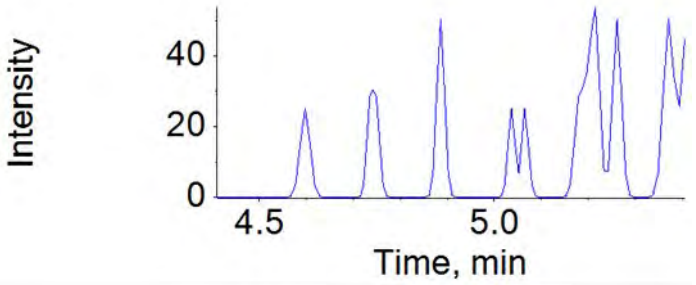

Component: PFHxS
Primary Mass: 399.0 / 80.0



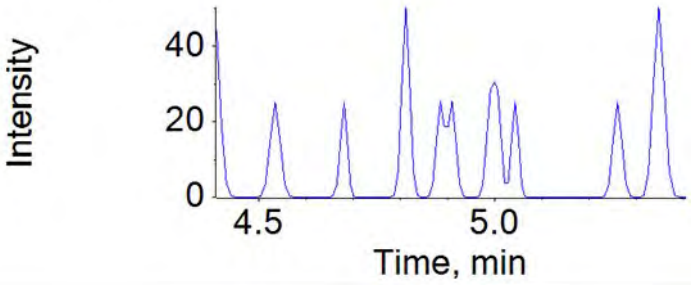

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



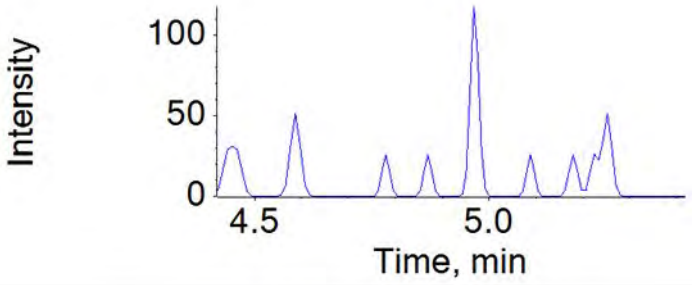

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



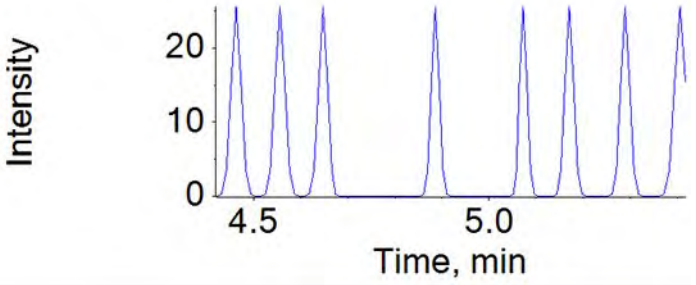

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

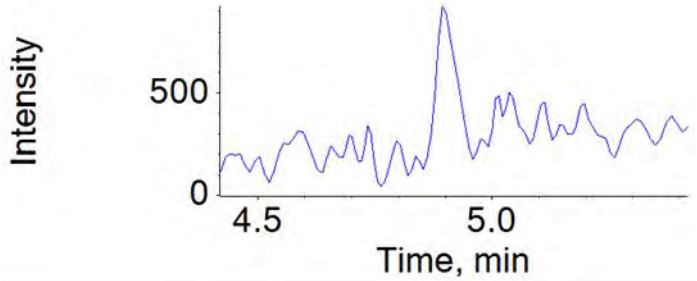



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*By MCD at 6:55 pm, 11/14/18*

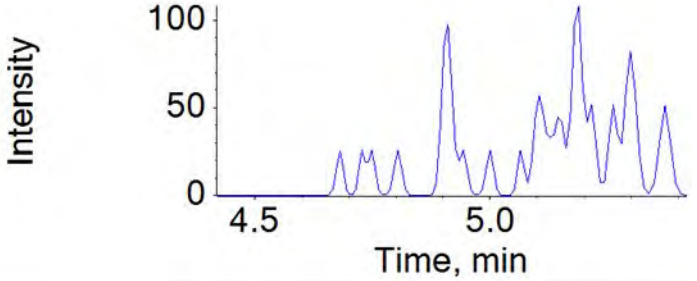


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*By HMK at 11:03 am, 11/15/18*

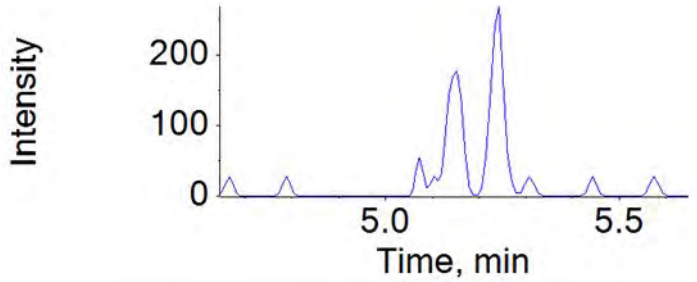
Component: PFOA
Primary Mass: 413.0 / 369.0



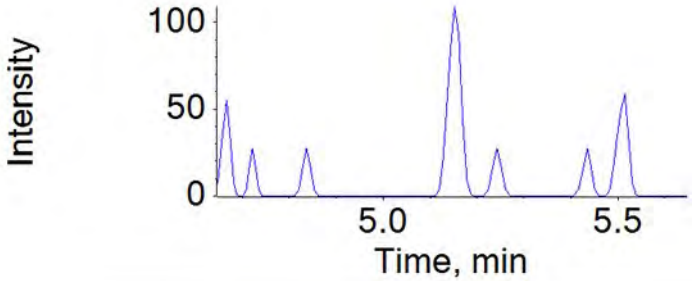

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



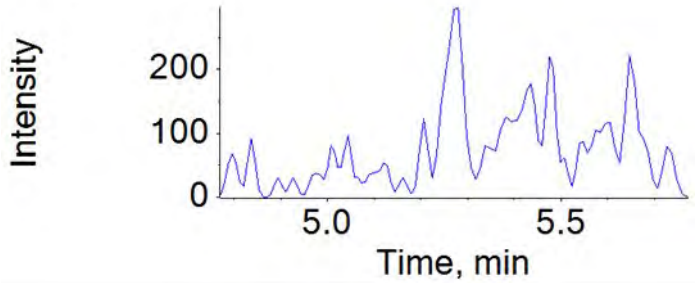

Component: PFOS
Primary Mass: 499.0 / 80.0



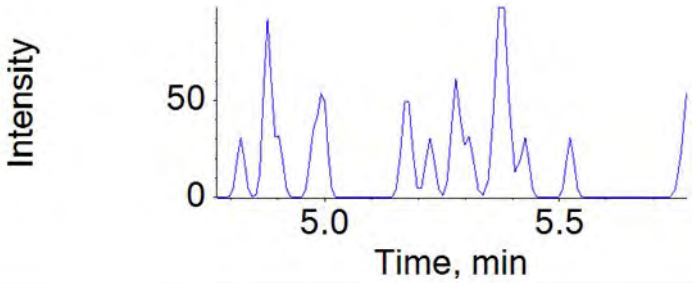

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



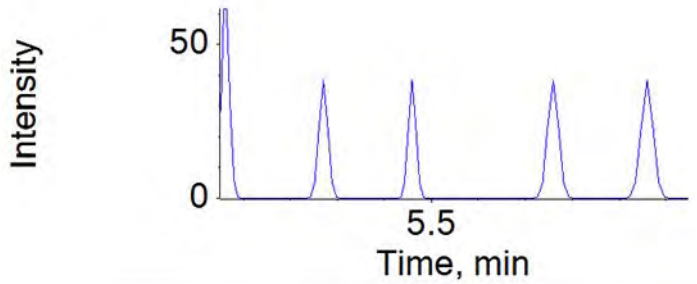

Component: PFNA
Primary Mass: 463.0 / 419.0



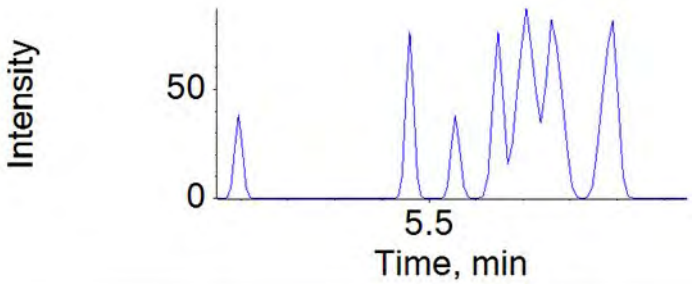

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

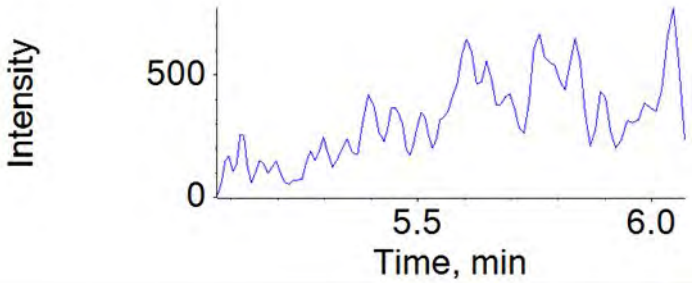



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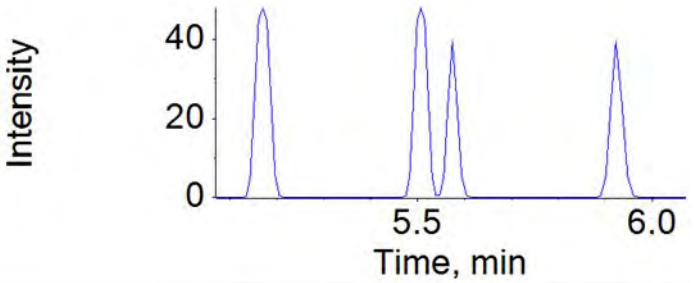


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*By HMK at 11:03 am, 11/15/18*

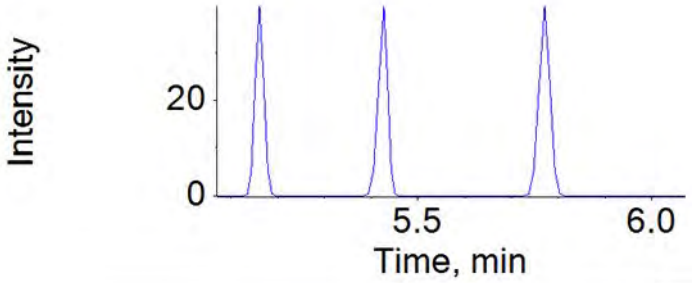
Component: PFDA
Primary Mass: 513.0 / 469.0



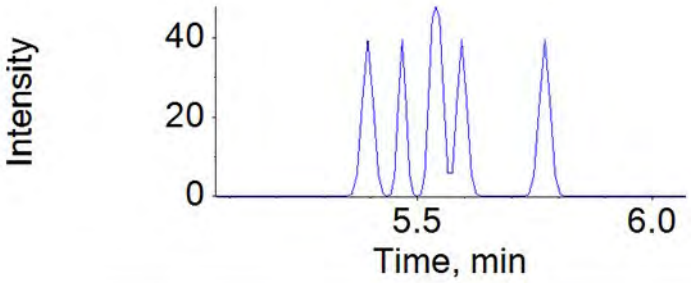

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



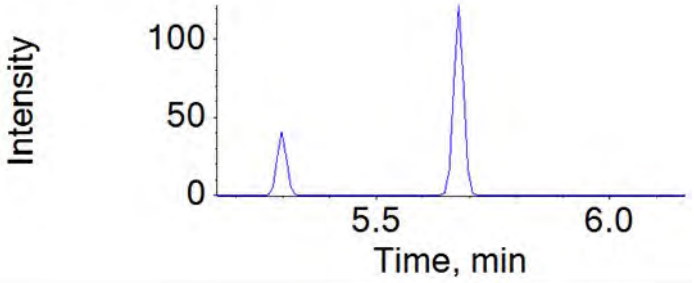

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



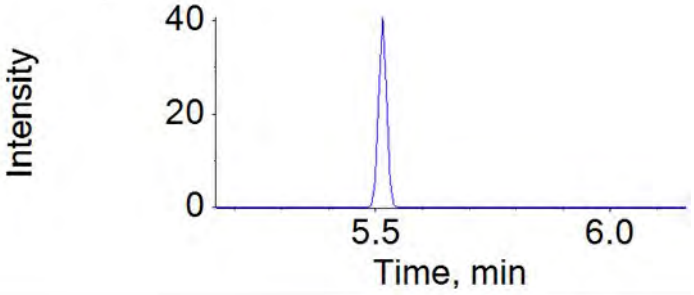

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



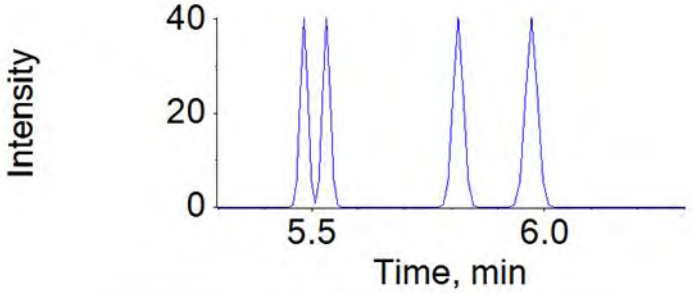

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



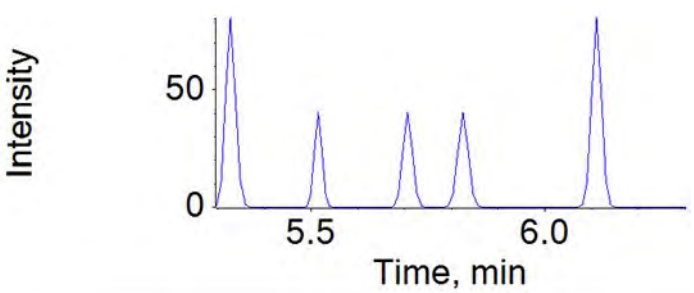

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

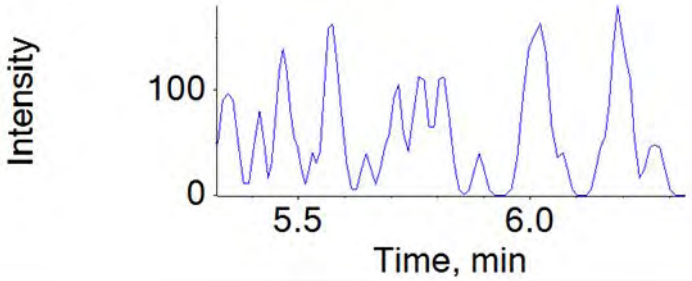



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*By MCD at 6:55 pm, 11/14/18*

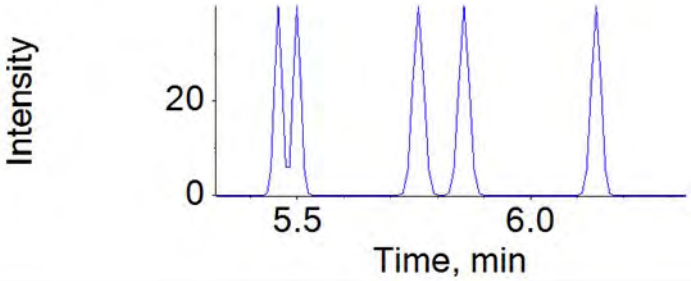


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*By HMK at 11:03 am, 11/15/18*

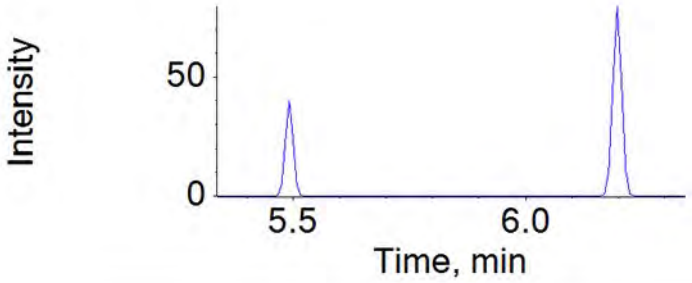
Component: PFUnDA
Primary Mass: 563.0 / 519.0



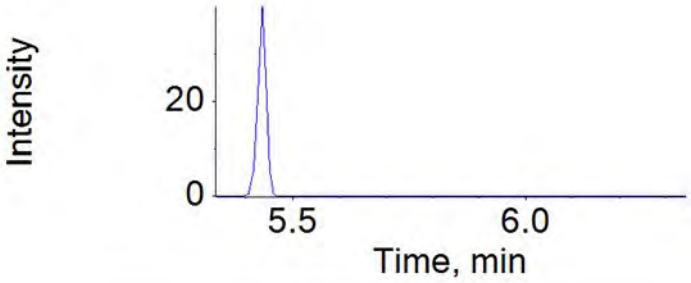

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



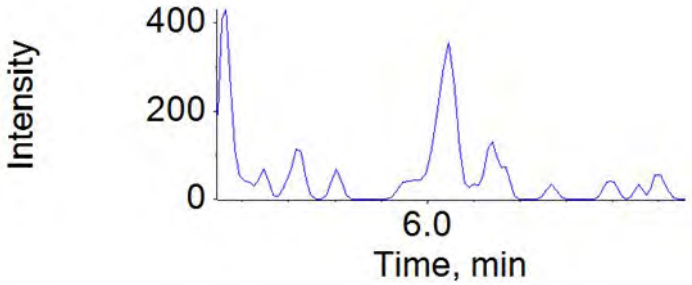

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



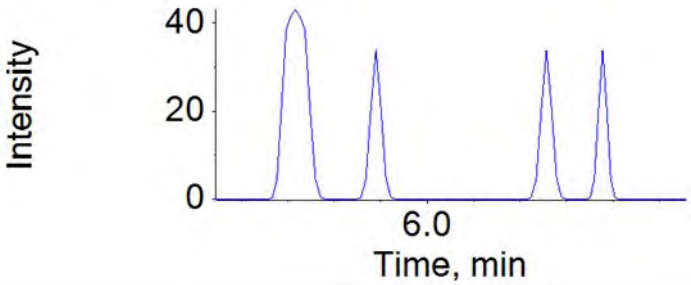

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



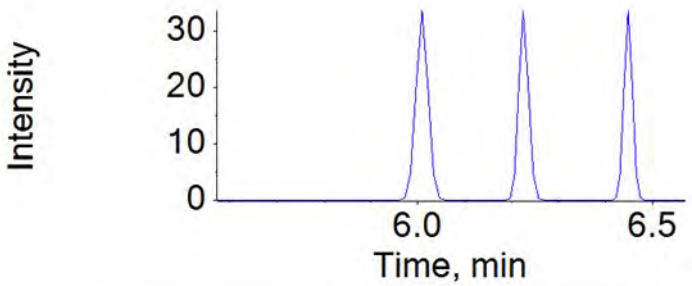

Component: PFDoDA
Primary Mass: 613.0 / 569.0



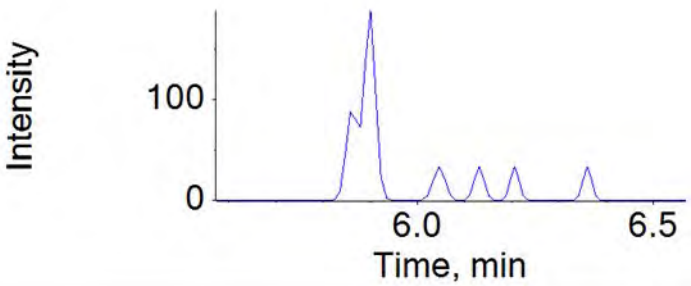

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

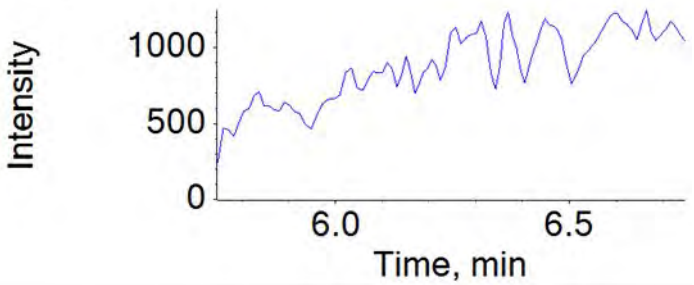



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*By MCD at 6:55 pm, 11/14/18*

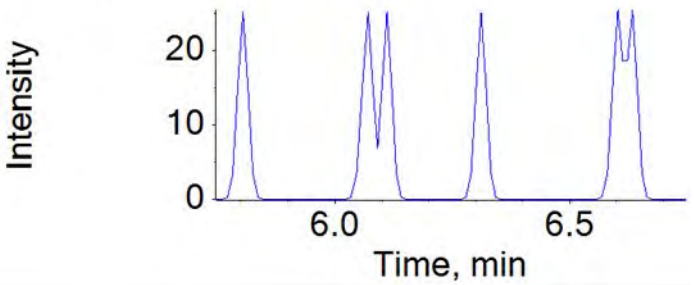


REVIEWED
*By HMK at 11:03 am, 11/15/18*

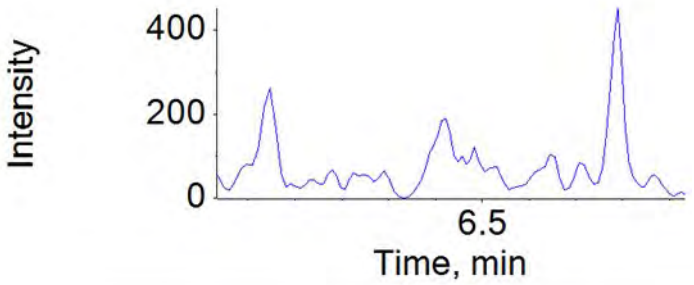
Component: PFTrDA
Primary Mass: 663.0 / 619.0



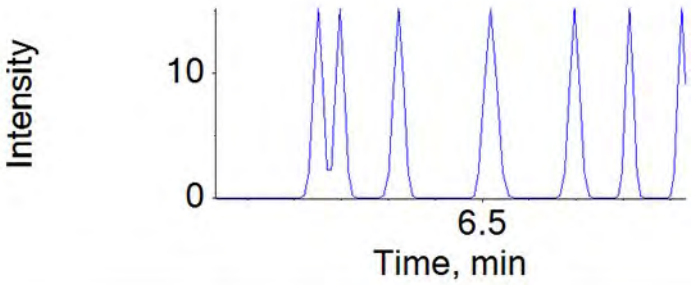

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



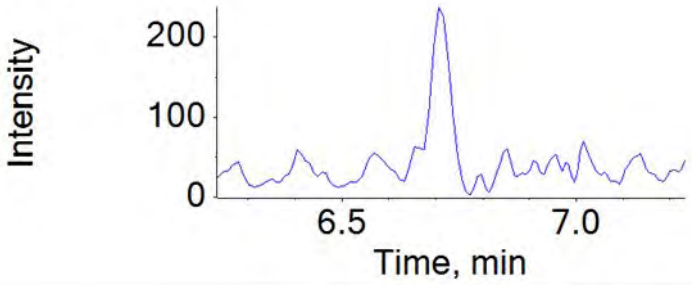

Component: PFTeDA
Primary Mass: 713.0 / 669.0



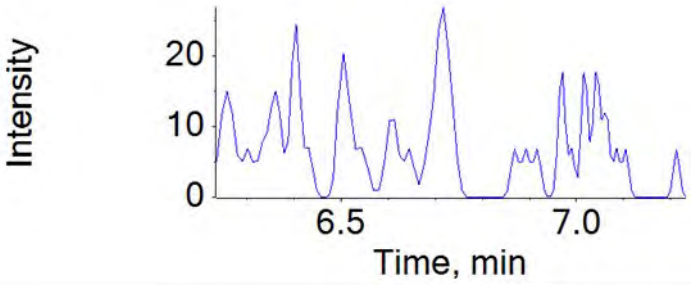

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



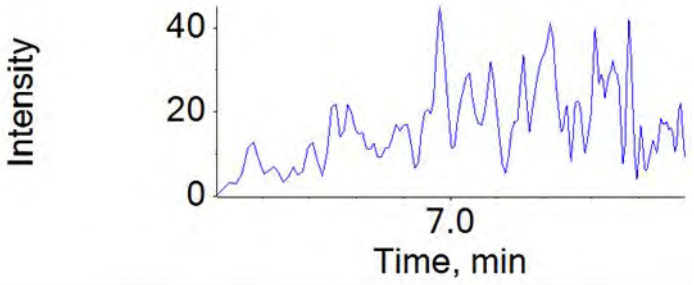

Component: PFHxDA
Primary Mass: 813.0 / 769.0



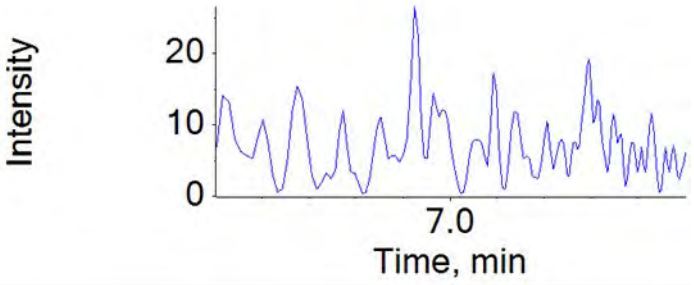

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




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*By MCD at 6:55 pm, 11/14/18*

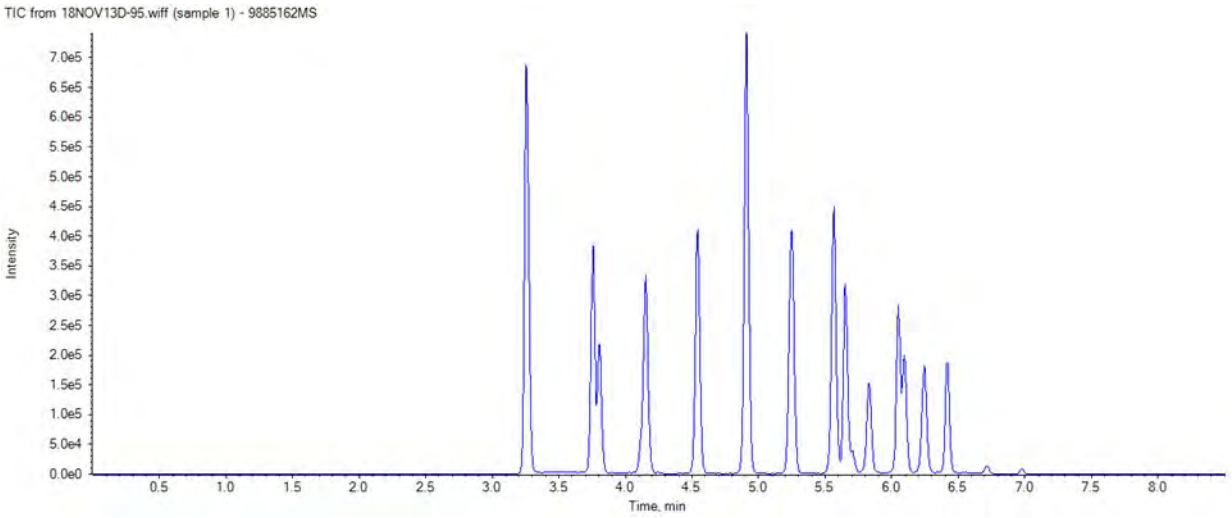


REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Matrix Spike Recovery

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18316029 11/14/2018 6:46:19 PM
**Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | 9885162MS | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-03 MS Grab Soil | 18NOV13D-95.wiff | 2018-11-13T23:51:04 |




Injection Standard Area Reference File**:** 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Reference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.00 | 756881.5 | 661126.9 | 14 | 50 | |
| 13C2-PFOA | 5.00 | 529987.5 | 466902.6 | 14 | 50 | |
| 13C4-PFOS | 4.78 | 275267.5 | 247446.9 | 11 | 50 | |
| 13C2-PFDA | 5.00 | 326195.9 | 295381.6 | 10 | 50 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Matrix Spike Recovery

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:46:19 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | 9885162MS | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-03 MS Grab Soil | 18NOV13D-95.wiff | 2018-11-13T23:51:04 |

| Analyte Name | Analyte Area | Ext Std Area | Area Ratio | Adj Actual Conc | Sample Result | %REC | % REC Limit | %REC OOS |
|---|---|---|---|---|---|---|---|---|
| PFBS | 48957.1 | 390287.3 | 0.125 | 1.136 | 1.126 | 99 | 70-130 | |
| PFHxA | 110121.9 | 611002.2 | 0.180 | 1.283 | 1.420 | 111 | 70-130 | |
| PFHpA | 119301.5 | 494881.9 | 0.241 | 1.283 | 1.508 | 118 | 70-130 | |
| PFHxS | 37137.9 | 296628.4 | 0.125 | 1.213 | 1.145 | 94 | 70-130 | |
| PFOA | 119795.3 | 871800.0 | 0.137 | 1.283 | 1.385 | 108 | 70-130 | |
| PFOS | 34327.2 | 261106.6 | 0.131 | 1.226 | 1.085 | 88 | 70-130 | |
| PFNA | 89982.1 | 439589.9 | 0.205 | 1.283 | 1.393 | 109 | 70-130 | |
| PFDA | 82144.2 | 569191.5 | 0.144 | 1.283 | 1.444 | 113 | 70-130 | |
| NMeFOSAA | 6747.2 | 74426.0 | 0.091 | 1.283 | 0.967 | 75 | 70-130 | |
| PFUnDA | 64161.8 | 227113.1 | 0.283 | 1.283 | 1.393 | 109 | 70-130 | |
| NEtFOSAA | 8342.0 | 52900.9 | 0.158 | 1.283 | 1.560 | 122 | 70-130 | |
| PFDoDA | 66733.1 | 507486.5 | 0.131 | 1.283 | 1.263 | 98 | 70-130 | |
| PFTrDA | 63057.2 | 507486.5 | 0.124 | 1.283 | 1.480 | 115 | 70-130 | |
| PFTeDA | 49742.1 | 365288.8 | 0.136 | 1.283 | 1.440 | 112 | 70-130 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Matrix Spike Recovery

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18316029 11/14/2018 6:46:19 PM
**Acquisition Method:** 18AUG13_3uL.dam

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | 9885162MS | | | **Data File:** | | 18NOV13D-95.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-03 MS Grab Soil | | | **Acquis Date:** | | 2018-11-13T23:51:04 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 89 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 756881.5 | 661126.9 | 14 | 50 | |
| 13C2-PFOA | 5.0 | 529987.5 | 466902.6 | 14 | 50 | |
| 13C4-PFOS | 4.8 | 275267.5 | 247446.9 | 11 | 50 | |
| 13C2-PFDA | 5.0 | 326195.9 | 295381.6 | 10 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C3-PFBS | 390287.3 | 13C3-PFBA | 756881.5 | 0.516 | 8.774 | 6.868 | 78 | 50-150 | |
| E13C5-PFHxA | 611002.2 | 13C2-PFOA | 529987.5 | 1.153 | 9.434 | 7.858 | 83 | 50-150 | |
| E13C3-PFHxS | 296628.4 | 13C2-PFOA | 529987.5 | 0.560 | 8.925 | 7.246 | 81 | 50-150 | |
| E13C4-PFHpA | 494881.9 | 13C2-PFOA | 529987.5 | 0.934 | 9.434 | 7.937 | 84 | 50-150 | |
| E13C8-PFOA | 871800.0 | 13C2-PFOA | 529987.5 | 1.645 | 9.434 | 8.551 | 91 | 50-150 | |
| E13C8-PFOS | 261106.6 | 13C4-PFOS | 275267.5 | 0.949 | 9.019 | 7.930 | 88 | 50-150 | |
| E13C9-PFNA | 439589.9 | 13C4-PFOS | 275267.5 | 1.597 | 9.434 | 8.401 | 89 | 50-150 | |
| E13C6-PFDA | 569191.5 | 13C2-PFDA | 326195.9 | 1.745 | 9.434 | 7.683 | 81 | 50-150 | |
| Ed3-NMeFOSAA | 74426.0 | 13C2-PFDA | 326195.9 | 0.228 | 9.434 | 7.771 | 82 | 50-150 | |
| E13C7-PFUnDA | 227113.1 | 13C2-PFDA | 326195.9 | 0.696 | 9.434 | 7.627 | 81 | 50-150 | |
| Ed5-NEtFOSAA | 52900.9 | 13C2-PFDA | 326195.9 | 0.162 | 9.434 | 6.474 | 69 | 50-150 | |
| E13C2-PFDoDA | 507486.5 | 13C2-PFDA | 326195.9 | 1.556 | 9.434 | 7.621 | 81 | 50-150 | |
| E13C2-PFTeDA | 365288.8 | 13C2-PFDA | 326195.9 | 1.120 | 9.434 | 7.418 | 79 | 50-150 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

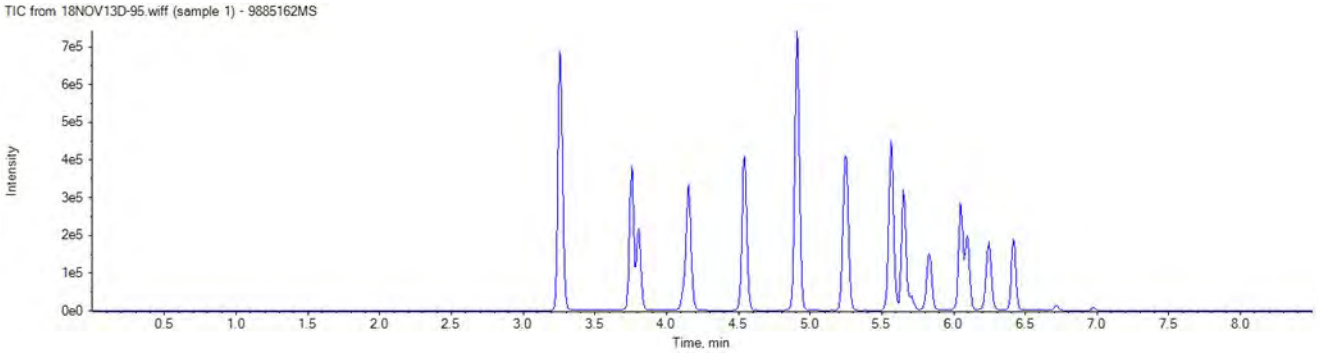
## Analyte Quantitation Peak Table

**Sample Name:** 9885162MS **Instrument Name:** LM27631 **File Name:** 18NOV13D-95.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 | 3.80 | 1.000 | 48957.1 | | A | 13C3-PFBS | 3.81 | 390287.3 | 0.125 | 1.126 |
| PFHxA | 4.15 | 1.000 | 110121.9 | | A | 13C5-PFHxA | 4.15 | 611002.2 | 0.180 | 1.420 |
| PFHpA | 4.54 | 1.000 | 119301.5 | | A | 13C4-PFHpA | 4.54 | 494881.9 | 0.241 | 1.508 |
| PFHxS | 4.54 | 1.000 | 37137.9 | | A | 13C3-PFHxS | 4.54 | 296628.4 | 0.125 | 1.145 |
| PFOA | 4.91 | 1.000 | 119795.3 | | A | 13C8-PFOA | 4.91 | 871800.0 | 0.137 | 1.385 |
| PFOS | 5.24 | 1.000 | 34327.2 | | M | 13C8-PFOS | 5.24 | 261106.6 | 0.131 | 1.085 |
| PFNA | 5.26 | 1.000 | 89982.1 | | A | 13C9-PFNA | 5.26 | 439589.9 | 0.205 | 1.393 |
| PFDA | 5.56 | 1.000 | 82144.2 | | A | 13C6-PFDA | 5.56 | 569191.5 | 0.144 | 1.444 |
| NMeFOSAA | 5.71 | 1.000 | 6747.2 | | A | d3-NMeFOSAA | 5.71 | 74426.0 | 0.091 | 0.967 |
| PFUnDA | 5.83 | 1.000 | 64161.8 | | A | 13C7-PFUnDA | 5.83 | 227113.1 | 0.283 | 1.393 |
| NEtFOSAA | 5.84 | 1.000 | 8342.0 | | A | d5-NEtFOSAA | 5.84 | 52900.9 | 0.158 | 1.560 |
| PFDoDA | 6.05 | 1.000 | 66733.1 | | A | 13C2-PFDoDA | 6.05 | 507486.5 | 0.131 | 1.263 |
| PFTrDA | 6.24 | 1.030 | 63057.2 | | A | 13C2-PFDoDA | 6.05 | 507486.5 | 0.124 | 1.480 |
| PFTeDA | 6.42 | 1.000 | 49742.1 | | A | 13C2-PFTeDA | 6.42 | 365288.8 | 0.136 | 1.440 |

## Total Ion Chromatogram



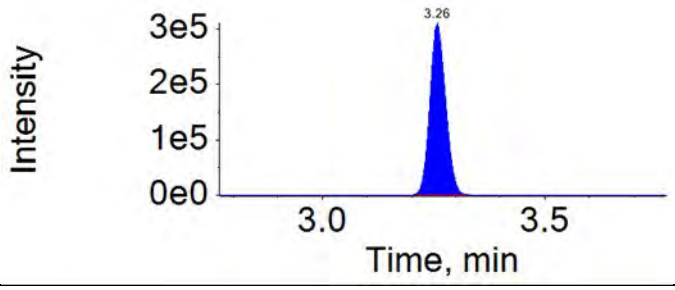

APPROVED
*By MCD at 6:55 pm, 11/14/18*



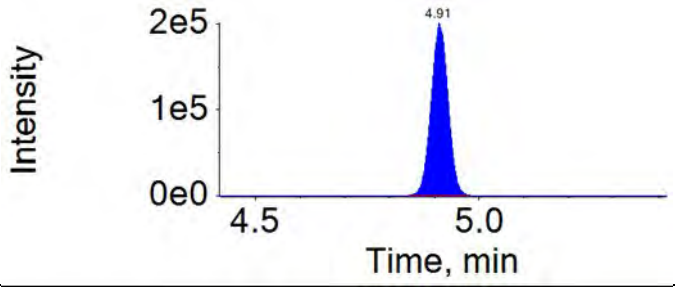
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

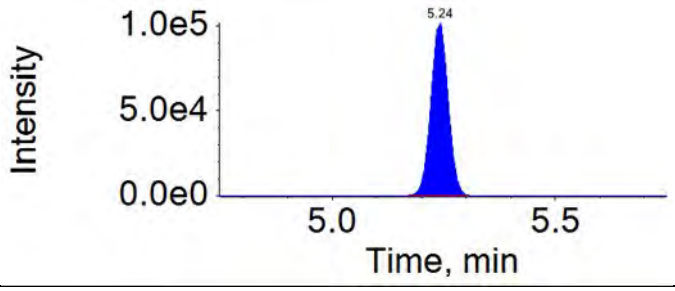
Injection Standard: 13C3-PFBA
216.0 / 172.0



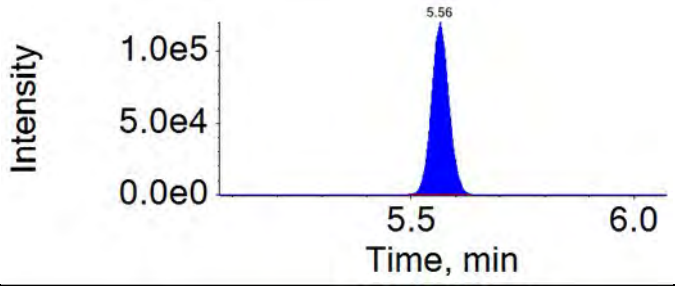

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

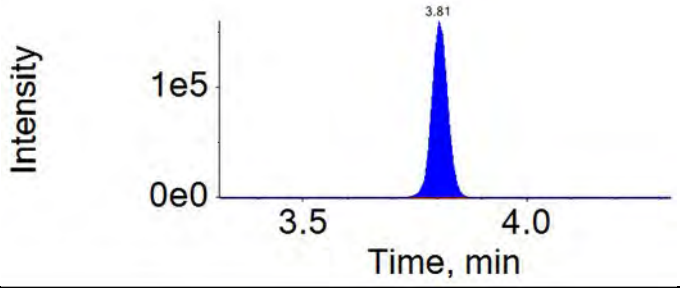
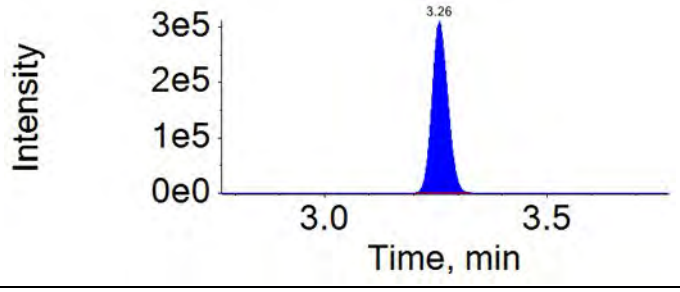



APPROVED
*By MCD at 6:55 pm, 11/14/18*



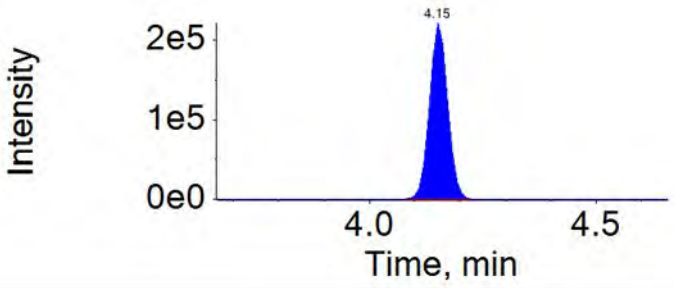
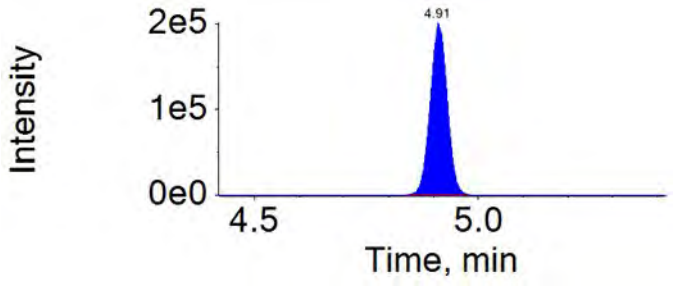
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |
|  |  |

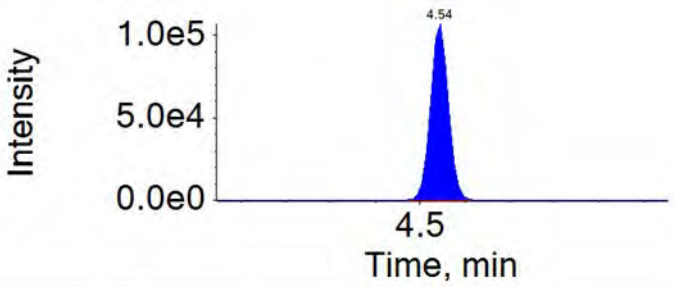
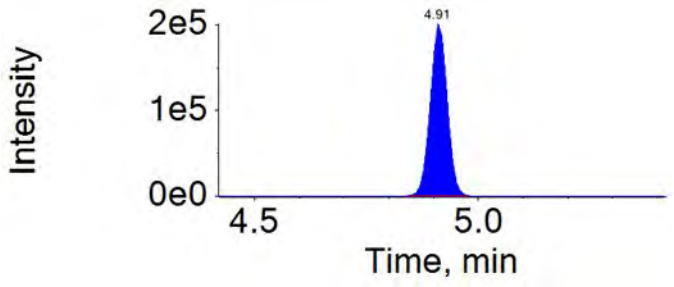




| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |
|  |  |

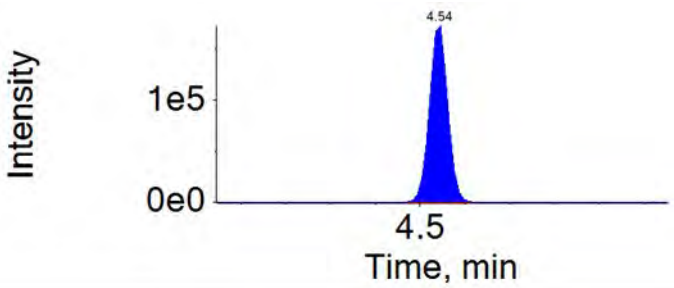
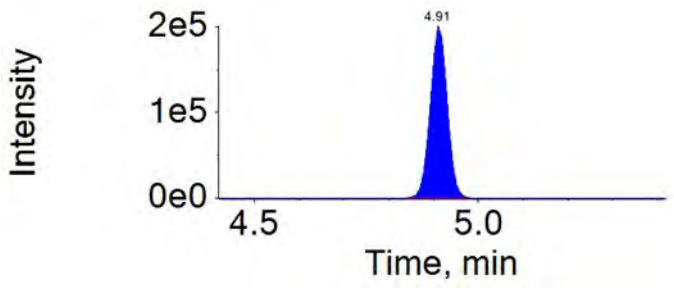




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |





| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |
|  |  |



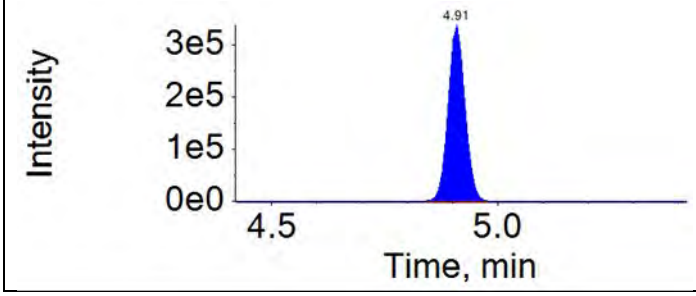
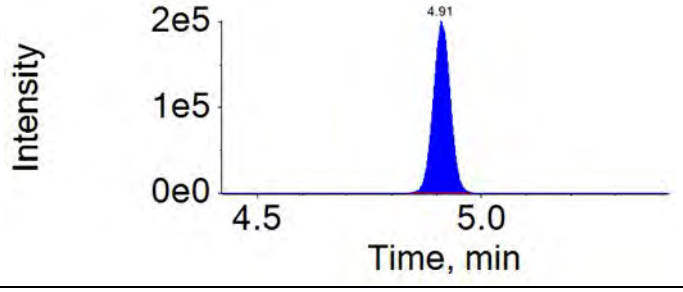


APPROVED
*By MCD at 6:55 pm, 11/14/18*



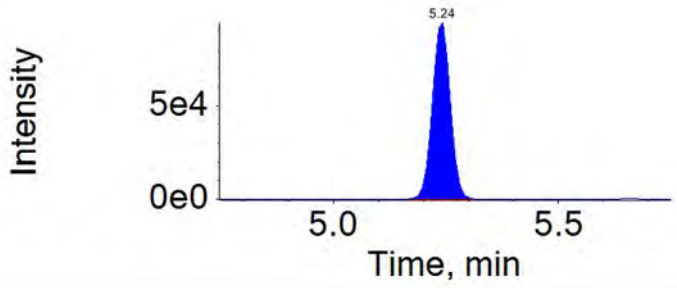
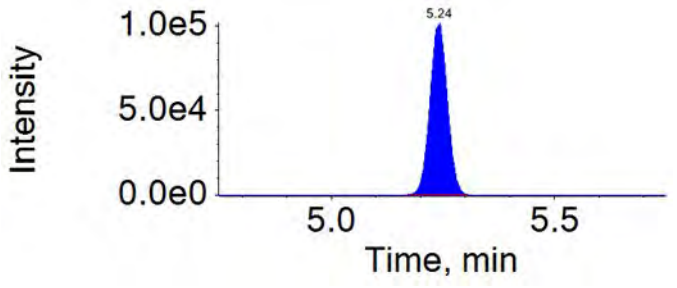
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

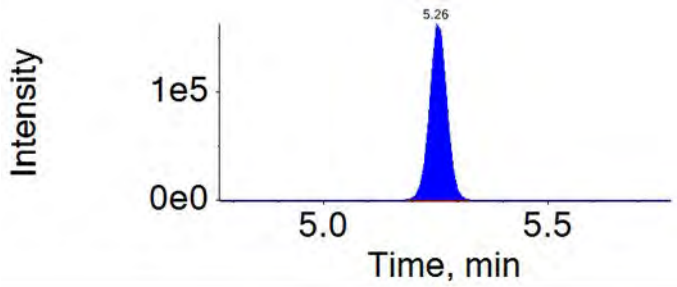
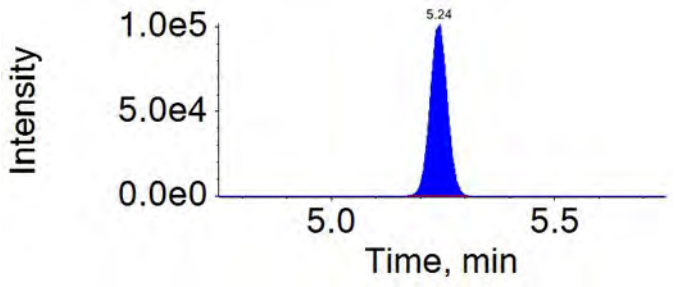




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

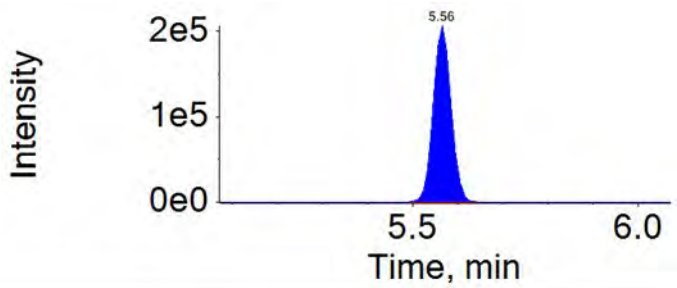
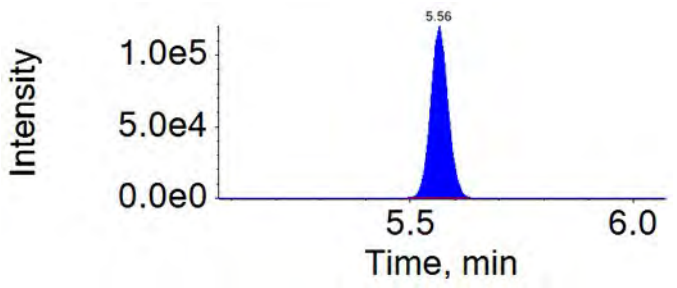




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |



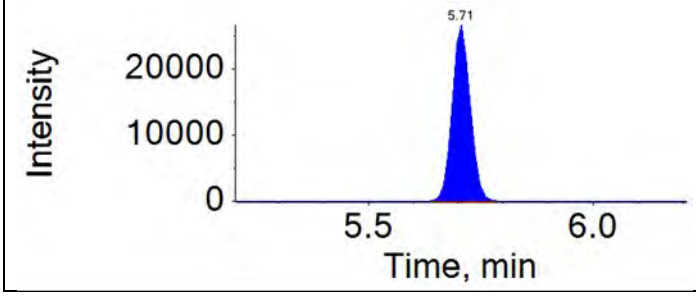
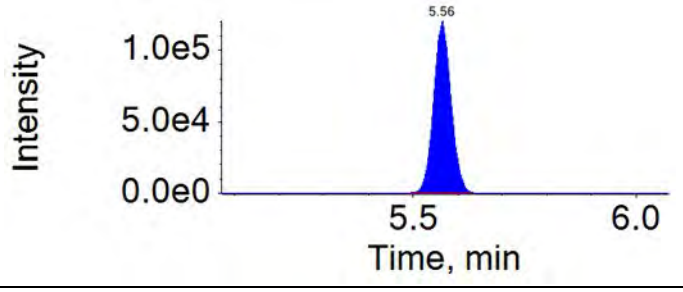


APPROVED
*By MCD at 6:55 pm, 11/14/18*



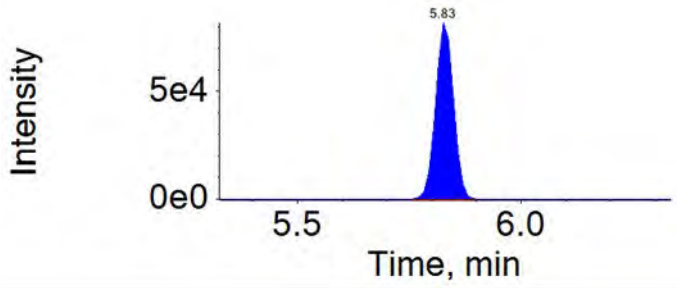
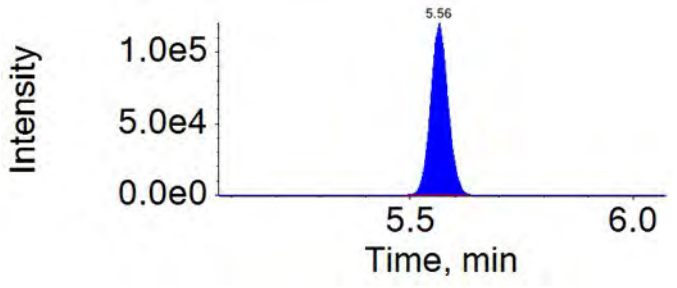
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |

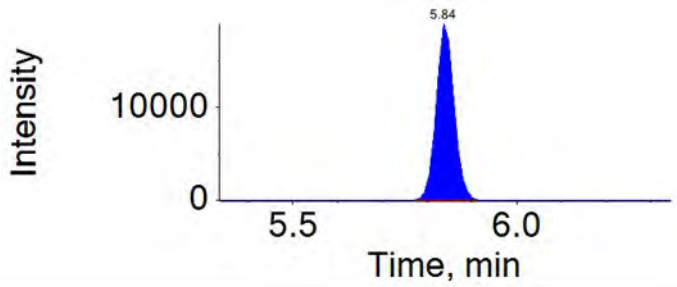
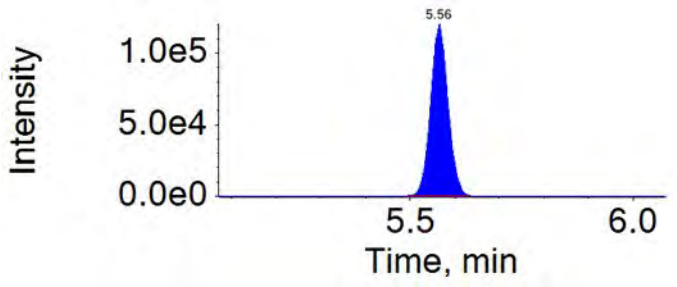




| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

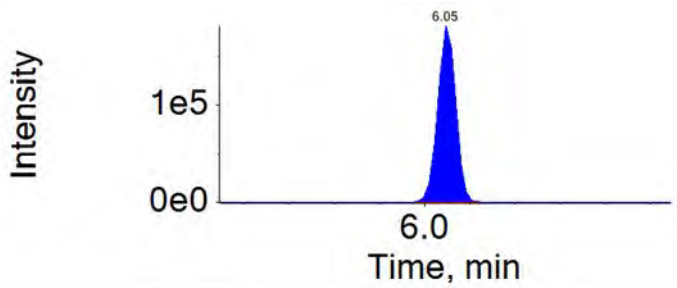
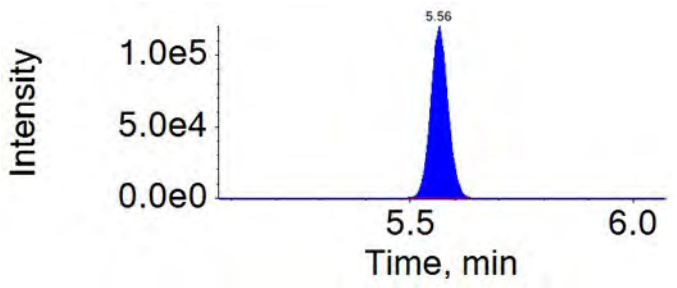




| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |



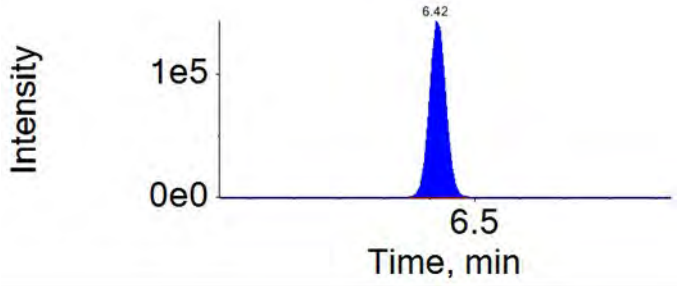
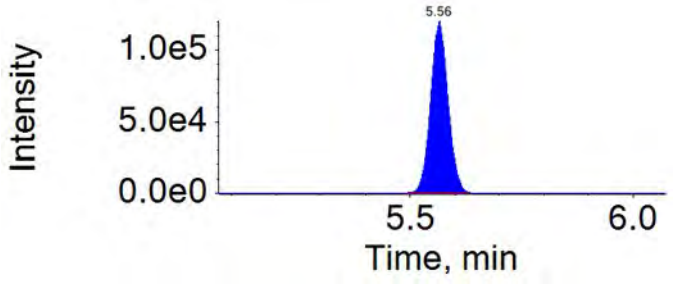


APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |
|  |  |



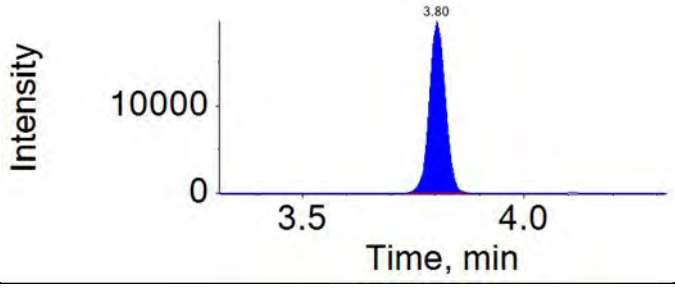
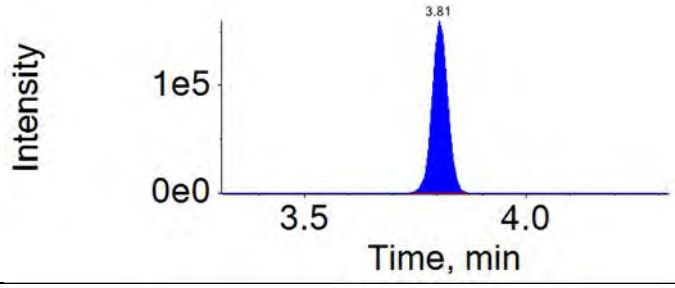


APPROVED
*By MCD at 6:55 pm, 11/14/18*



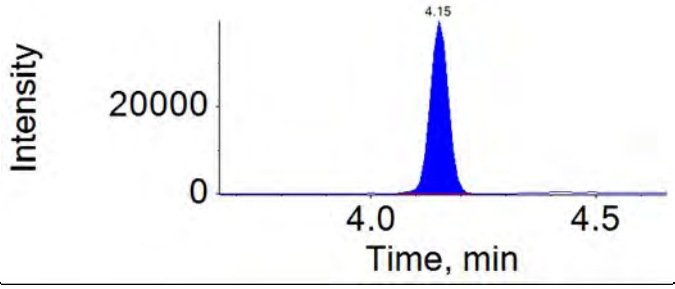
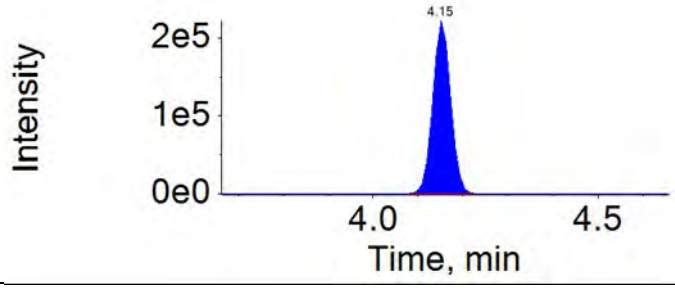
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |
|  |  |

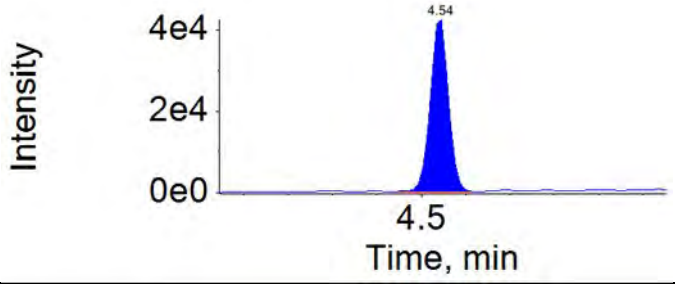
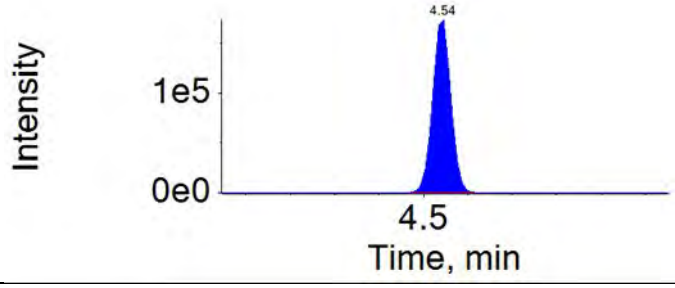




| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |
|  |  |

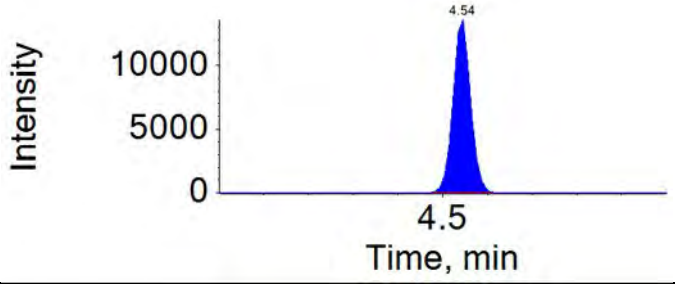
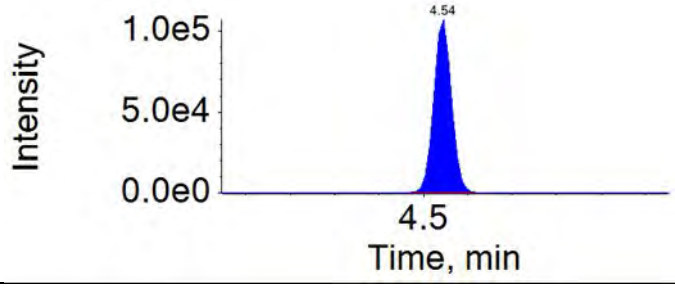




| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |
|  |  |





| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |
|  |  |



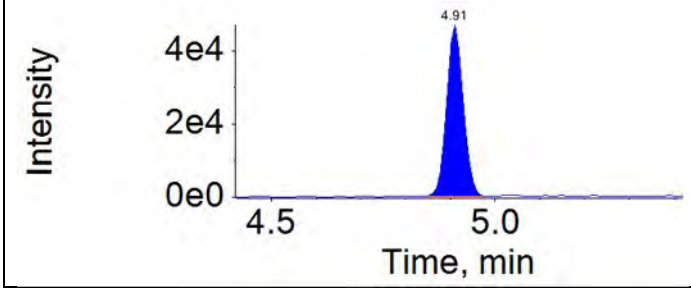
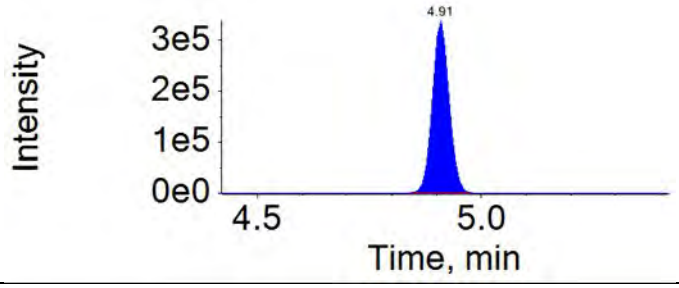


APPROVED
*By MCD at 6:55 pm, 11/14/18*



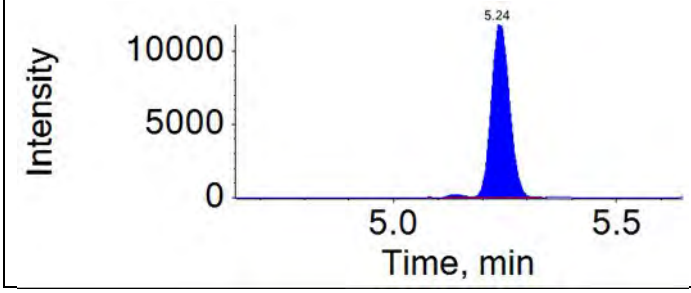
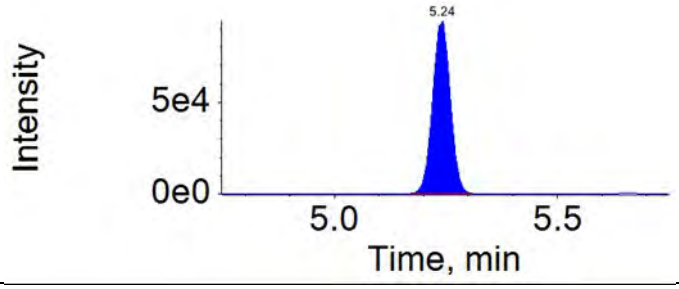
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |
|  |  |

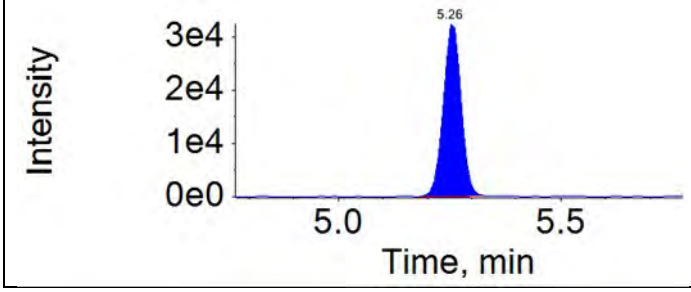
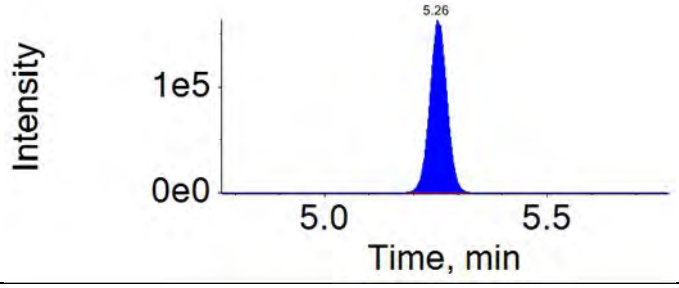




| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |
|  |  |

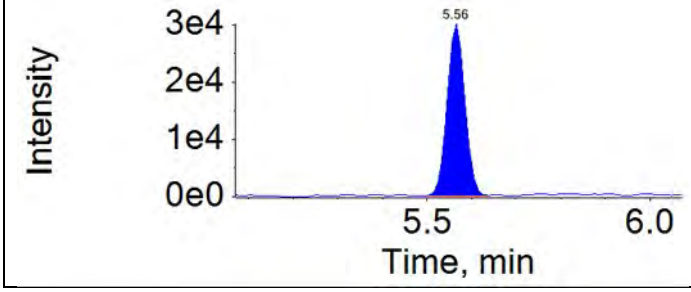
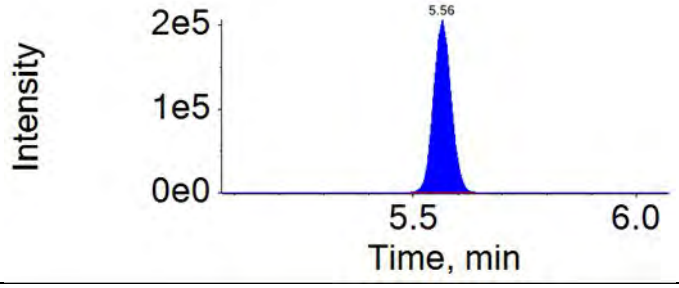




| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |
|  |  |





| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |
|  |  |



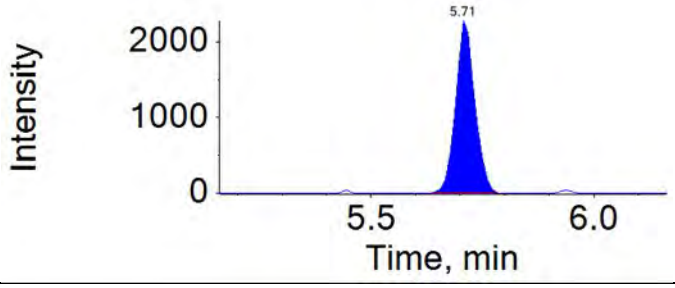
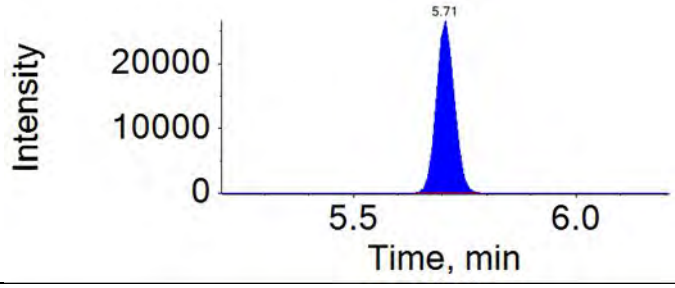


APPROVED
*By MCD at 6:55 pm, 11/14/18*



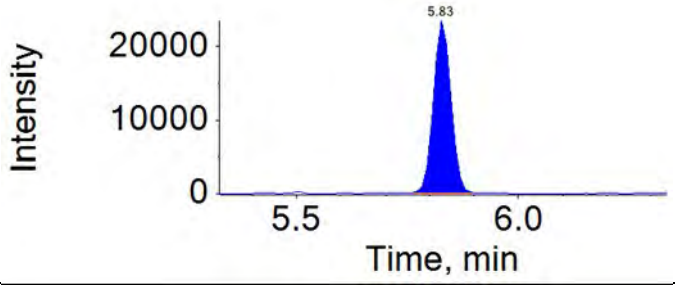
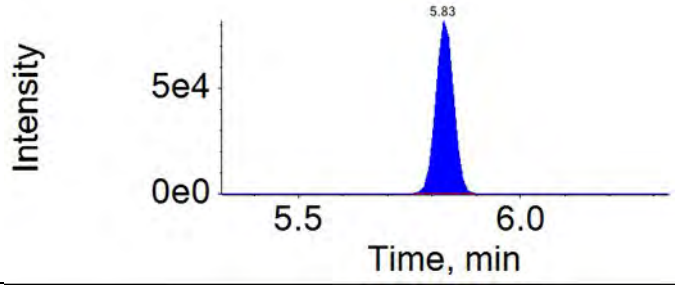
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |
|  |  |

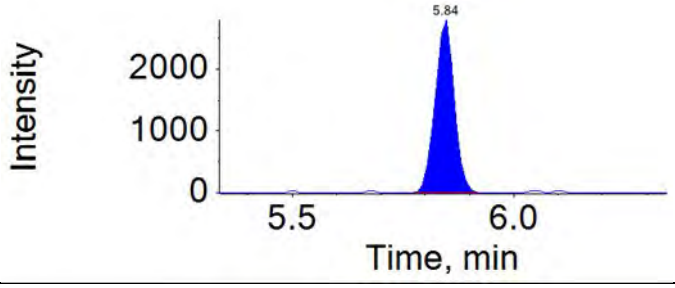
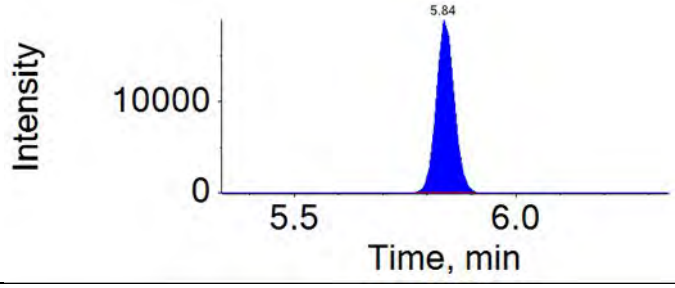




| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |
|  |  |

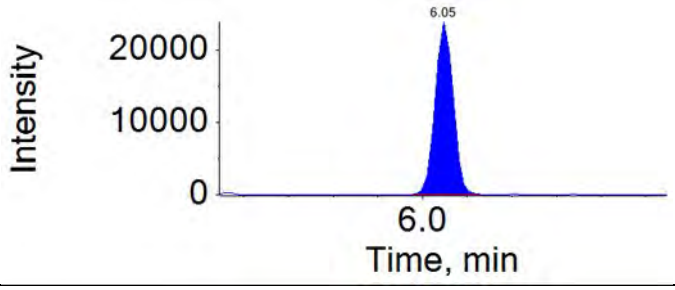
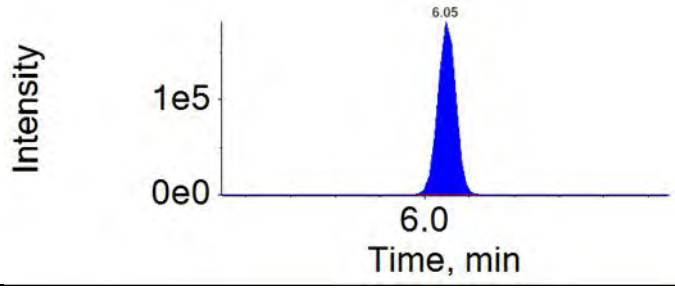




| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |
|  |  |





| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |
|  |  |



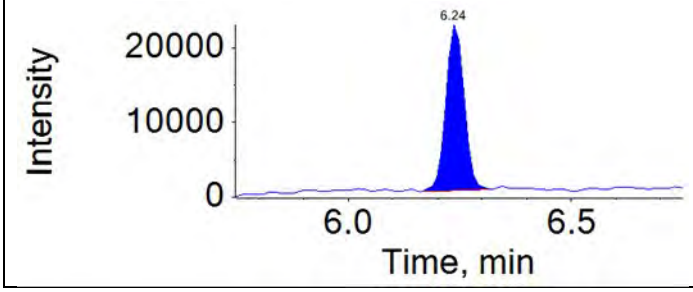
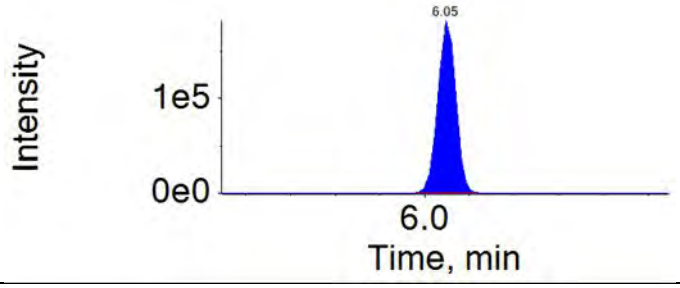


APPROVED
*By MCD at 6:55 pm, 11/14/18*



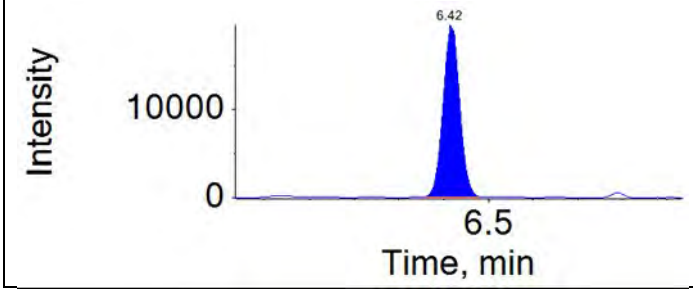
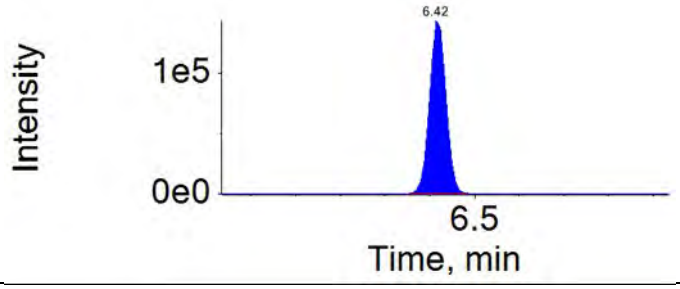
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |
|  |  |





| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |





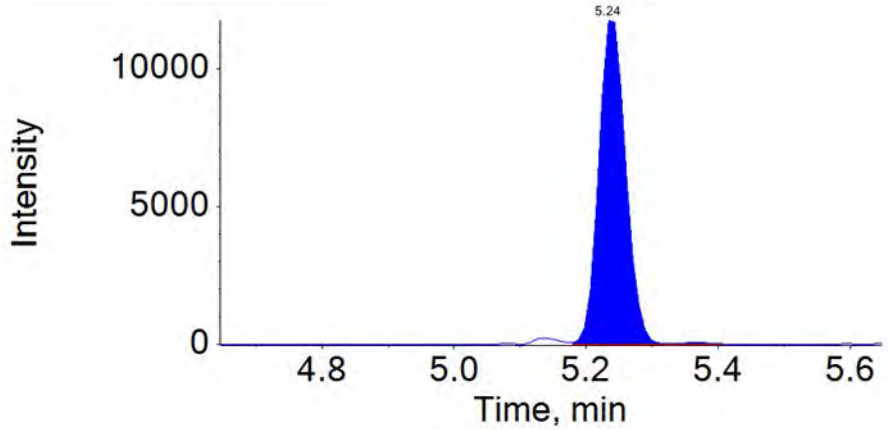
APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

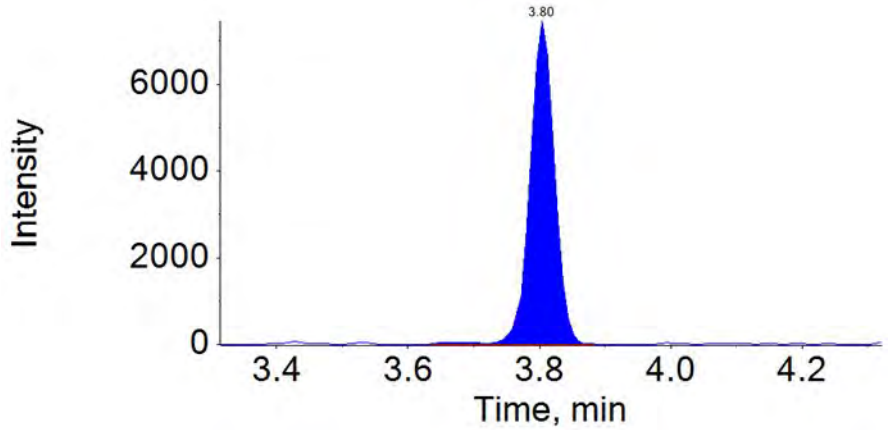
**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFOS
**RT (min.):**
5.24
**Peak Area:**
33878.4
**Mass Range:**
499.0 / 80.0
**File Name:**
18NOV13D-95.wiff
**Sample Name:**
9885162MS



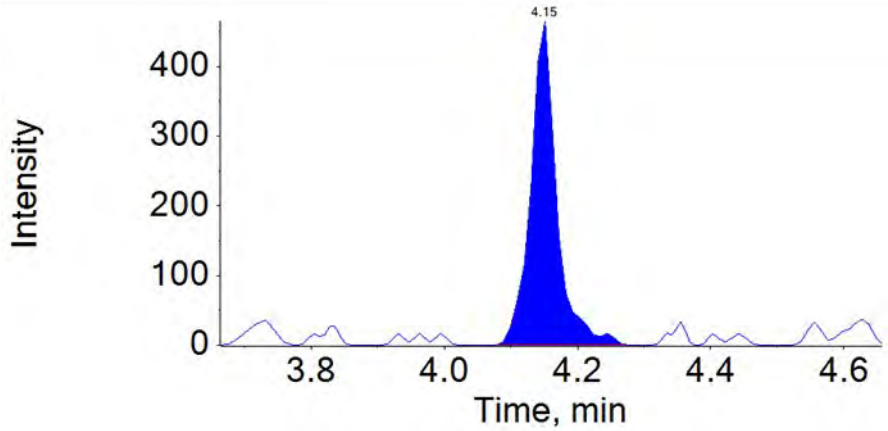

**Integration Comment:** incorrect integration

**Component Name:**
PFBS_2
**RT (min.):**
3.80
**Peak Area:**
19468.1
**Mass Range:**
299.0 / 99.0
**File Name:**
18NOV13D-95.wiff
**Sample Name:**
9885162MS




**Integration Comment:** incorrect integration

**Component Name:**
PFHxA_2
**RT (min.):**
4.15
**Peak Area:**
1267.7
**Mass Range:**
313.0 / 119.0
**File Name:**
18NOV13D-95.wiff
**Sample Name:**
9885162MS




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:55 pm, 11/14/18*

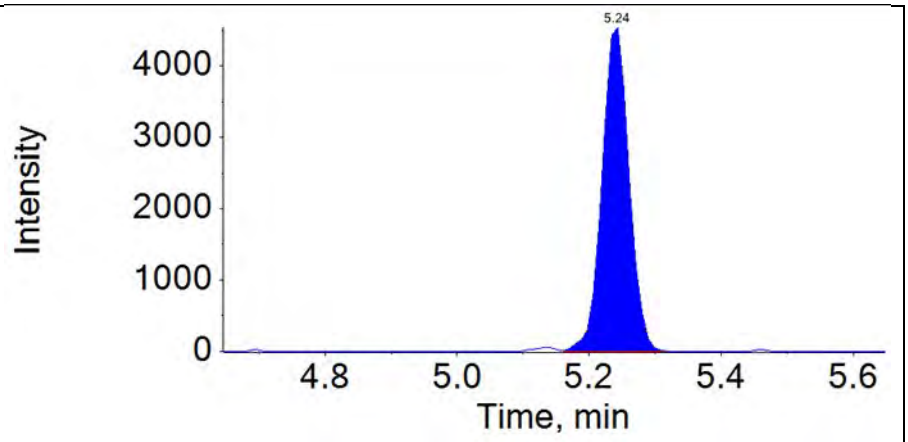


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFOS_2
**RT (min.):**
5.24
**Peak Area:**
12938.7
**Mass Range:**
499.0 / 99.0
**File Name:**
18NOV13D-95.wiff
**Sample Name:**
9885162MS




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Ion Ratio Report

**Sample Name:** 9885162MS **Instrument Name:** LM27631 **File Name:** 18NOV13D-95.wiff

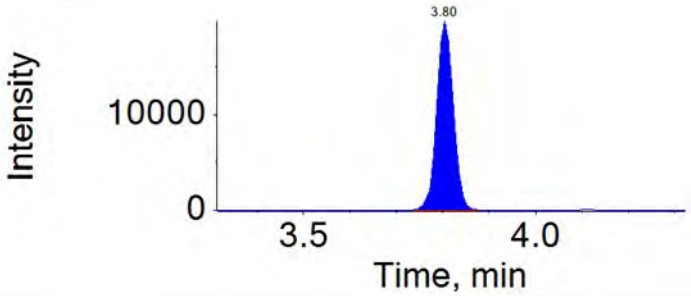
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.80 | 1.00 | 48957.1 | A | N/A | 0.3931 | | | |
| PFBS_2 | 3.80 | 1.00 | 19243.7 | M | N/A | 0.3931 | 9 | 50 | |
| PFHxA | 4.15 | 1.00 | 110121.9 | A | N/A | 0.0113 | | | |
| PFHxA_2 | 4.15 | 1.00 | 1246.7 | M | N/A | 0.0113 | -3 | 50 | |
| PFHpA | 4.54 | 1.00 | 119301.5 | A | N/A | 0.0581 | | | |
| PFHpA_2 | 4.54 | 1.00 | 6936.7 | A | N/A | 0.0581 | 3 | 50 | |
| PFHxS | 4.54 | 1.00 | 37137.9 | A | N/A | 0.3878 | | | |
| PFHxS_2 | 4.54 | 1.00 | 14400.8 | A | N/A | 0.3878 | 13 | 50 | |
| PFOA | 4.91 | 1.00 | 119795.3 | A | N/A | 0.0509 | | | |
| PFOA_2 | 4.91 | 1.00 | 6100.7 | A | N/A | 0.0509 | -9 | 50 | |
| PFOS | 5.24 | 1.00 | 34327.2 | M | N/A | 0.3809 | | | |
| PFOS_2 | 5.24 | 1.00 | 13073.6 | M | N/A | 0.3809 | 28 | 50 | |
| PFNA | 5.26 | 1.00 | 89982.1 | A | N/A | 0.0186 | | | |
| PFNA_2 | 5.25 | 1.00 | 1675.7 | A | N/A | 0.0186 | -19 | 50 | |
| PFDA | 5.56 | 1.00 | 82144.2 | A | N/A | 0.0059 | | | |
| PFDA_2 | 5.57 | 1.00 | 485.0 | A | N/A | 0.0059 | -27 | 50 | |
| NMeFOSAA | 5.71 | 1.00 | 6747.2 | A | N/A | 0.2822 | | | |
| NMeFOSAA_2 | 5.71 | 1.00 | 1903.8 | A | N/A | 0.2822 | 10 | 50 | |
| PFUnDA | 5.83 | 1.00 | 64161.8 | A | N/A | 0.0030 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 194.9 | A | N/A | 0.0030 | -48 | 50 | |
| NEtFOSAA | 5.84 | 1.00 | 8342.0 | A | N/A | 0.6202 | | | |
| NEtFOSAA_2 | 5.85 | 1.00 | 5173.7 | A | N/A | 0.6202 | -14 | 50 | |
| PFDoDA | 6.05 | 1.00 | 66733.1 | A | N/A | 0.0102 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 677.9 | A | N/A | 0.0102 | -35 | 50 | |
| PFTrDA | 6.24 | 1.03 | 63057.2 | A | N/A | 0.0141 | | | |
| PFTrDA_2 | 6.24 | 1.03 | 886.2 | A | N/A | 0.0141 | 64 | 50 | OOS |
| PFTeDA | 6.42 | 1.00 | 49742.1 | A | N/A | 0.0073 | | | |
| PFTeDA_2 | 6.42 | 1.00 | 362.1 | A | N/A | 0.0073 | 17 | 50 | |

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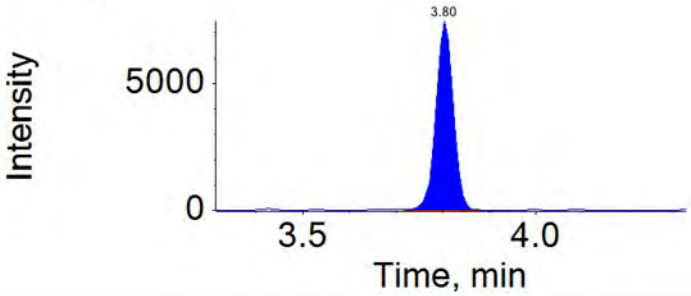


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*By HMK at 11:03 am, 11/15/18*

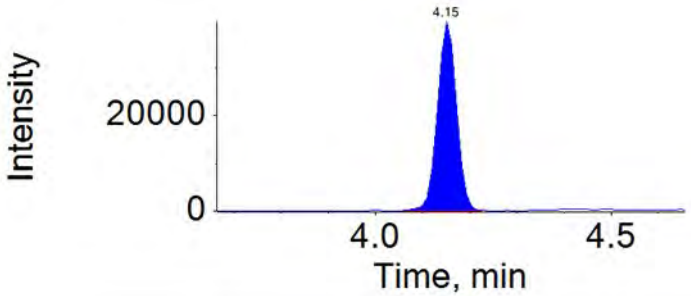
Component: PFBS
Primary Mass: 299.0 / 80.0



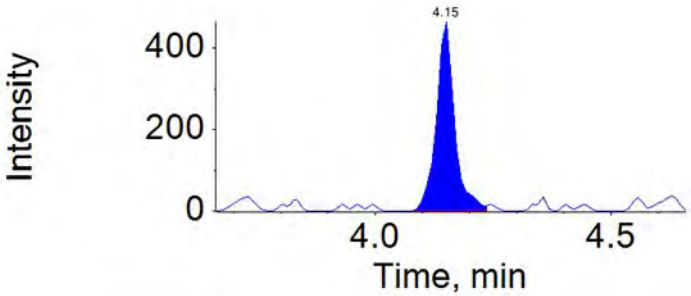

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



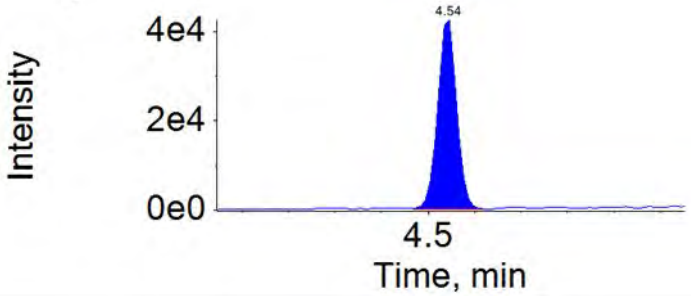

Component: PFHxA
Primary Mass: 313.0 / 269.0



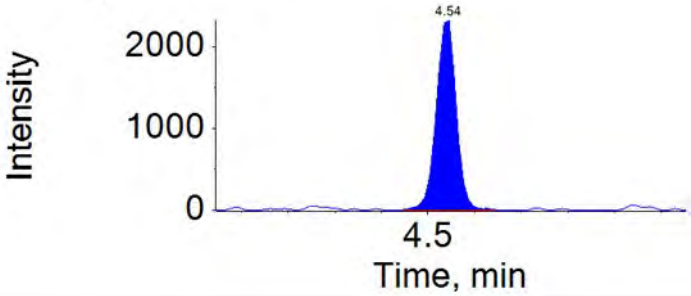

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



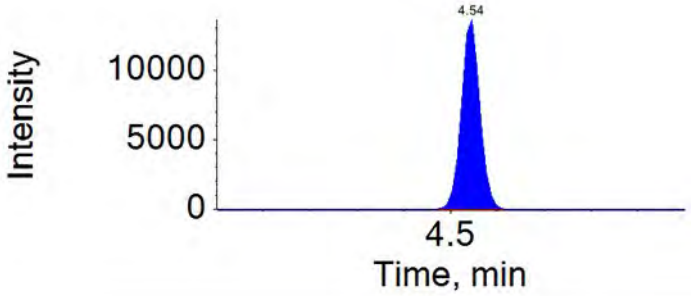

Component: PFHpA
Primary Mass: 363.0 / 319.0



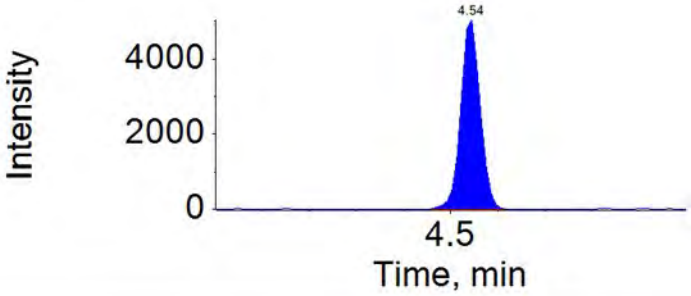

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0




Component: PFHxS
Primary Mass: 399.0 / 80.0




Component: PFHxS_2
Secondary Mass: 399.0 / 99.0

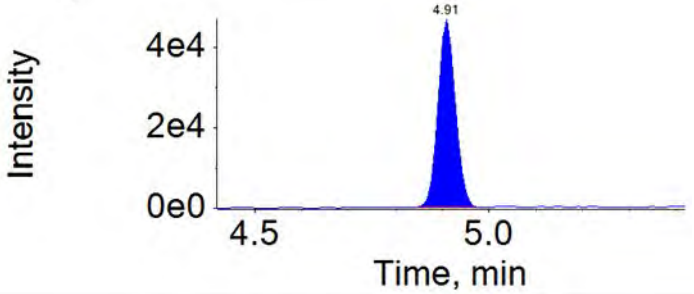



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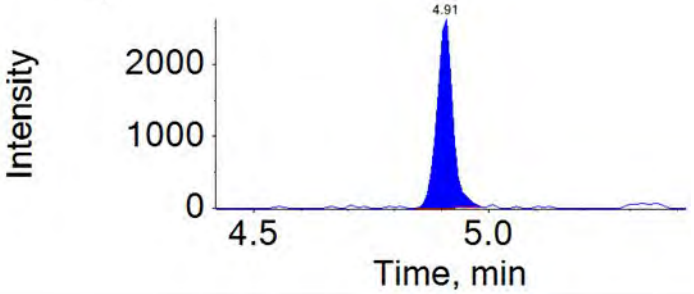


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*By HMK at 11:03 am, 11/15/18*

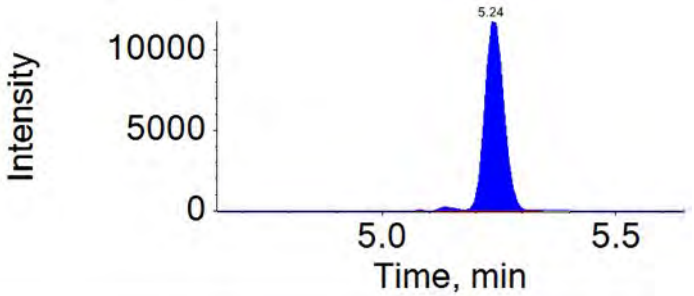
Component: PFOA
Primary Mass: 413.0 / 369.0



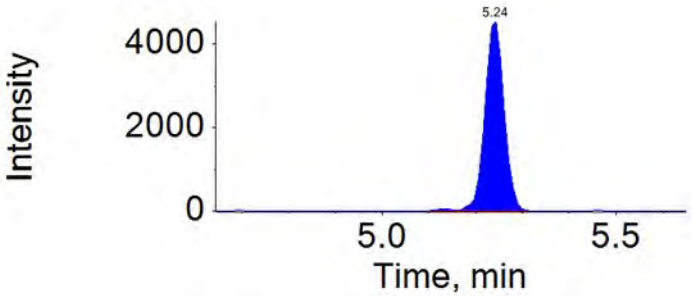

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



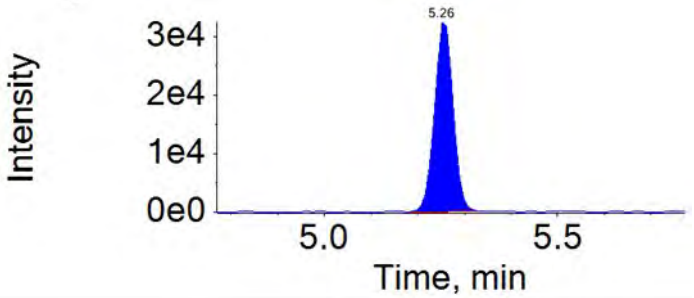

Component: PFOS
Primary Mass: 499.0 / 80.0



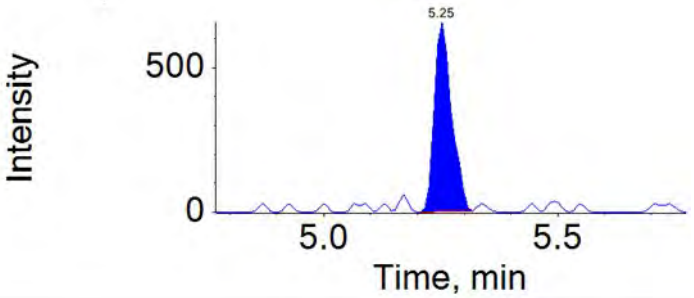

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



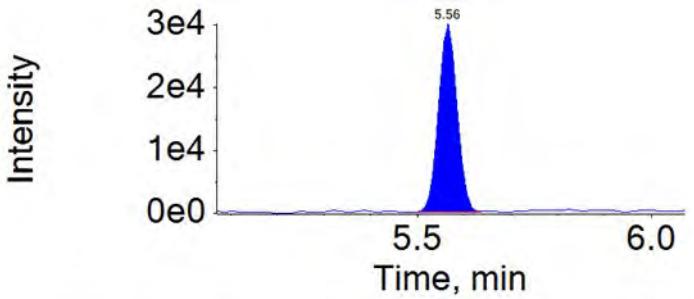

Component: PFNA
Primary Mass: 463.0 / 419.0



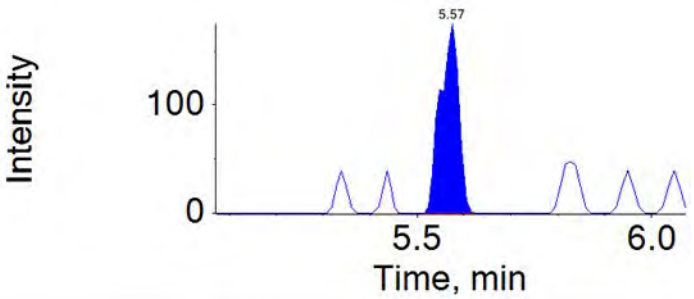

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFDA
Primary Mass: 513.0 / 469.0




Component: PFDA_2
Secondary Mass: 513.0 / 169.0

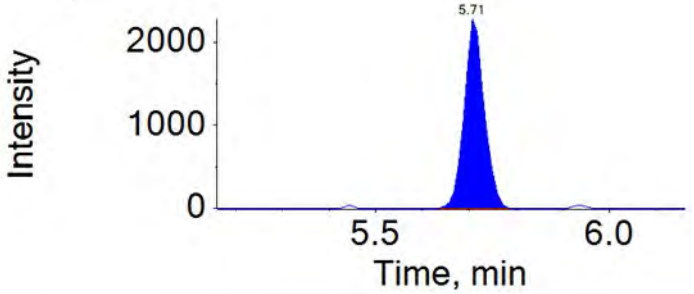



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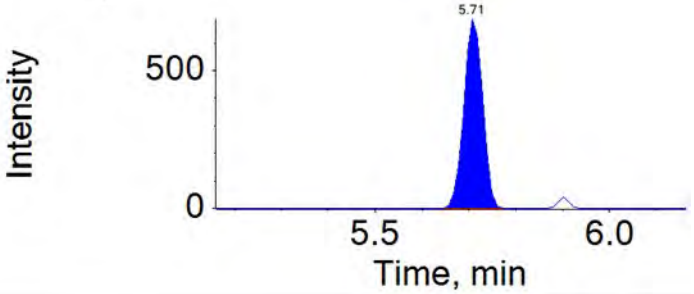


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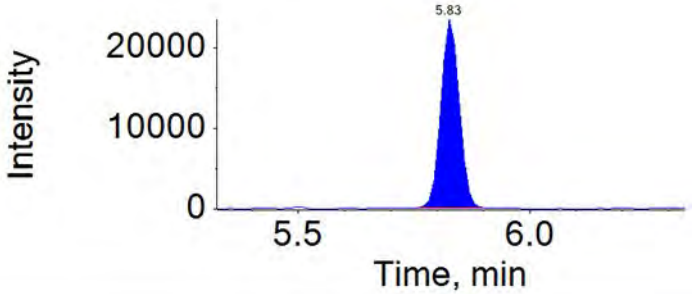
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



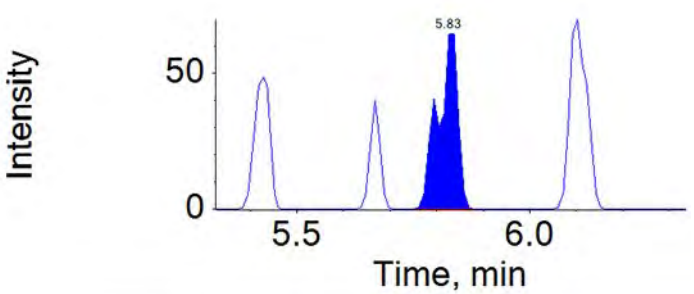

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



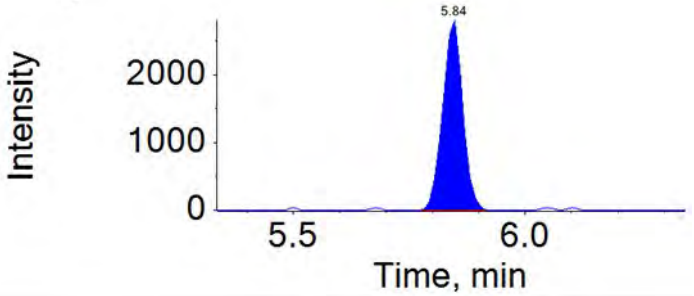

Component: PFUnDA
Primary Mass: 563.0 / 519.0



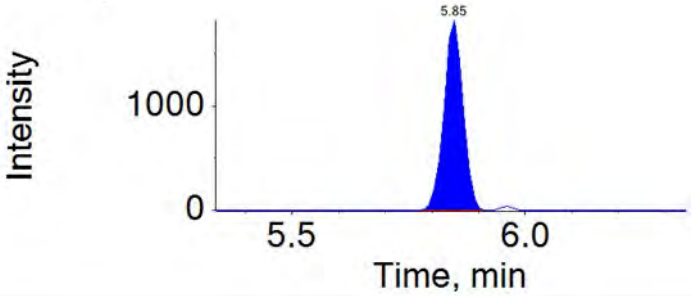

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



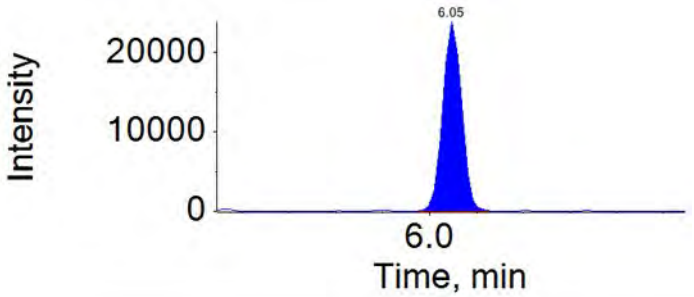

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



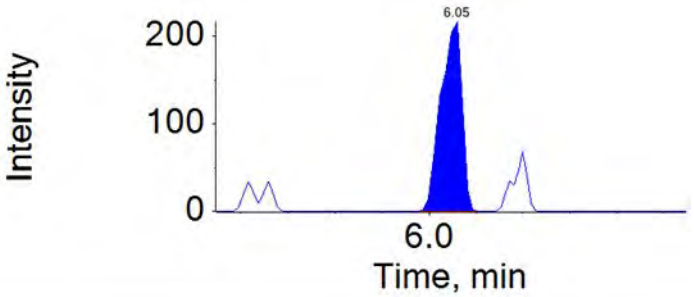

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0




Component: PFDoDA
Primary Mass: 613.0 / 569.0




Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0

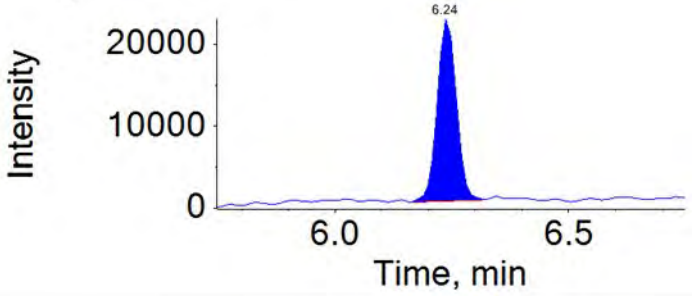



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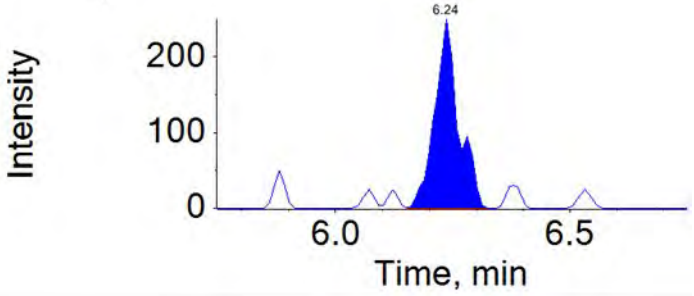


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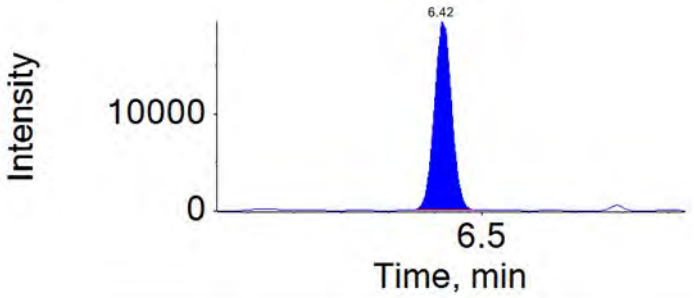
Component: PFTrDA
Primary Mass: 663.0 / 619.0



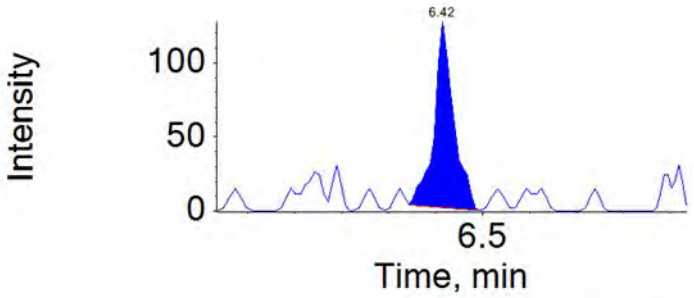

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0




Component: PFTeDA
Primary Mass: 713.0 / 669.0




Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0




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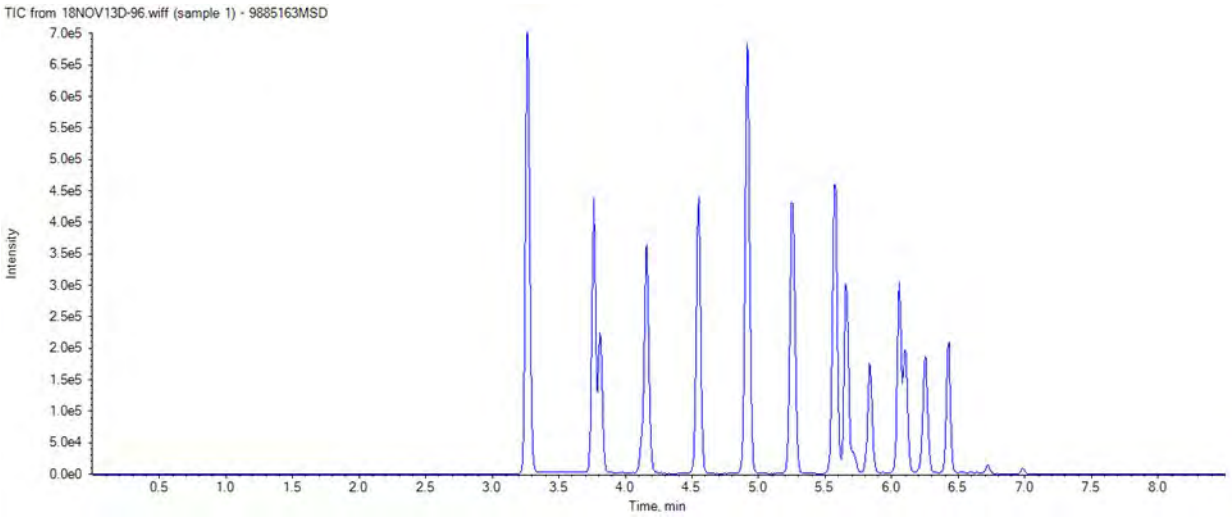


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*By HMK at 11:03 am, 11/15/18*

## Matrix Spike Recovery

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18316029 11/14/2018 6:46:19 PM
**Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | 9885163MSD | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-03 MSD Grab Soil | 18NOV13D-96.wiff | 2018-11-14T00:00:09 |




Injection Standard Area Reference File**:** 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Reference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.00 | 759549.3 | 661126.9 | 15 | 50 | |
| 13C2-PFOA | 5.00 | 513909.8 | 466902.6 | 10 | 50 | |
| 13C4-PFOS | 4.78 | 289689.0 | 247446.9 | 17 | 50 | |
| 13C2-PFDA | 5.00 | 332808.0 | 295381.6 | 13 | 50 | |

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*By MCD at 6:55 pm, 11/14/18*



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*By HMK at 11:03 am, 11/15/18*

## Matrix Spike Recovery

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:46:19 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | 9885163MSD | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-03 MSD Grab Soil | 18NOV13D-96.wiff | 2018-11-14T00:00:09 |

| Analyte Name | Analyte Area | Ext Std Area | Area Ratio | Adj Actual Conc | Sample Result | %REC | % REC Limit | %REC OOS |
|---|---|---|---|---|---|---|---|---|
| PFBS | 55300.7 | 402679.0 | 0.137 | 1.169 | 1.268 | 109 | 70-130 | |
| PFHxA | 114241.6 | 655240.8 | 0.174 | 1.320 | 1.414 | 107 | 70-130 | |
| PFHpA | 121261.8 | 506558.9 | 0.239 | 1.320 | 1.541 | 117 | 70-130 | |
| PFHxS | 40760.6 | 323873.2 | 0.126 | 1.249 | 1.185 | 95 | 70-130 | |
| PFOA | 125517.6 | 816246.4 | 0.154 | 1.320 | 1.595 | 121 | 70-130 | |
| PFOS | 38138.3 | 257650.3 | 0.148 | 1.262 | 1.257 | 100 | 70-130 | |
| PFNA | 98450.5 | 472401.8 | 0.208 | 1.320 | 1.459 | 111 | 70-130 | |
| PFDA | 84414.7 | 651362.2 | 0.130 | 1.320 | 1.334 | 101 | 70-130 | |
| NMeFOSAA | 7550.5 | 70785.0 | 0.107 | 1.320 | 1.171 | 89 | 70-130 | |
| PFUnDA | 70101.6 | 253784.9 | 0.276 | 1.320 | 1.402 | 106 | 70-130 | |
| NEtFOSAA | 8729.9 | 50698.5 | 0.172 | 1.320 | 1.753 | 133 | 70-130 | OOS |
| PFDoDA | 69545.1 | 542946.6 | 0.128 | 1.320 | 1.266 | 96 | 70-130 | |
| PFTrDA | 63053.0 | 542946.6 | 0.116 | 1.320 | 1.423 | 108 | 70-130 | |
| PFTeDA | 50675.3 | 386548.8 | 0.131 | 1.320 | 1.427 | 108 | 70-130 | |

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*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Matrix Spike Recovery

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18316029 11/14/2018 6:46:19 PM
**Acquisition Method:** 18AUG13_3uL.dam

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*By MCD at 6:55 pm, 11/14/18*



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*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | 9885163MSD | | | **Data File:** | | 18NOV13D-96.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 OU1-Bldg53-S-02-03 MSD Grab Soil | | | **Acquis Date:** | | 2018-11-14T00:00:09 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 90 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 759549.3 | 661126.9 | 15 | 50 | |
| 13C2-PFOA | 5.0 | 513909.8 | 466902.6 | 10 | 50 | |
| 13C4-PFOS | 4.8 | 289689.0 | 247446.9 | 17 | 50 | |
| 13C2-PFDA | 5.0 | 332808.0 | 295381.6 | 13 | 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 | 402679.0 | 13C3-PFBA | 759549.3 | 0.530 | 9.029 | 7.267 | 80 | 50-150 | |
| E13C5-PFHxA | 655240.8 | 13C2-PFOA | 513909.8 | 1.275 | 9.709 | 8.943 | 92 | 50-150 | |
| E13C3-PFHxS | 323873.2 | 13C2-PFOA | 513909.8 | 0.630 | 9.184 | 8.397 | 91 | 50-150 | |
| E13C4-PFHpA | 506558.9 | 13C2-PFOA | 513909.8 | 0.986 | 9.709 | 8.623 | 89 | 50-150 | |
| E13C8-PFOA | 816246.4 | 13C2-PFOA | 513909.8 | 1.588 | 9.709 | 8.497 | 88 | 50-150 | |
| E13C8-PFOS | 257650.3 | 13C4-PFOS | 289689.0 | 0.889 | 9.282 | 7.652 | 82 | 50-150 | |
| E13C9-PFNA | 472401.8 | 13C4-PFOS | 289689.0 | 1.631 | 9.709 | 8.828 | 91 | 50-150 | |
| E13C6-PFDA | 651362.2 | 13C2-PFDA | 332808.0 | 1.957 | 9.709 | 8.868 | 91 | 50-150 | |
| Ed3-NMeFOSAA | 70785.0 | 13C2-PFDA | 332808.0 | 0.213 | 9.709 | 7.455 | 77 | 50-150 | |
| E13C7-PFUnDA | 253784.9 | 13C2-PFDA | 332808.0 | 0.763 | 9.709 | 8.597 | 89 | 50-150 | |
| Ed5-NEtFOSAA | 50698.5 | 13C2-PFDA | 332808.0 | 0.152 | 9.709 | 6.258 | 64 | 50-150 | |
| E13C2-PFDoDA | 542946.6 | 13C2-PFDA | 332808.0 | 1.631 | 9.709 | 8.225 | 85 | 50-150 | |
| E13C2-PFTeDA | 386548.8 | 13C2-PFDA | 332808.0 | 1.161 | 9.709 | 7.918 | 82 | 50-150 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

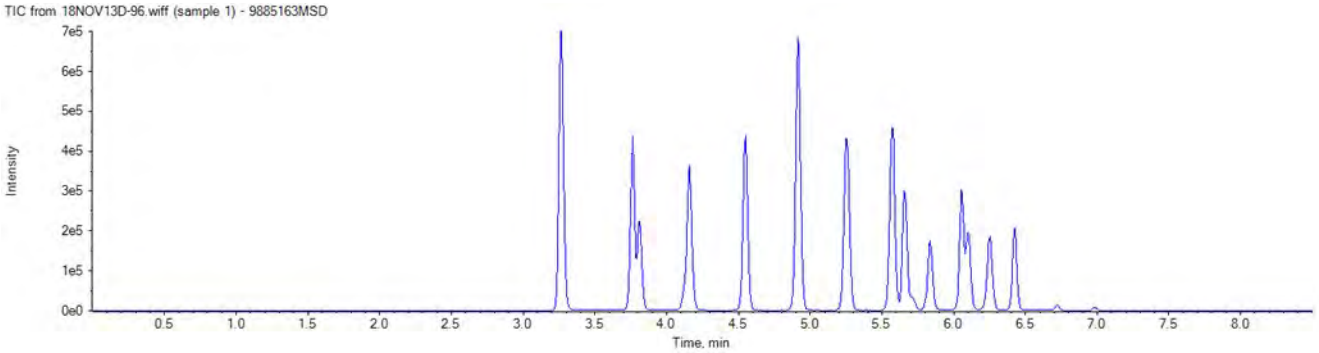
## Analyte Quantitation Peak Table

**Sample Name:** 9885163MSD **Instrument Name:** LM27631 **File Name:** 18NOV13D-96.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 | 3.81 | 1.000 | 55300.7 | | A | 13C3-PFBS | 3.81 | 402679.0 | 0.137 | 1.268 |
| PFHxA | 4.16 | 1.000 | 114241.6 | | A | 13C5-PFHxA | 4.16 | 655240.8 | 0.174 | 1.414 |
| PFHpA | 4.55 | 1.000 | 121261.8 | | A | 13C4-PFHpA | 4.55 | 506558.9 | 0.239 | 1.541 |
| PFHxS | 4.55 | 1.000 | 40760.6 | | A | 13C3-PFHxS | 4.55 | 323873.2 | 0.126 | 1.185 |
| PFOA | 4.92 | 1.000 | 125517.6 | | A | 13C8-PFOA | 4.92 | 816246.4 | 0.154 | 1.595 |
| PFOS | 5.25 | 1.000 | 38138.3 | | M | 13C8-PFOS | 5.25 | 257650.3 | 0.148 | 1.257 |
| PFNA | 5.26 | 1.000 | 98450.5 | | A | 13C9-PFNA | 5.26 | 472401.8 | 0.208 | 1.459 |
| PFDA | 5.57 | 1.000 | 84414.7 | | A | 13C6-PFDA | 5.57 | 651362.2 | 0.130 | 1.334 |
| NMeFOSAA | 5.72 | 1.000 | 7550.5 | | M | d3-NMeFOSAA | 5.71 | 70785.0 | 0.107 | 1.171 |
| PFUnDA | 5.83 | 1.000 | 70101.6 | | A | 13C7-PFUnDA | 5.84 | 253784.9 | 0.276 | 1.402 |
| NEtFOSAA | 5.85 | 1.000 | 8729.9 | | A | d5-NEtFOSAA | 5.85 | 50698.5 | 0.172 | 1.753 |
| PFDoDA | 6.05 | 1.000 | 69545.1 | | A | 13C2-PFDoDA | 6.06 | 542946.6 | 0.128 | 1.266 |
| PFTrDA | 6.25 | 1.030 | 63053.0 | | A | 13C2-PFDoDA | 6.06 | 542946.6 | 0.116 | 1.423 |
| PFTeDA | 6.42 | 1.000 | 50675.3 | | A | 13C2-PFTeDA | 6.42 | 386548.8 | 0.131 | 1.427 |

## Total Ion Chromatogram



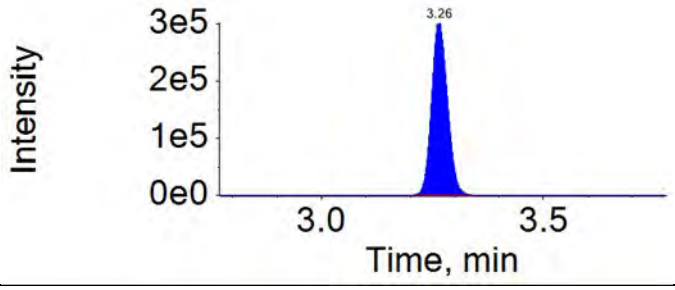

APPROVED
*By MCD at 6:55 pm, 11/14/18*



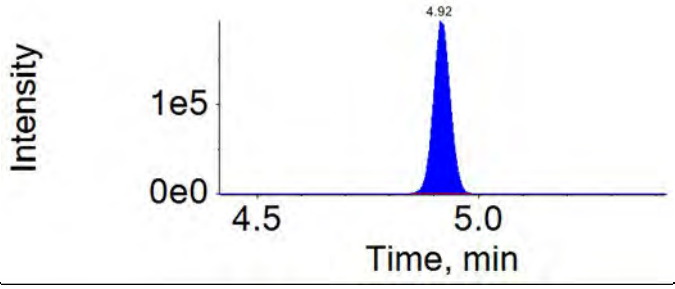
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

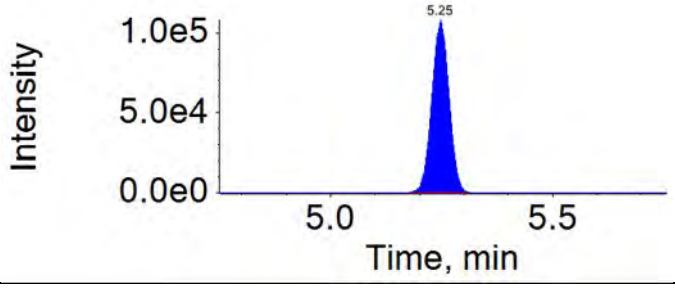
Injection Standard: 13C3-PFBA
216.0 / 172.0



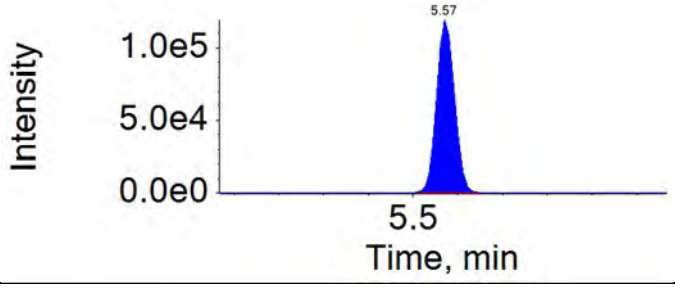

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

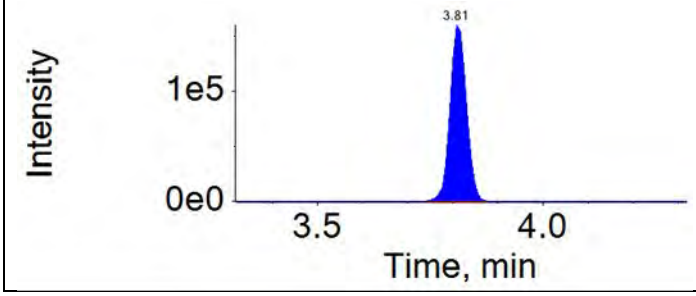
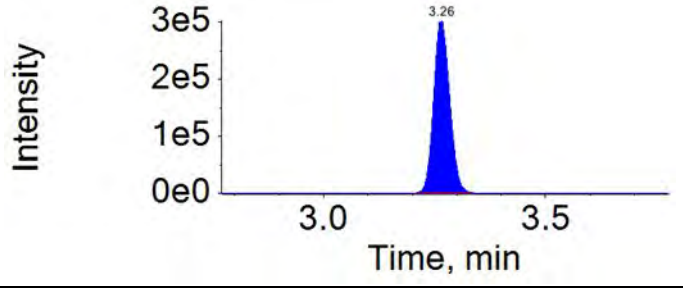



APPROVED
*By MCD at 6:55 pm, 11/14/18*



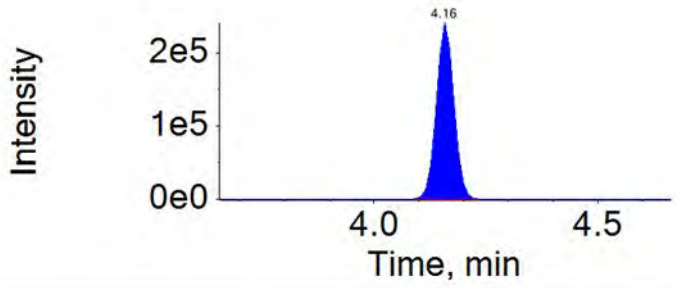
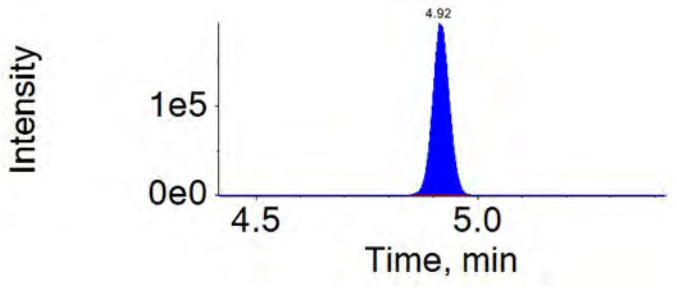
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |
|  |  |

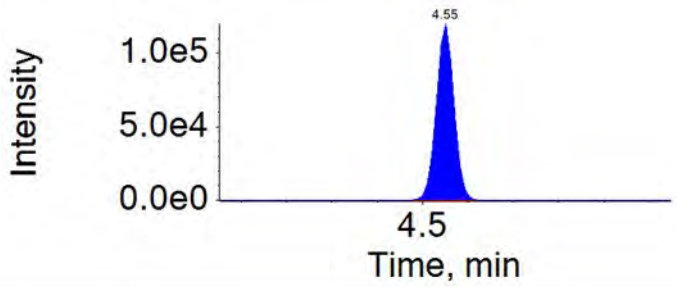
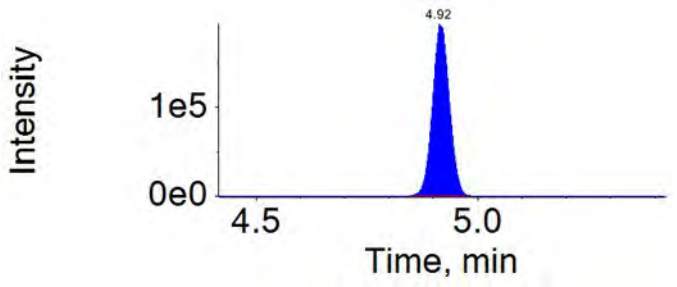




| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |
|  |  |

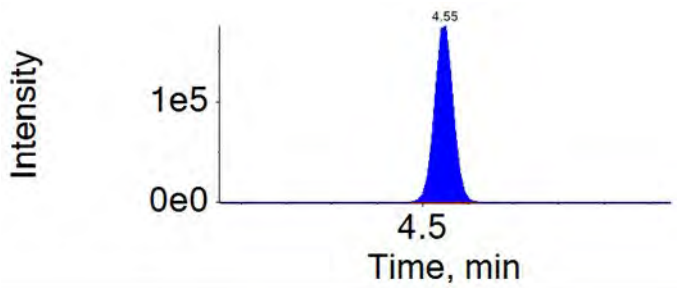
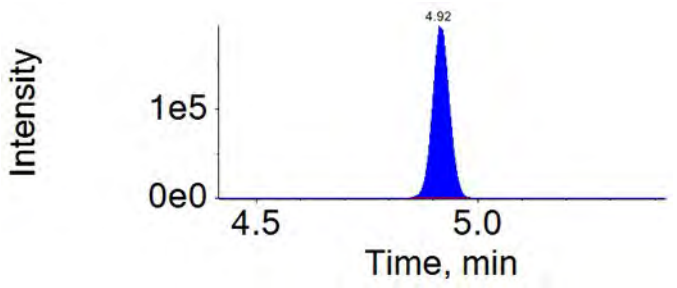




| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |
|  |  |





| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |
|  |  |



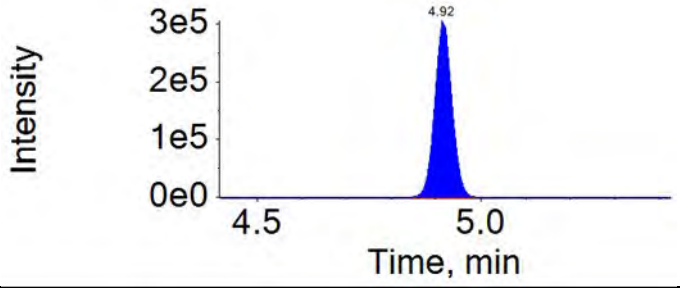
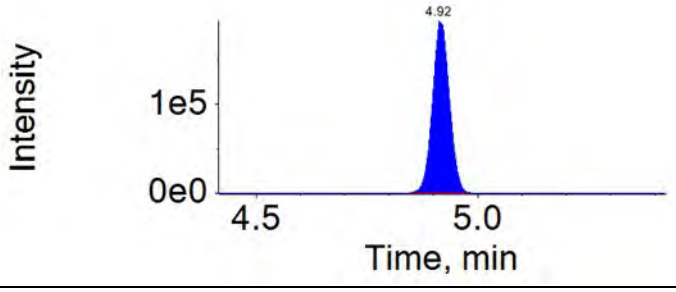


APPROVED
*By MCD at 6:55 pm, 11/14/18*



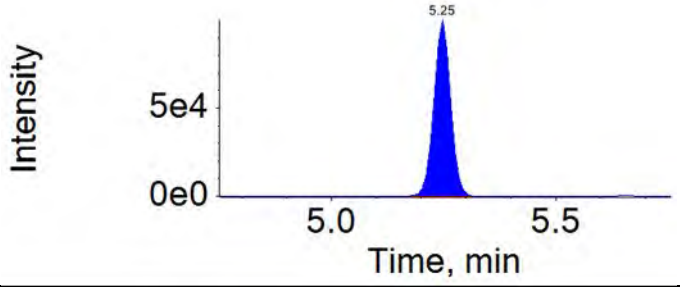
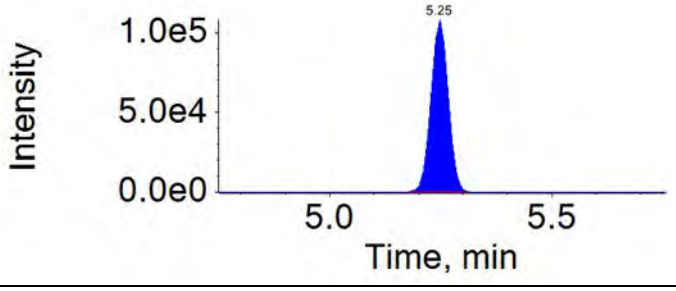
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

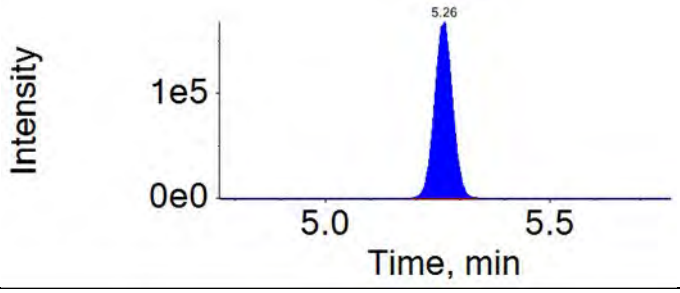
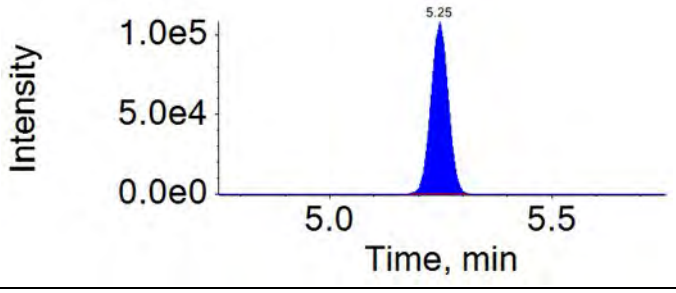




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

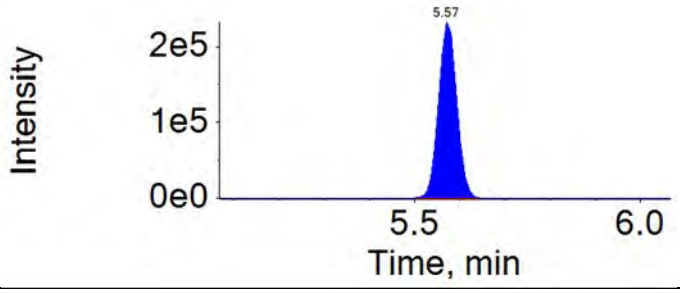
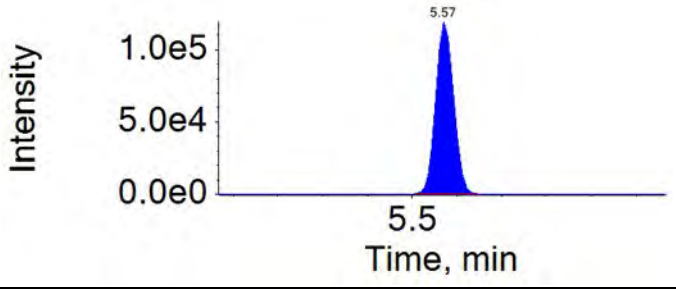




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |



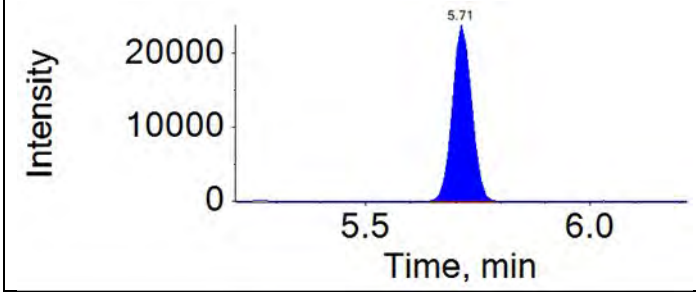
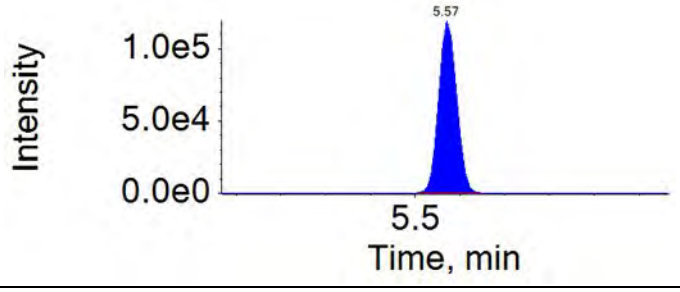


APPROVED
*By MCD at 6:55 pm, 11/14/18*



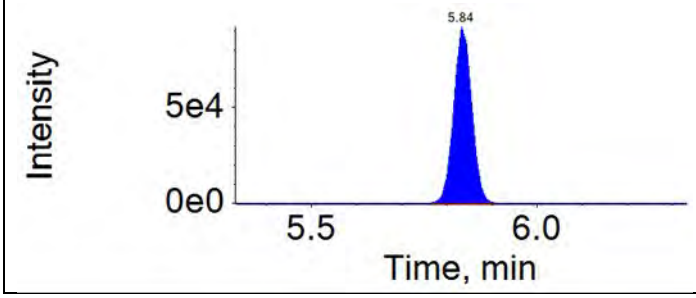
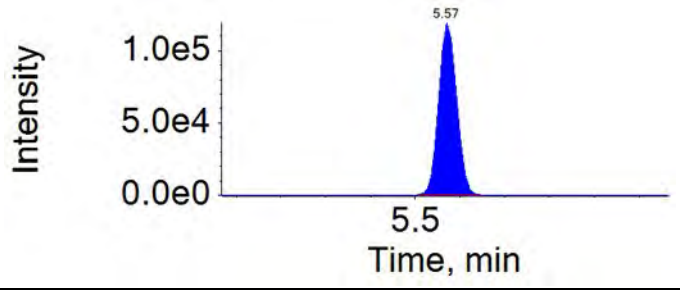
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |

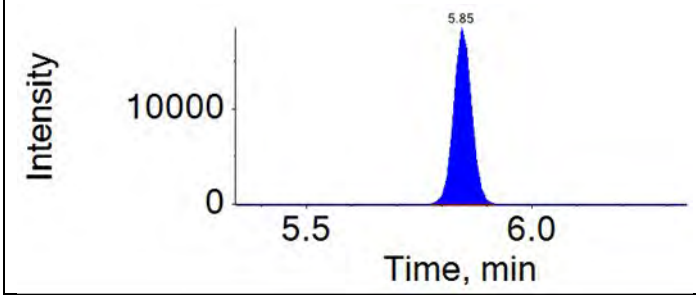
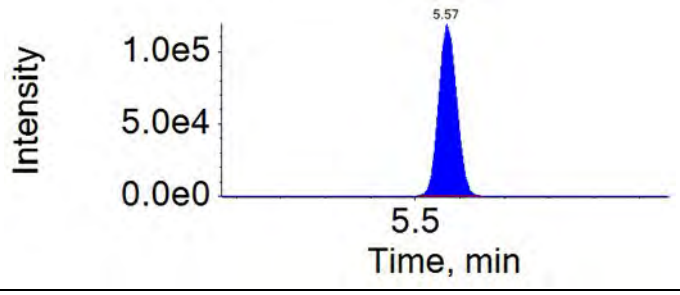




| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |

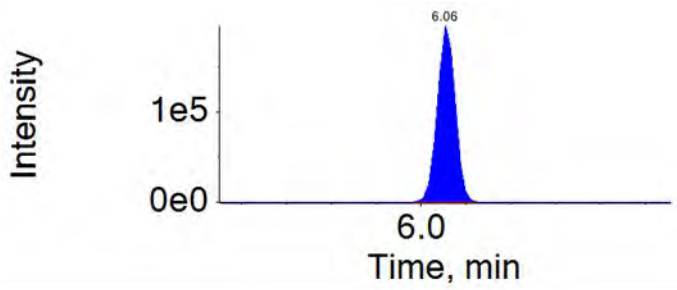
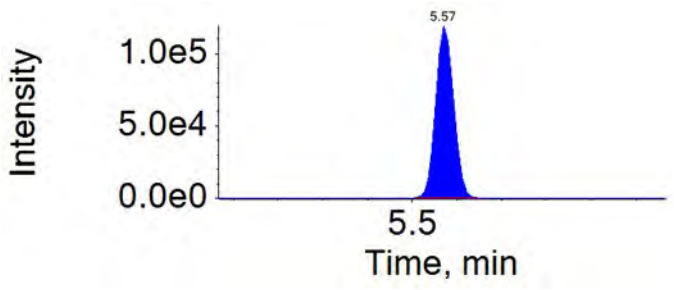




| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |



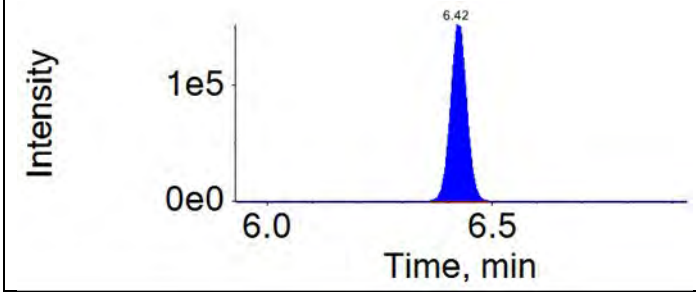
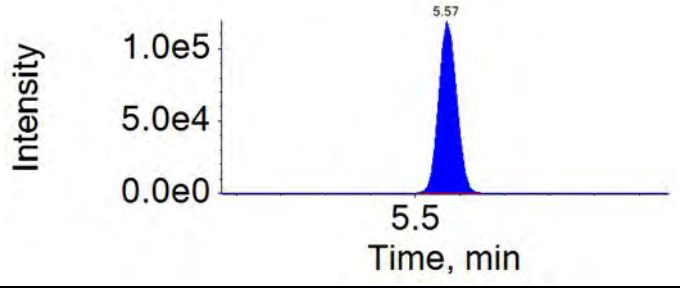


APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |
|  |  |



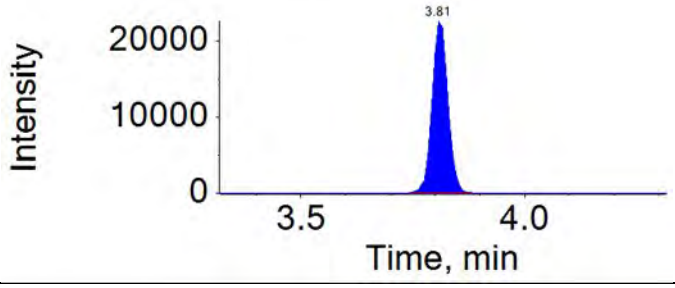
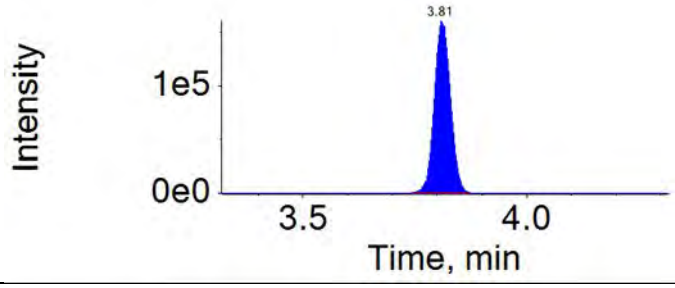


APPROVED
*By MCD at 6:55 pm, 11/14/18*



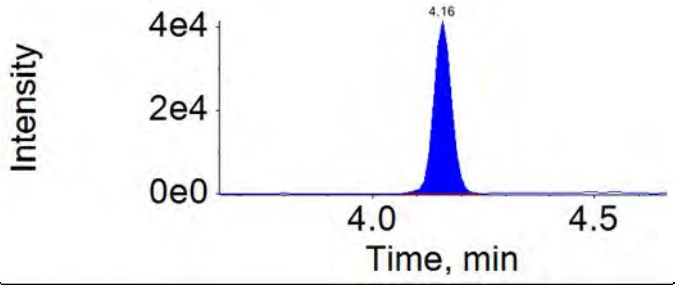
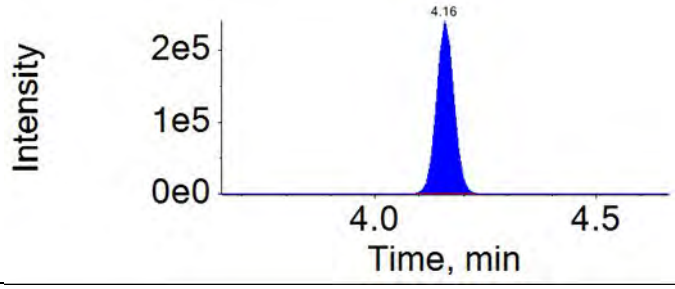
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |
|  |  |

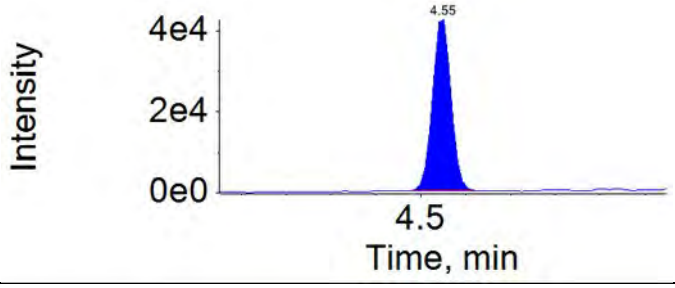
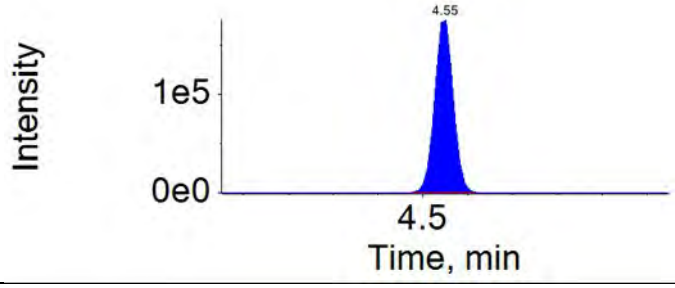




| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |
|  |  |

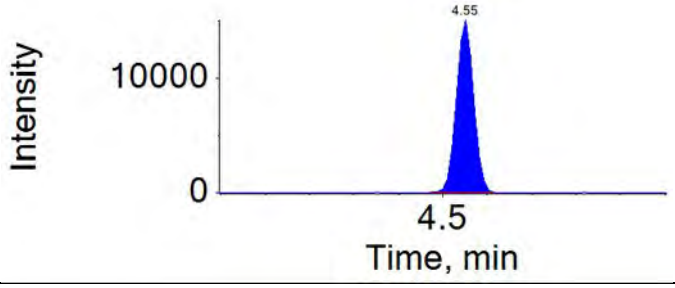
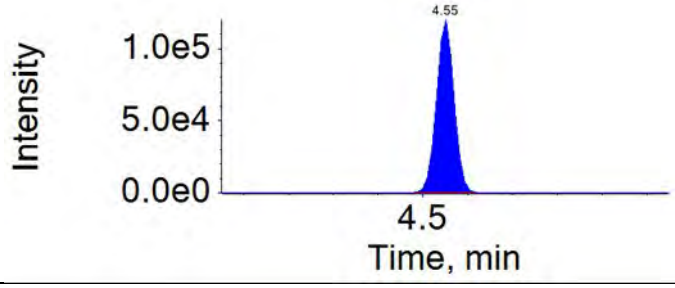




| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |
|  |  |





| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |
|  |  |





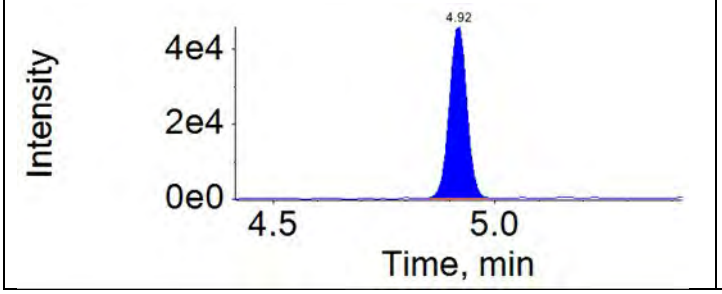
APPROVED
*By MCD at 6:55 pm, 11/14/18*

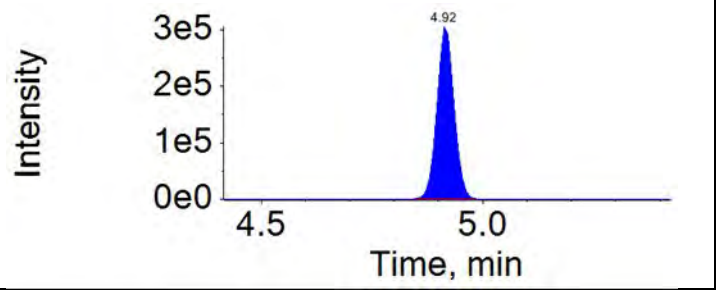


REVIEWED
*By HMK at 11:03 am, 11/15/18*

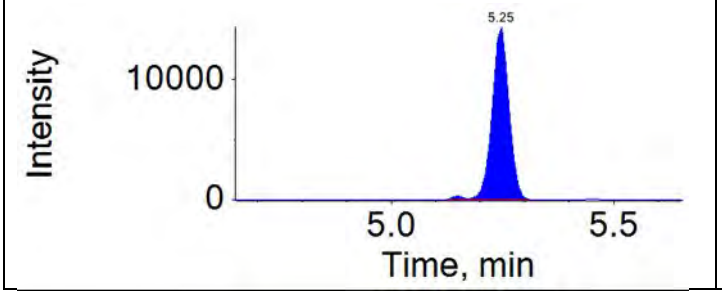
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

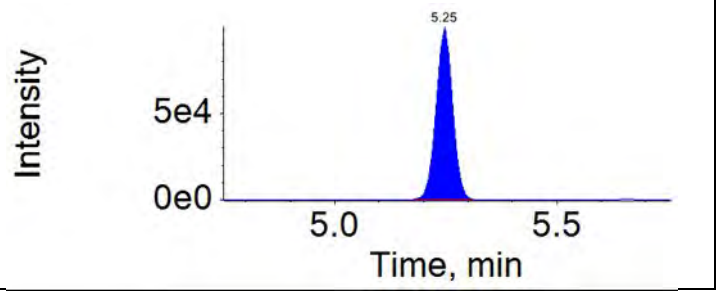
| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |



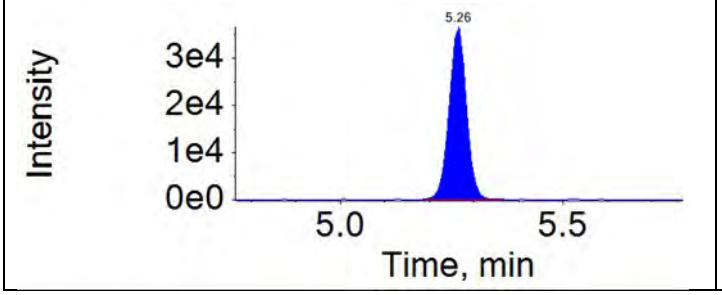



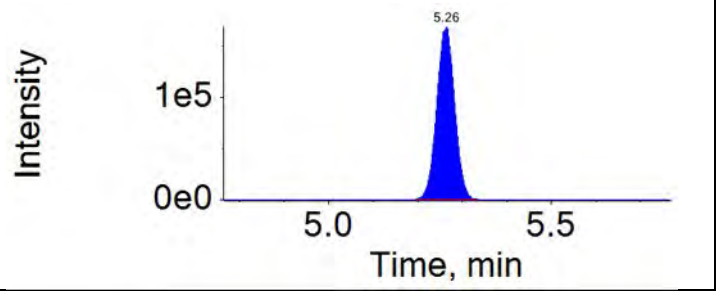

| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |



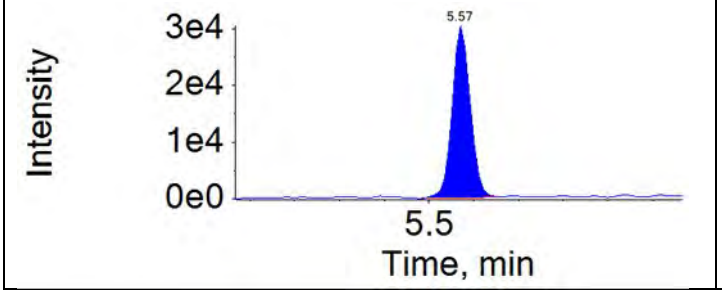



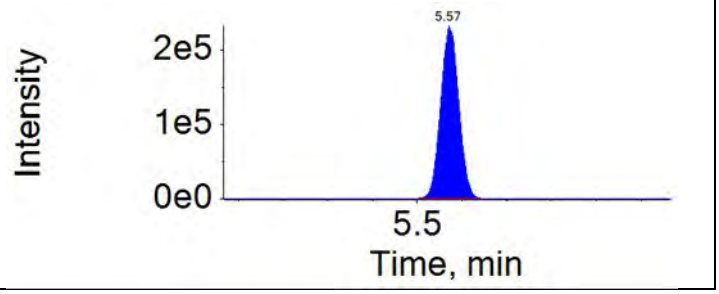

| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |




| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |



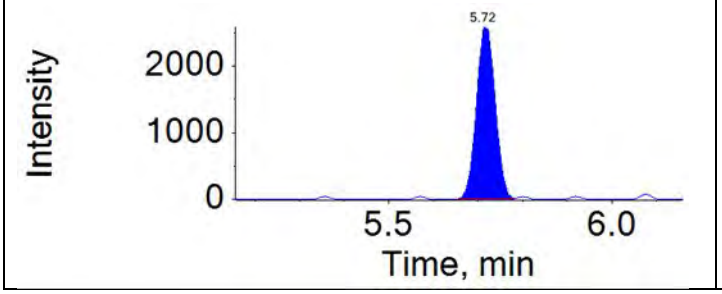

APPROVED
*By MCD at 6:55 pm, 11/14/18*

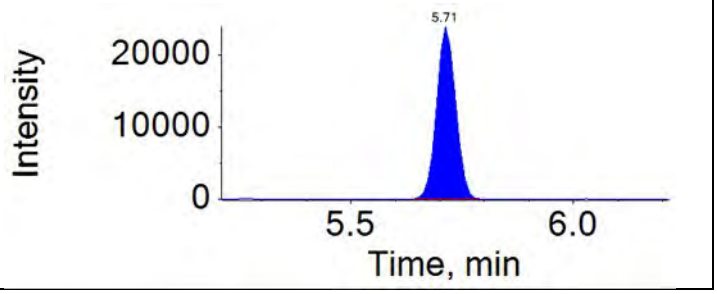


REVIEWED
*By HMK at 11:03 am, 11/15/18*

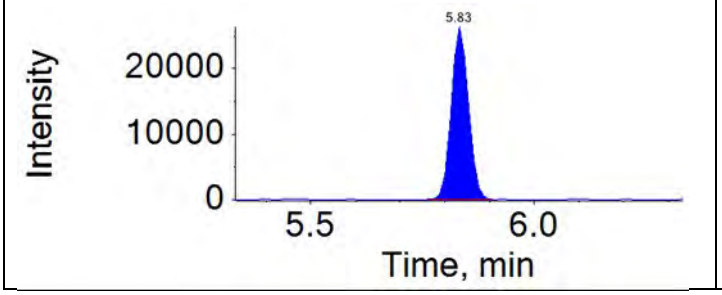
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

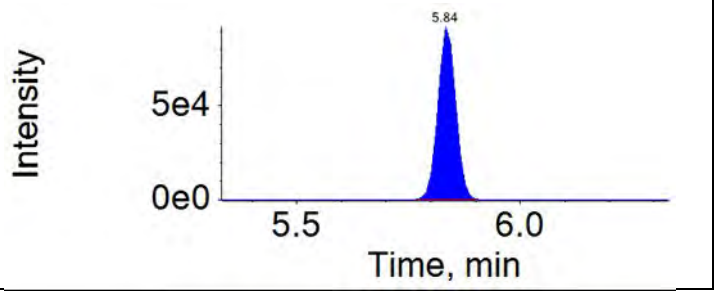
| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



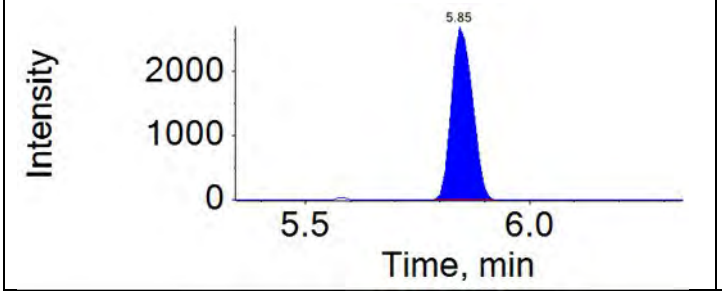



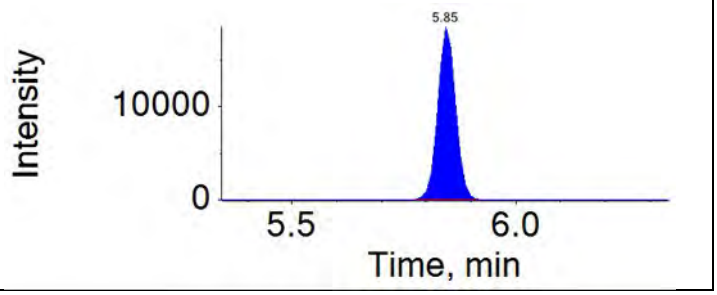

| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



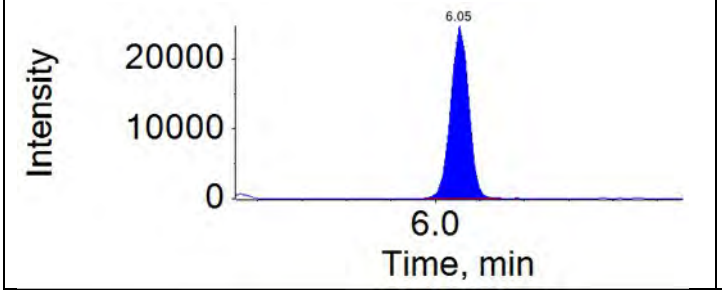



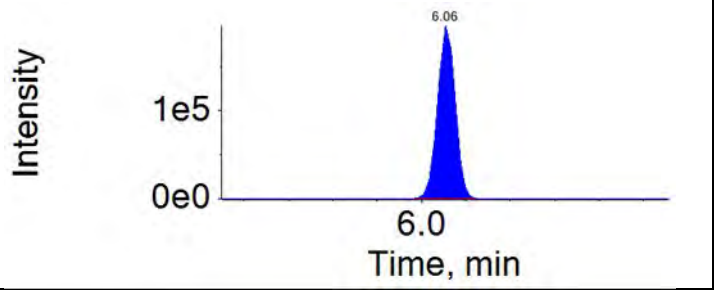

| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |




| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



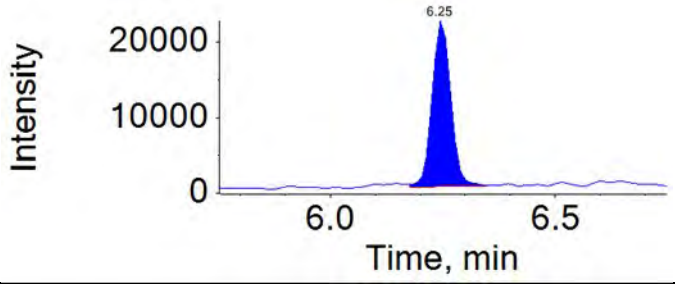
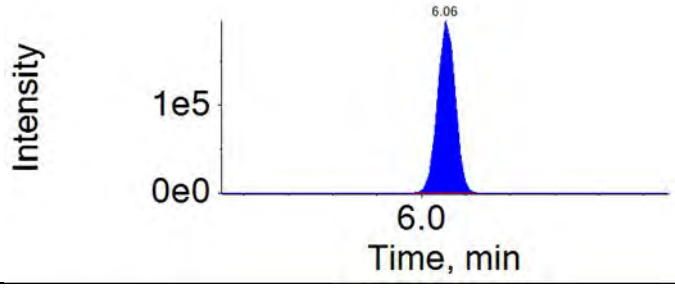




APPROVED
*By MCD at 6:55 pm, 11/14/18*



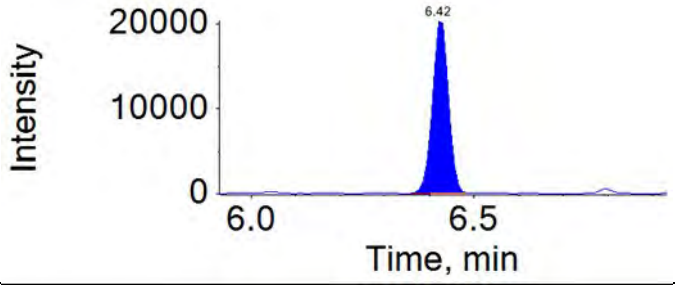
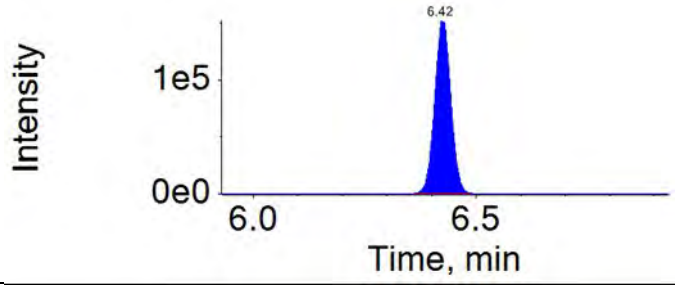
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |
|  |  |





| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |



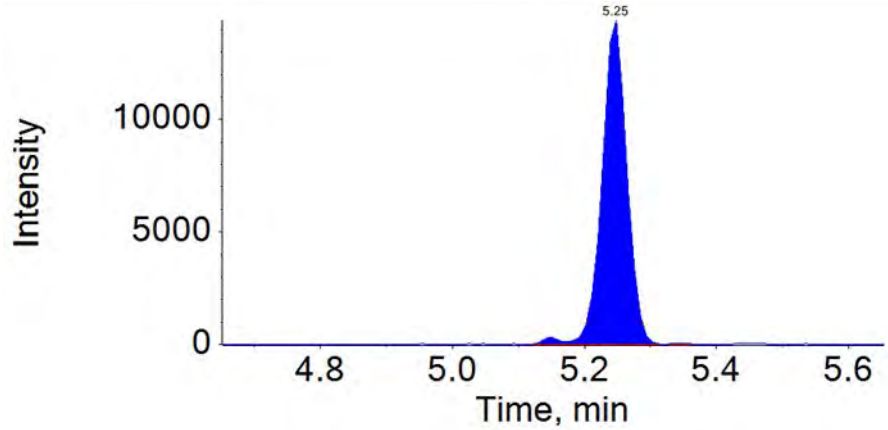


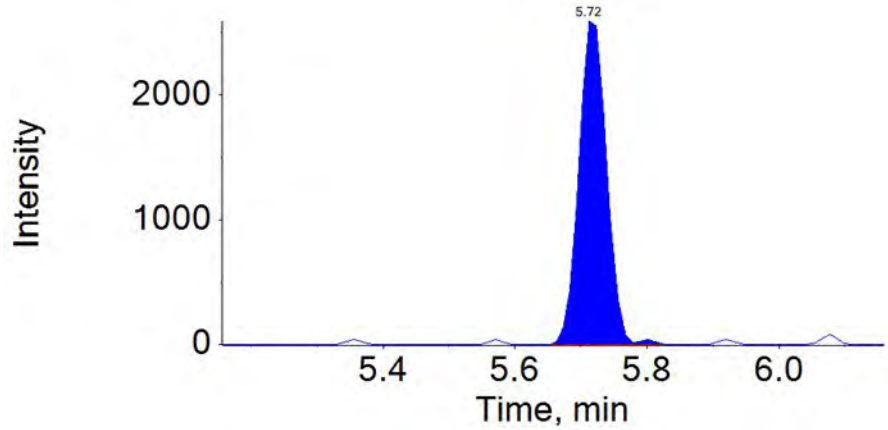
APPROVED
*By MCD at 6:55 pm, 11/14/18*

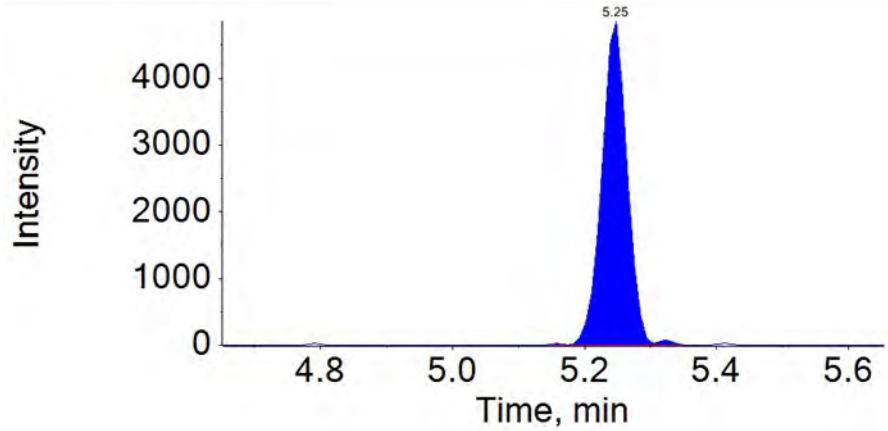


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

| | |
|---|---|
| **Component Name:** PFOS<br>**RT (min.):** 5.25<br>**Peak Area:** 38149.0<br>**Mass Range:** 499.0 / 80.0<br>**File Name:** 18NOV13D-96.wiff<br>**Sample Name:** 9885163MSD | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** NMeFOSAA<br>**RT (min.):** 5.72<br>**Peak Area:** 7615.5<br>**Mass Range:** 570.0 / 419.0<br>**File Name:** 18NOV13D-96.wiff<br>**Sample Name:** 9885163MSD | <br>**Integration Comment:** incorrect integration |

| | |
|---|---|
| **Component Name:** PFOS_2<br>**RT (min.):** 5.25<br>**Peak Area:** 13091.5<br>**Mass Range:** 499.0 / 99.0<br>**File Name:** 18NOV13D-96.wiff<br>**Sample Name:** 9885163MSD | <br>**Integration Comment:** incorrect integration |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Ion Ratio Report

**Sample Name:** 9885163MSD **Instrument Name:** LM27631 **File Name:** 18NOV13D-96.wiff

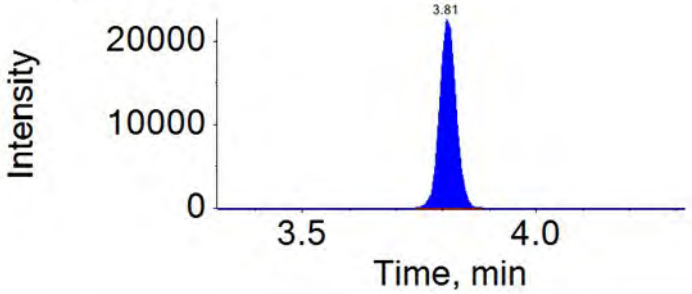
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.81 | 1.00 | 55300.7 | A | N/A | 0.3617 | | | |
| PFBS_2 | 3.81 | 1.00 | 20004.0 | A | N/A | 0.3617 | 0 | 50 | |
| PFHxA | 4.16 | 1.00 | 114241.6 | A | N/A | 0.0125 | | | |
| PFHxA_2 | 4.16 | 1.00 | 1425.2 | A | N/A | 0.0125 | 7 | 50 | |
| PFHpA | 4.55 | 1.00 | 121261.8 | A | N/A | 0.0637 | | | |
| PFHpA_2 | 4.55 | 1.00 | 7721.9 | A | N/A | 0.0637 | 13 | 50 | |
| PFHxS | 4.55 | 1.00 | 40760.6 | A | N/A | 0.3686 | | | |
| PFHxS_2 | 4.55 | 1.00 | 15026.1 | A | N/A | 0.3686 | 8 | 50 | |
| PFOA | 4.92 | 1.00 | 125517.6 | A | N/A | 0.0509 | | | |
| PFOA_2 | 4.91 | 1.00 | 6383.1 | A | N/A | 0.0509 | -9 | 50 | |
| PFOS | 5.25 | 1.00 | 38138.3 | M | N/A | 0.3399 | | | |
| PFOS_2 | 5.25 | 1.00 | 12964.2 | M | N/A | 0.3399 | 15 | 50 | |
| PFNA | 5.26 | 1.00 | 98450.5 | A | N/A | 0.0256 | | | |
| PFNA_2 | 5.26 | 1.00 | 2517.9 | A | N/A | 0.0256 | 12 | 50 | |
| PFDA | 5.57 | 1.00 | 84414.7 | A | N/A | 0.0105 | | | |
| PFDA_2 | 5.59 | 1.00 | 889.0 | A | N/A | 0.0105 | 30 | 50 | |
| NMeFOSAA | 5.72 | 1.00 | 7550.5 | M | N/A | 0.2774 | | | |
| NMeFOSAA_2 | 5.72 | 1.00 | 2094.7 | A | N/A | 0.2774 | 8 | 50 | |
| PFUnDA | 5.83 | 1.00 | 70101.6 | A | N/A | 0.0037 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 259.5 | A | N/A | 0.0037 | -36 | 50 | |
| NEtFOSAA | 5.85 | 1.00 | 8729.9 | A | N/A | 0.6001 | | | |
| NEtFOSAA_2 | 5.85 | 1.00 | 5238.9 | A | N/A | 0.6001 | -17 | 50 | |
| PFDoDA | 6.05 | 1.00 | 69545.1 | A | N/A | 0.0160 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 1111.5 | A | N/A | 0.0160 | 2 | 50 | |
| PFTrDA | 6.25 | 1.03 | 63053.0 | A | N/A | 0.0066 | | | |
| PFTrDA_2 | 6.23 | 1.03 | 417.9 | A | N/A | 0.0066 | -23 | 50 | |
| PFTeDA | 6.42 | 1.00 | 50675.3 | A | N/A | 0.0067 | | | |
| PFTeDA_2 | 6.43 | 1.00 | 340.2 | A | N/A | 0.0067 | 7 | 50 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*

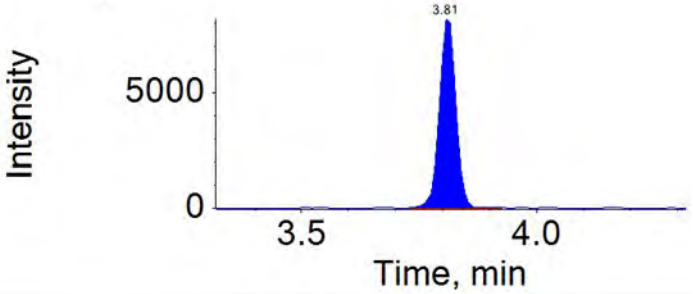


REVIEWED
*By HMK at 11:03 am, 11/15/18*

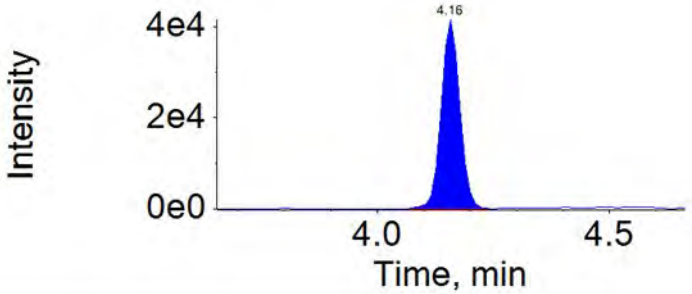
Component: PFBS
Primary Mass: 299.0 / 80.0



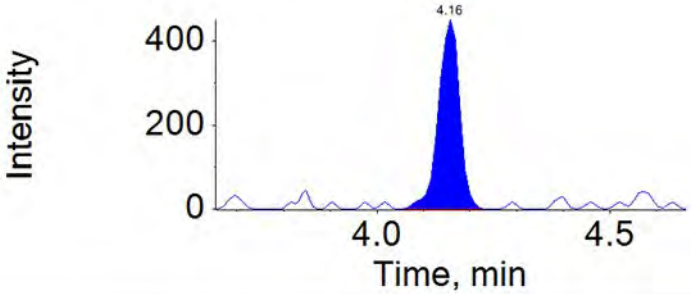

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



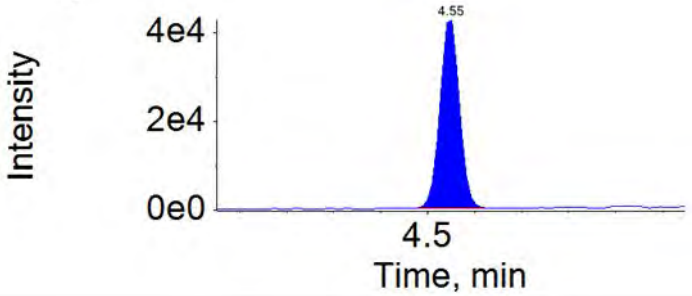

Component: PFHxA
Primary Mass: 313.0 / 269.0



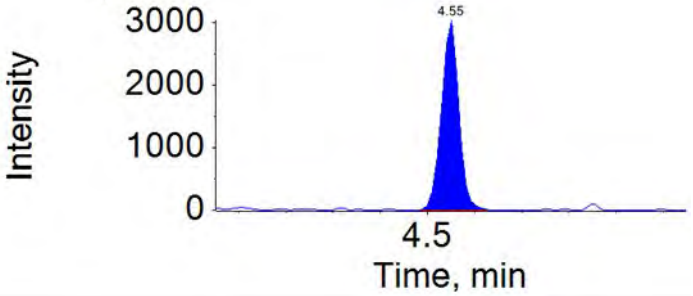

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



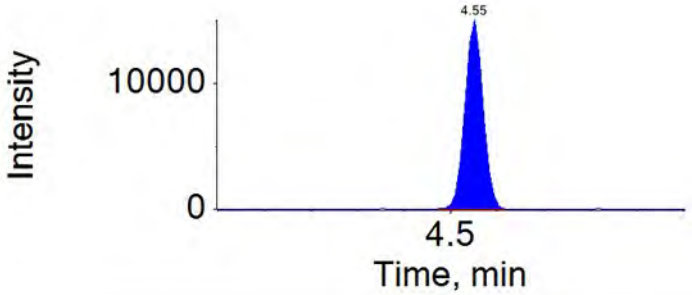

Component: PFHpA
Primary Mass: 363.0 / 319.0



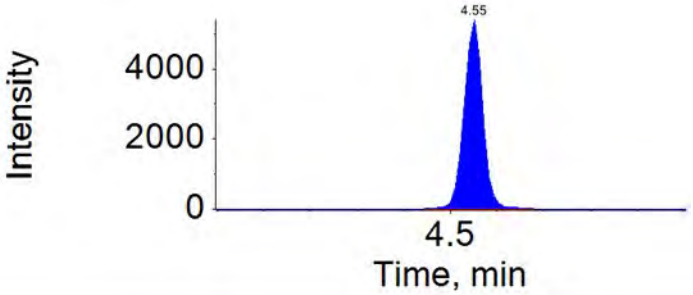

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0




Component: PFHxS
Primary Mass: 399.0 / 80.0




Component: PFHxS_2
Secondary Mass: 399.0 / 99.0

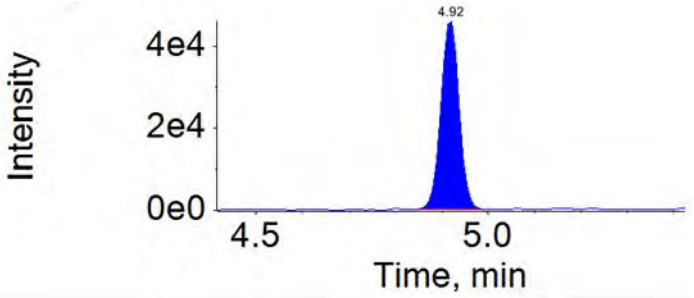



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*By MCD at 6:55 pm, 11/14/18*

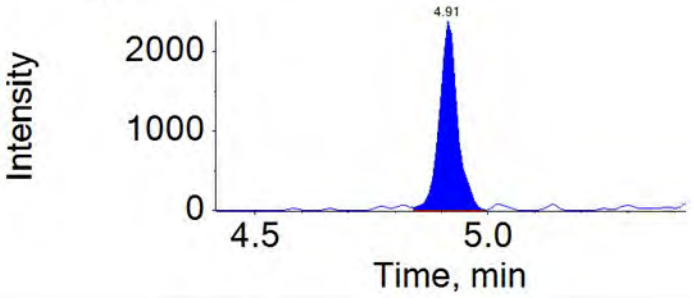


REVIEWED
*By HMK at 11:03 am, 11/15/18*

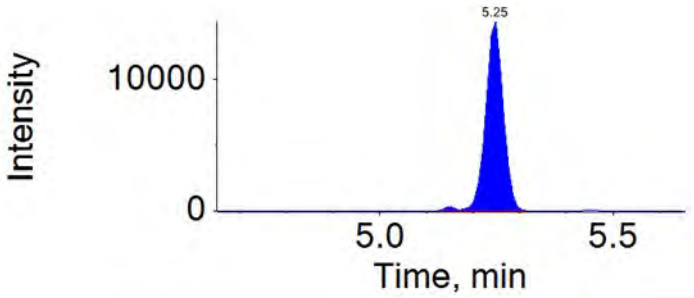
Component: PFOA
Primary Mass: 413.0 / 369.0



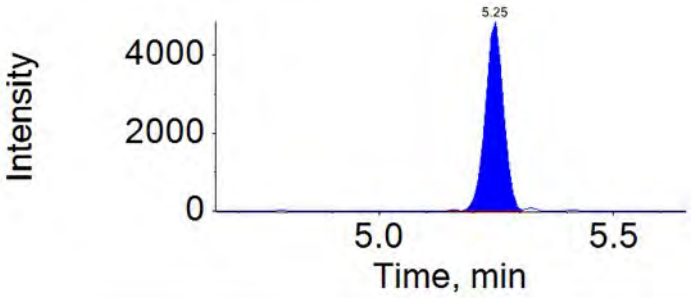

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



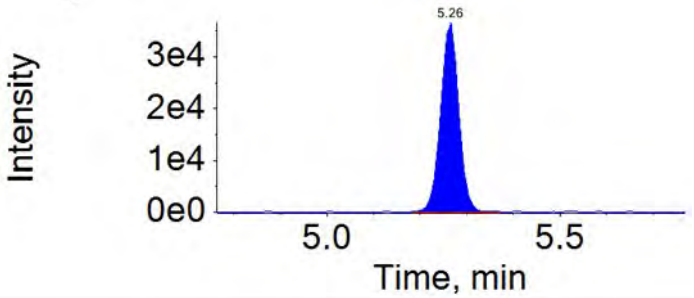

Component: PFOS
Primary Mass: 499.0 / 80.0



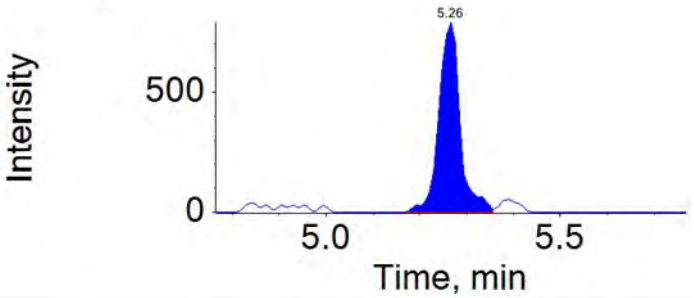

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



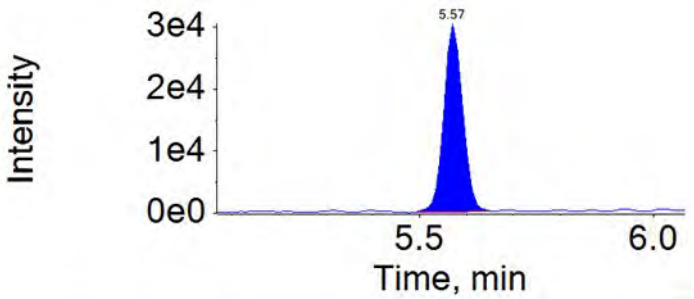

Component: PFNA
Primary Mass: 463.0 / 419.0



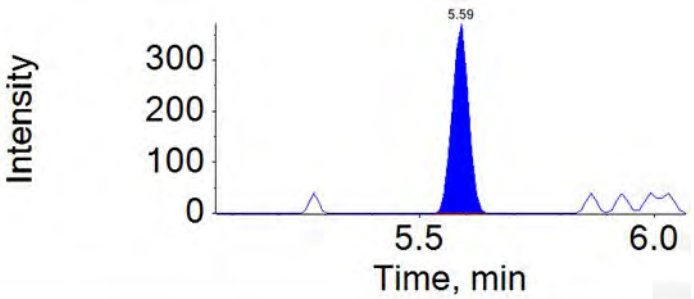

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFDA
Primary Mass: 513.0 / 469.0




Component: PFDA_2
Secondary Mass: 513.0 / 169.0

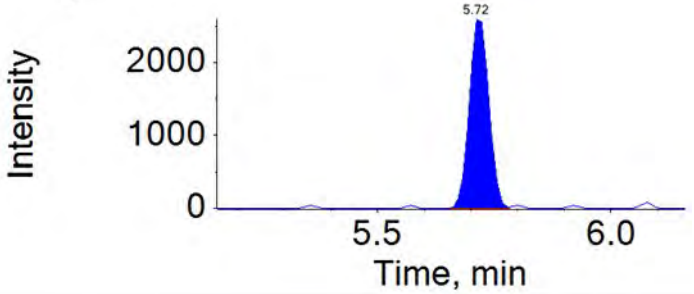



APPROVED
*By MCD at 6:55 pm, 11/14/18*

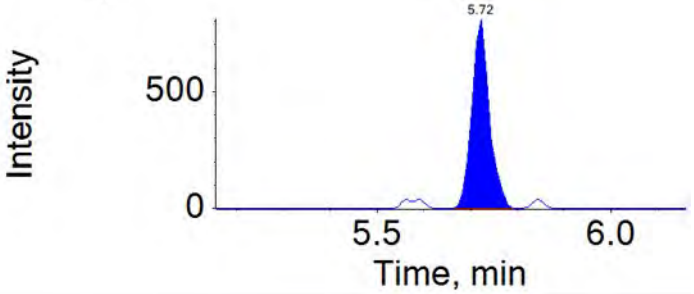


REVIEWED
*By HMK at 11:03 am, 11/15/18*

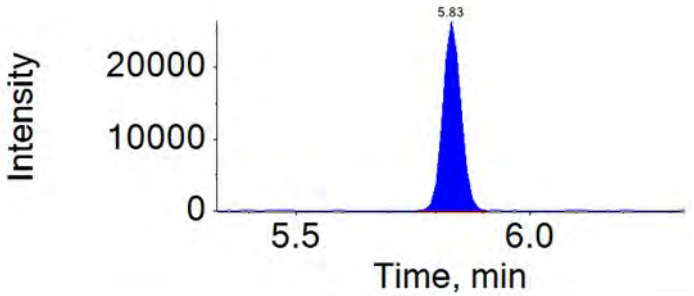
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



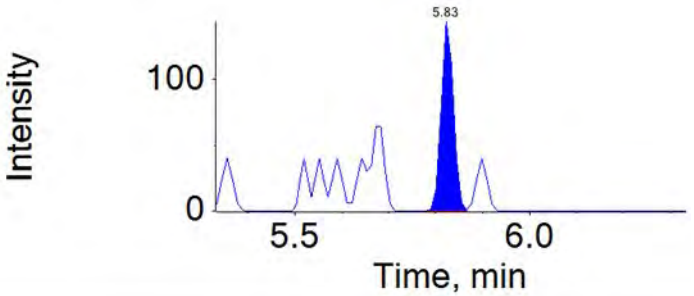

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



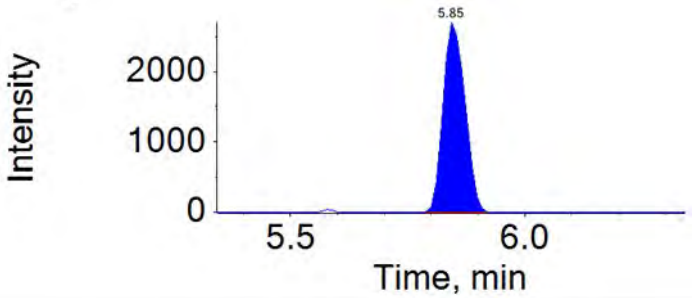

Component: PFUnDA
Primary Mass: 563.0 / 519.0



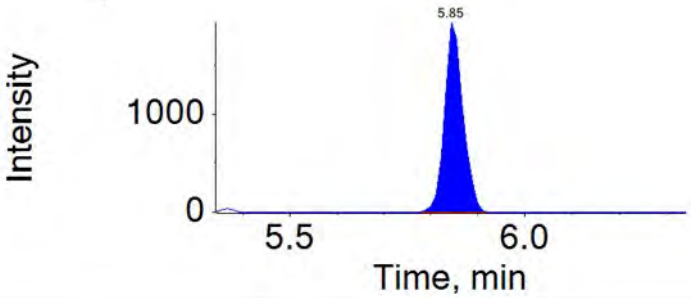

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



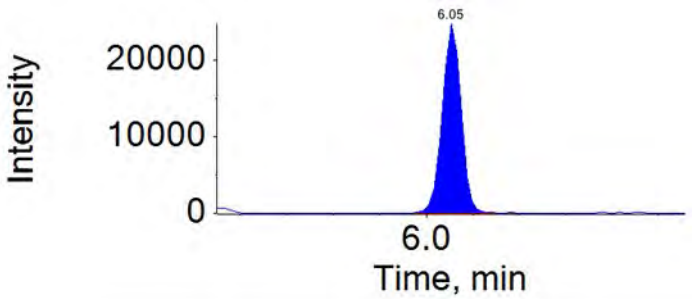

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



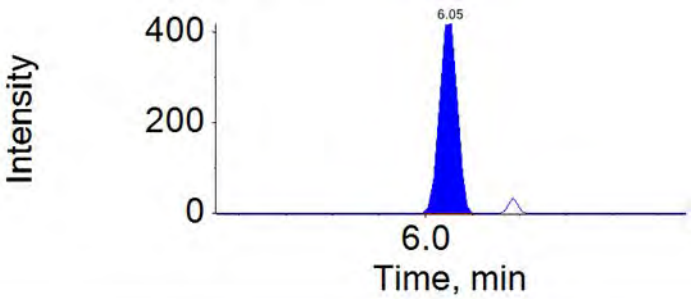

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0




Component: PFDoDA
Primary Mass: 613.0 / 569.0




Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0

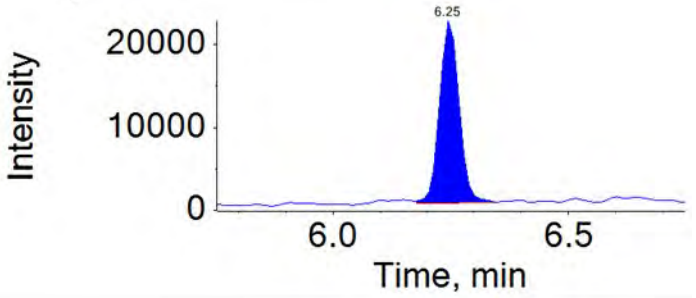



APPROVED
*By MCD at 6:55 pm, 11/14/18*

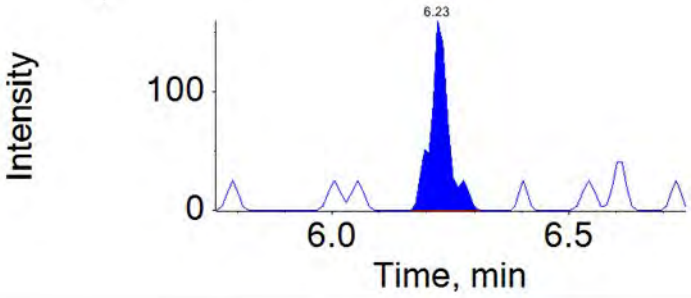


REVIEWED
*By HMK at 11:03 am, 11/15/18*

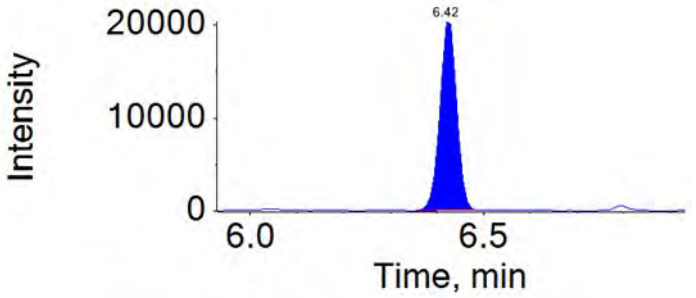
Component: PFTrDA
Primary Mass: 663.0 / 619.0



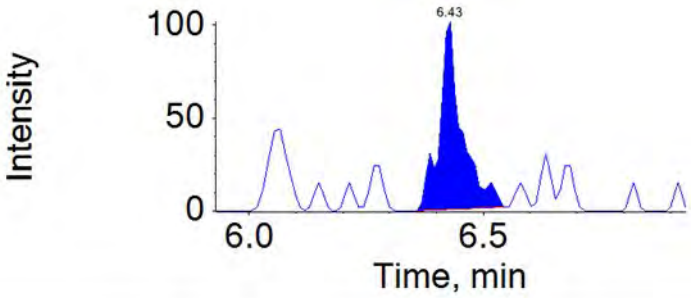

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0




Component: PFTeDA
Primary Mass: 713.0 / 669.0




Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0




APPROVED
*By MCD at 6:55 pm, 11/14/18*

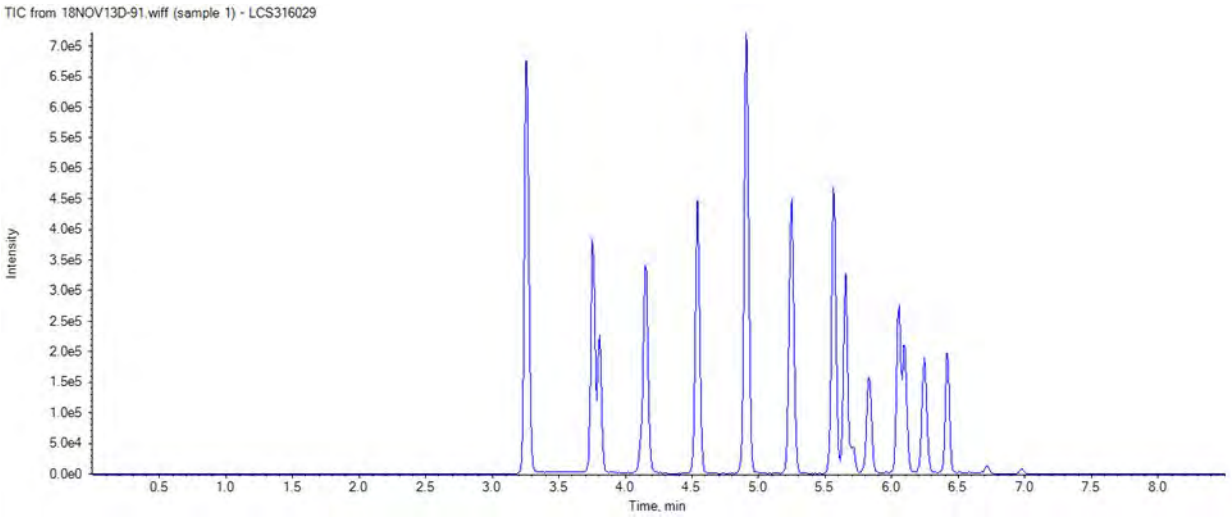


REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Lab Control Sample Recovery

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18316029 11/14/2018 6:46:19 PM
**Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | LCS316029 | EPA 537 mod QSM 5.1 table B-15 18316029 | 18NOV13D-91.wiff | 2018-11-13T23:15:01 |




Injection Standard Area Reference File**:** 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Reference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.00 | 741384.7 | 661126.9 | 12 | 50 | |
| 13C2-PFOA | 5.00 | 535274.1 | 466902.6 | 15 | 50 | |
| 13C4-PFOS | 4.78 | 279158.3 | 247446.9 | 13 | 50 | |
| 13C2-PFDA | 5.00 | 317118.7 | 295381.6 | 7 | 50 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Lab Control Sample Recovery

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:46:19 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Instrument Name: | Sample Name: | Sample ID: | Sample File: | Acquisition Date: |
|---|---|---|---|---|
| LM27631 | LCS316029 | EPA 537 mod QSM 5.1 table B-15 18316029 | 18NOV13D-91.wiff | 2018-11-13T23:15:01 |

| Analyte Name | Analyte Area | Ext Std Area | Area Ratio | Adj Actual Conc | Sample Result | %REC | % REC Limit | %REC OOS |
|---|---|---|---|---|---|---|---|---|
| PFBA | 99005.0 | 751567.3 | 0.132 | 1.360 | 1.460 | 107 | 70-130 | |
| PFPeA | 96183.5 | 729719.9 | 0.132 | 1.360 | 1.526 | 112 | 70-130 | |
| PFBS | 53845.3 | 405718.5 | 0.133 | 1.204 | 1.263 | 105 | 70-130 | |
| 4:2-FTS | 33275.5 | 46441.9 | 0.716 | 3.736 | 3.891 | 104 | 70-130 | |
| PFHxA | 115414.5 | 652049.0 | 0.177 | 1.360 | 1.478 | 109 | 70-130 | |
| PFPeS | 28647.1 | 405718.5 | 0.071 | 1.276 | 1.371 | 107 | 70-130 | |
| PFHpA | 123898.9 | 517994.0 | 0.239 | 1.360 | 1.586 | 117 | 70-130 | |
| PFHxS | 42557.0 | 314140.7 | 0.135 | 1.286 | 1.314 | 102 | 70-130 | |
| 6:2-FTS | 28232.7 | 36203.7 | 0.780 | 3.792 | 3.774 | 100 | 70-130 | |
| PFHpS | 38176.5 | 314140.7 | 0.122 | 1.294 | 1.279 | 99 | 70-130 | |
| PFOA | 124052.0 | 901123.2 | 0.138 | 1.360 | 1.470 | 108 | 70-130 | |
| PFOS | 38309.0 | 273558.5 | 0.140 | 1.300 | 1.225 | 94 | 70-130 | |
| PFNA | 94427.4 | 452925.5 | 0.208 | 1.360 | 1.504 | 111 | 70-130 | |
| PFNS | 25185.5 | 273558.5 | 0.092 | 1.306 | 1.288 | 99 | 70-130 | |
| PFDA | 84660.3 | 603575.9 | 0.140 | 1.360 | 1.487 | 109 | 70-130 | |
| 8:2-FTS | 24271.6 | 30440.1 | 0.797 | 3.832 | 3.718 | 97 | 70-130 | |
| PFOSA | 89683.2 | 634198.6 | 0.141 | 1.360 | 1.381 | 102 | 70-130 | |
| NMeFOSAA | 10601.5 | 89391.7 | 0.119 | 1.360 | 1.341 | 99 | 70-130 | |
| PFDS | 19024.3 | 273558.5 | 0.070 | 1.310 | 1.260 | 96 | 70-130 | |
| PFUnDA | 68104.2 | 236956.1 | 0.287 | 1.360 | 1.503 | 110 | 70-130 | |
| NEtFOSAA | 10025.8 | 65841.8 | 0.152 | 1.360 | 1.596 | 117 | 70-130 | |
| PFDoDA | 75960.8 | 515120.5 | 0.147 | 1.360 | 1.502 | 110 | 70-130 | |
| 10:2-FTS | 14233.4 | 30440.1 | 0.468 | 3.856 | 3.115 | 81 | 70-130 | |
| NMePFOSAE | 52198.8 | 336727.0 | 0.155 | 1.360 | 1.290 | 95 | 70-130 | |
| NMePFOSA | 9632.1 | 74527.0 | 0.129 | 1.360 | 1.275 | 94 | 70-130 | |
| PFDoS | 9144.3 | 273558.5 | 0.033 | 1.316 | 1.171 | 89 | 70-130 | |
| NEtPFOSAE | 61980.2 | 277947.1 | 0.223 | 1.360 | 1.431 | 105 | 70-130 | |
| NEtPFOSA | 6921.3 | 57897.5 | 0.120 | 1.360 | 1.098 | 81 | 70-130 | |
| PFTrDA | 63557.4 | 515120.5 | 0.123 | 1.360 | 1.557 | 115 | 70-130 | |
| PFTeDA | 50391.6 | 376622.1 | 0.134 | 1.360 | 1.500 | 110 | 70-130 | |
| PFHxDA | 23452.8 | 376622.1 | 0.062 | 1.360 | 1.484 | 109 | 70-130 | |
| PFODA | 18360.8 | 376622.1 | 0.049 | 1.360 | 1.358 | 100 | 70-130 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Lab Control Sample Recovery

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18316029 11/14/2018 6:46:19 PM
**Acquisition Method:** 18AUG13_3uL.dam

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL
**QMethod Name:** 18AUG20QM
**Result Table:** 18316029 11/14/2018 6:48:04 PM
**Acquisition Method:** 18AUG13_3uL.dam

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | LCS316029 | | | **Data File:** | | 18NOV13D-91.wiff |
| **Sample ID:** | EPA 537 mod QSM 5.1 table B-15 18316029 | | | **Acquis Date:** | | 2018-11-13T23:15:01 |
| **Sample Type:** | Quality Control | | | **Instrument:** | | LM27631 |
| **Vial Position:** | 85 | | | **Acquis Method:** | | 18AUG13_3uL.dam |
| **Injection Vol:** | 3.00 | | | **Result Table:** | | 18316029 |
| **QMethod File:** | 18AUG20QM | | | **ICAL Name:** | | 18NOV12DCAL |
| **Batch Number:** | 18316029 | | | **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: 18NOV13D-05

| Injection Standard Name | Inj Std Conc | Injection Std Peak Area | Rreference Injection Standard Area | Injection Std %Diff | Injection Std %Diff Limit | Injection Std %Diff OOS |
|---|---|---|---|---|---|---|
| 13C3-PFBA | 5.0 | 741384.7 | 661126.9 | 12 | 50 | |
| 13C2-PFOA | 5.0 | 535274.1 | 466902.6 | 15 | 50 | |
| 13C4-PFOS | 4.8 | 279158.3 | 247446.9 | 13 | 50 | |
| 13C2-PFDA | 5.0 | 317118.7 | 295381.6 | 7 | 50 | |

## Extraction Standard Peak Table

| Extraction Standard Name | Ext Std Area | Inj Std Name | Inj Std Area | Area Ratio | Ext Std Conc | Ext Std Result | Ext Std %REC | Ext Std %REC Limit | Ext Std OOS |
|---|---|---|---|---|---|---|---|---|---|
| E13C4-PFBA | 751567.3 | 13C3-PFBA | 741384.7 | 1.014 | 10.000 | 9.090 | 91 | 50-150 | |
| E13C5-PFPeA | 729719.9 | 13C3-PFBA | 741384.7 | 0.984 | 10.000 | 8.829 | 88 | 50-150 | |
| E13C3-PFBS | 405718.5 | 13C3-PFBA | 741384.7 | 0.547 | 9.300 | 7.726 | 83 | 50-150 | |
| E13C2-4:2-FTS | 46441.9 | 13C2-PFOA | 535274.1 | 0.087 | 9.340 | 7.729 | 83 | 50-150 | |
| E13C5-PFHxA | 652049.0 | 13C2-PFOA | 535274.1 | 1.218 | 10.000 | 8.801 | 88 | 50-150 | |
| E13C3-PFHxS | 314140.7 | 13C2-PFOA | 535274.1 | 0.587 | 9.460 | 8.054 | 85 | 50-150 | |
| E13C4-PFHpA | 517994.0 | 13C2-PFOA | 535274.1 | 0.968 | 10.000 | 8.719 | 87 | 50-150 | |
| E13C2-6:2-FTS | 36203.7 | 13C2-PFOA | 535274.1 | 0.068 | 9.500 | 9.050 | 95 | 50-150 | |
| E13C8-PFOA | 901123.2 | 13C2-PFOA | 535274.1 | 1.683 | 10.000 | 9.276 | 93 | 50-150 | |
| E13C8-PFOS | 273558.5 | 13C4-PFOS | 279158.3 | 0.980 | 9.560 | 8.684 | 91 | 50-150 | |
| E13C9-PFNA | 452925.5 | 13C4-PFOS | 279158.3 | 1.622 | 10.000 | 9.047 | 90 | 50-150 | |
| E13C6-PFDA | 603575.9 | 13C2-PFDA | 317118.7 | 1.903 | 10.000 | 8.883 | 89 | 50-150 | |
| E13C2-8:2-FTS | 30440.1 | 13C2-PFDA | 317118.7 | 0.096 | 9.580 | 9.574 | 100 | 50-150 | |
| E13C8-PFOSA | 634198.6 | 13C2-PFDA | 317118.7 | 2.000 | 10.000 | 8.867 | 89 | 50-150 | |
| Ed3-NMeFOSAA | 89391.7 | 13C2-PFDA | 317118.7 | 0.282 | 10.000 | 10.176 | 102 | 50-150 | |
| E13C7-PFUnDA | 236956.1 | 13C2-PFDA | 317118.7 | 0.747 | 10.000 | 8.677 | 87 | 50-150 | |
| Ed5-NEtFOSAA | 65841.8 | 13C2-PFDA | 317118.7 | 0.208 | 10.000 | 8.785 | 88 | 50-150 | |
| E13C2-PFDoDA | 515120.5 | 13C2-PFDA | 317118.7 | 1.624 | 10.000 | 8.435 | 84 | 50-150 | |
| Ed7-NMePFOSAE | 336727.0 | 13C2-PFDA | 317118.7 | 1.062 | 10.000 | 9.190 | 92 | 50-150 | |
| Ed3-NMePFOSA | 74527.0 | 13C2-PFDA | 317118.7 | 0.235 | 10.000 | 8.540 | 85 | 50-150 | |
| Ed9-NEtPFOSAE | 277947.1 | 13C2-PFDA | 317118.7 | 0.876 | 10.000 | 9.117 | 91 | 50-150 | |
| Ed5-NEtPFOSA | 57897.5 | 13C2-PFDA | 317118.7 | 0.183 | 10.000 | 8.566 | 86 | 50-150 | |
| E13C2-PFTeDA | 376622.1 | 13C2-PFDA | 317118.7 | 1.188 | 10.000 | 8.339 | 83 | 50-150 | |

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

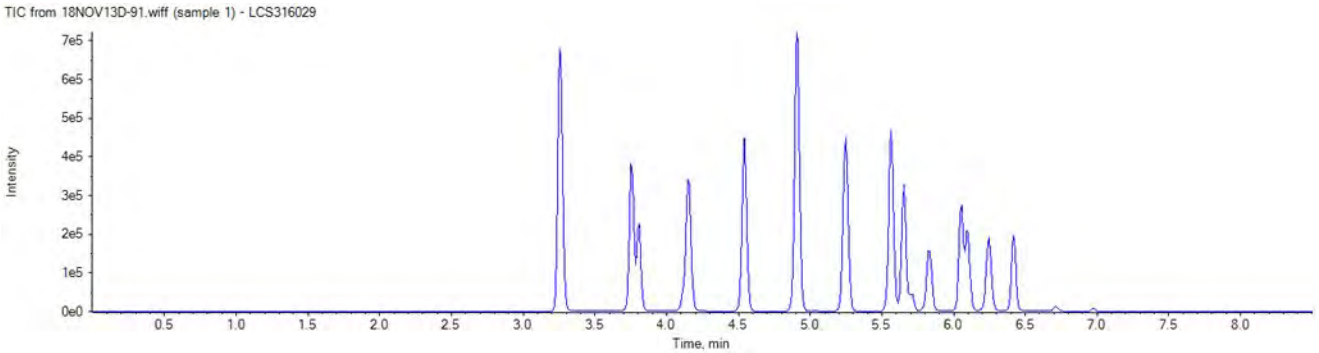
## Analyte Quantitation Peak Table

**Sample Name:** LCS316029 **Instrument Name:** LM27631 **File Name:** 18NOV13D-91.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 | 99005.0 | | A | 13C4-PFBA | 3.26 | 751567.3 | 0.132 | 1.460 |
| PFPeA | 3.76 | 1.000 | 96183.5 | | A | 13C5-PFPeA | 3.76 | 729719.9 | 0.132 | 1.526 |
| PFBS | 3.80 | 1.000 | 53845.3 | | A | 13C3-PFBS | 3.81 | 405718.5 | 0.133 | 1.263 |
| 4:2-FTS | 4.12 | 1.000 | 33275.5 | | A | 13C2-4:2-FTS | 4.12 | 46441.9 | 0.716 | 3.891 |
| PFHxA | 4.15 | 1.000 | 115414.5 | | A | 13C5-PFHxA | 4.15 | 652049.0 | 0.177 | 1.478 |
| PFPeS | 4.17 | 1.100 | 28647.1 | | A | 13C3-PFBS | 3.81 | 405718.5 | 0.071 | 1.371 |
| PFHpA | 4.54 | 1.000 | 123898.9 | | A | 13C4-PFHpA | 4.54 | 517994.0 | 0.239 | 1.586 |
| PFHxS | 4.54 | 1.000 | 42557.0 | | A | 13C3-PFHxS | 4.54 | 314140.7 | 0.135 | 1.314 |
| 6:2-FTS | 4.90 | 1.000 | 28232.7 | | A | 13C2-6:2-FTS | 4.90 | 36203.7 | 0.780 | 3.774 |
| PFHpS | 4.90 | 1.080 | 38176.5 | | A | 13C3-PFHxS | 4.54 | 314140.7 | 0.122 | 1.279 |
| PFOA | 4.91 | 1.000 | 124052.0 | | A | 13C8-PFOA | 4.91 | 901123.2 | 0.138 | 1.470 |
| PFOS | 5.24 | 1.000 | 38309.0 | | A | 13C8-PFOS | 5.24 | 273558.5 | 0.140 | 1.225 |
| PFNA | 5.26 | 1.000 | 94427.4 | | A | 13C9-PFNA | 5.25 | 452925.5 | 0.208 | 1.504 |
| PFNS | 5.54 | 1.060 | 25185.5 | | A | 13C8-PFOS | 5.24 | 273558.5 | 0.092 | 1.288 |
| PFDA | 5.56 | 1.000 | 84660.3 | | M | 13C6-PFDA | 5.56 | 603575.9 | 0.140 | 1.487 |
| 8:2-FTS | 5.57 | 1.000 | 24271.6 | | A | 13C2-8:2-FTS | 5.57 | 30440.1 | 0.797 | 3.718 |
| PFOSA | 5.65 | 1.000 | 89683.2 | | A | 13C8-PFOSA | 5.65 | 634198.6 | 0.141 | 1.381 |
| NMeFOSAA | 5.71 | 1.000 | 10601.5 | | A | d3-NMeFOSAA | 5.71 | 89391.7 | 0.119 | 1.341 |
| PFDS | 5.80 | 1.110 | 19024.3 | | A | 13C8-PFOS | 5.24 | 273558.5 | 0.070 | 1.260 |
| PFUnDA | 5.83 | 1.000 | 68104.2 | | A | 13C7-PFUnDA | 5.83 | 236956.1 | 0.287 | 1.503 |
| NEtFOSAA | 5.85 | 1.000 | 10025.8 | | M | d5-NEtFOSAA | 5.84 | 65841.8 | 0.152 | 1.596 |
| PFDoDA | 6.05 | 1.000 | 75960.8 | | A | 13C2-PFDoDA | 6.05 | 515120.5 | 0.147 | 1.502 |
| 10:2-FTS | 6.07 | 1.090 | 14233.4 | | M | 13C2-8:2-FTS | 5.57 | 30440.1 | 0.468 | 3.115 |
| NMePFOSAE | 6.11 | 1.000 | 52198.8 | | A | d7-NMePFOSAE | 6.09 | 336727.0 | 0.155 | 1.290 |
| NMePFOSA | 6.11 | 1.000 | 9632.1 | | A | d3-NMePFOSA | 6.11 | 74527.0 | 0.129 | 1.275 |
| PFDoS | 6.21 | 1.190 | 9144.3 | | A | 13C8-PFOS | 5.24 | 273558.5 | 0.033 | 1.171 |
| NEtPFOSAE | 6.25 | 1.000 | 61980.2 | | M | d9-NEtPFOSAE | 6.24 | 277947.1 | 0.223 | 1.431 |
| NEtPFOSA | 6.27 | 1.000 | 6921.3 | | A | d5-NEtPFOSA | 6.26 | 57897.5 | 0.120 | 1.098 |
| PFTrDA | 6.24 | 1.030 | 63557.4 | | A | 13C2-PFDoDA | 6.05 | 515120.5 | 0.123 | 1.557 |
| PFTeDA | 6.42 | 1.000 | 50391.6 | | A | 13C2-PFTeDA | 6.42 | 376622.1 | 0.134 | 1.500 |
| PFHxDA | 6.71 | 1.050 | 23452.8 | | A | 13C2-PFTeDA | 6.42 | 376622.1 | 0.062 | 1.484 |
| PFODA | 6.98 | 1.090 | 18360.8 | | A | 13C2-PFTeDA | 6.42 | 376622.1 | 0.049 | 1.358 |

## Total Ion Chromatogram



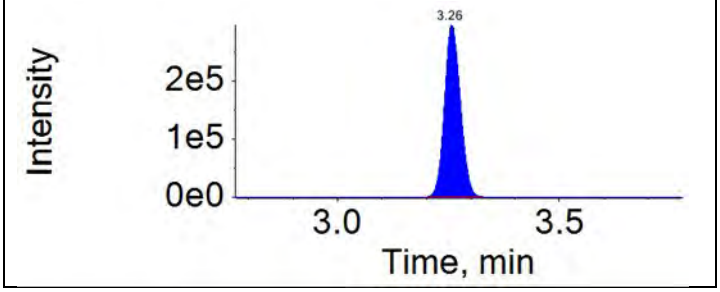

APPROVED
*By MCD at 6:55 pm, 11/14/18*



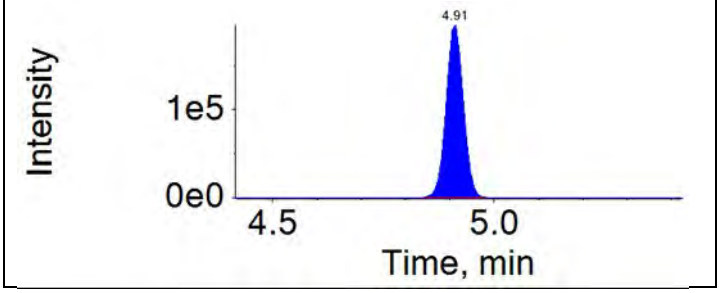
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

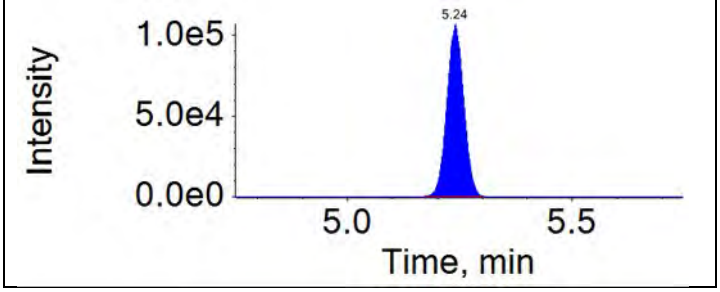
Injection Standard: 13C3-PFBA
216.0 / 172.0



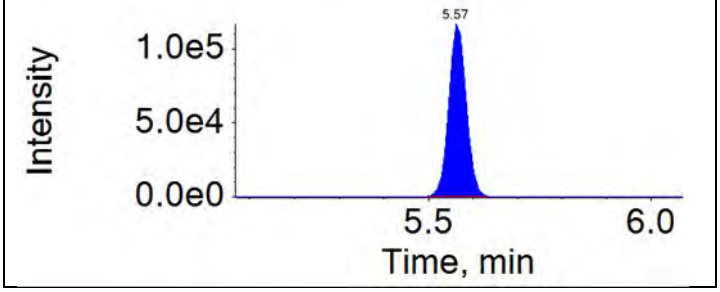

Injection Standard: 13C2-PFOA
415.0 / 370.0




Injection Standard: 13C4-PFOS
503.0 / 80.0




Injection Standard: 13C2-PFDA
515.0 / 470.0

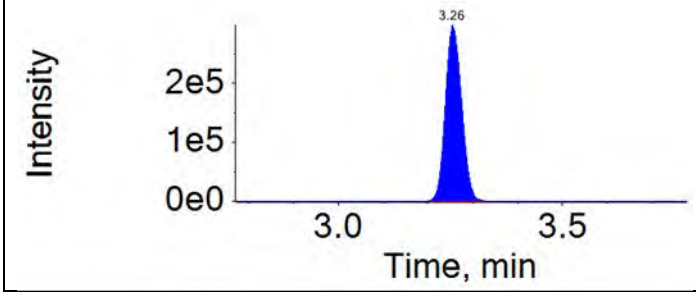
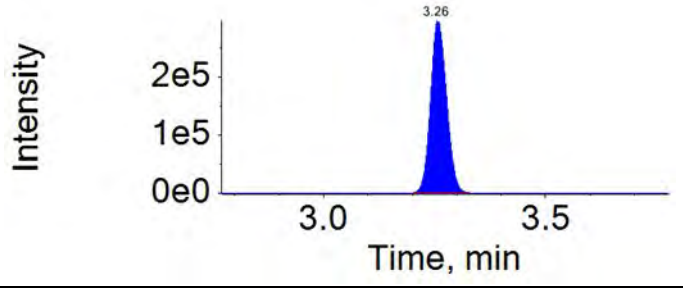



APPROVED
*By MCD at 6:55 pm, 11/14/18*

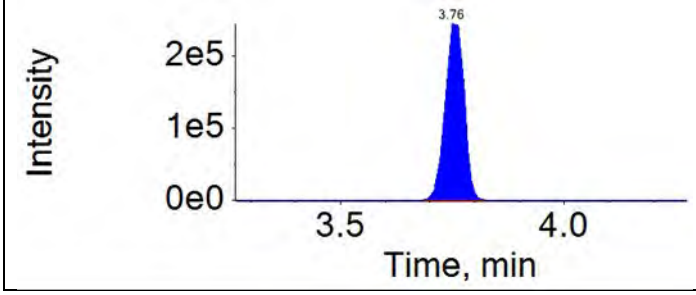
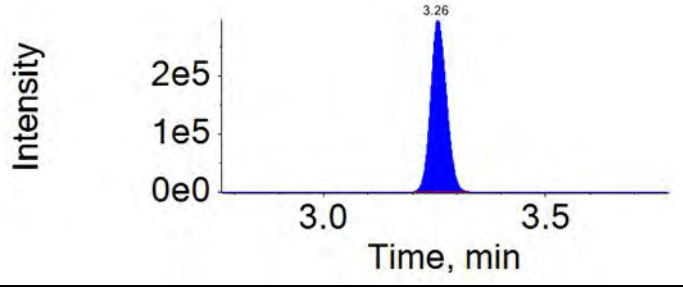


REVIEWED
*By HMK at 11:03 am, 11/15/18*

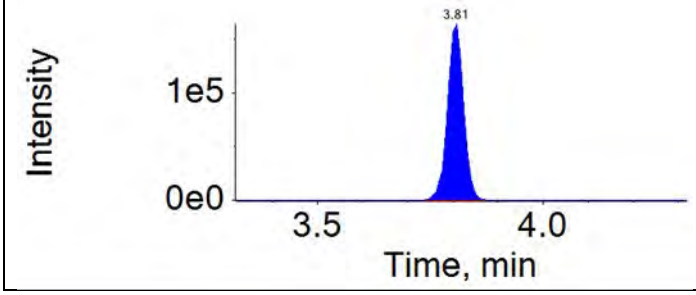
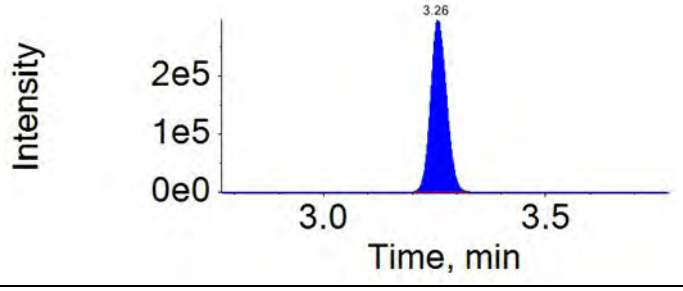
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C4-PFBA | Injection Standard: 13C3-PFBA |
|---|---|
| 217.0 / 172.0 | 216.0 / 172.0 |
|  |  |

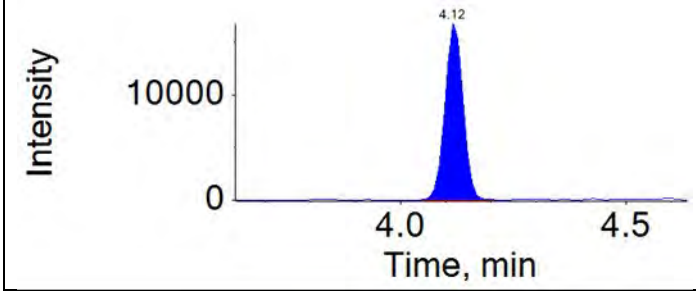
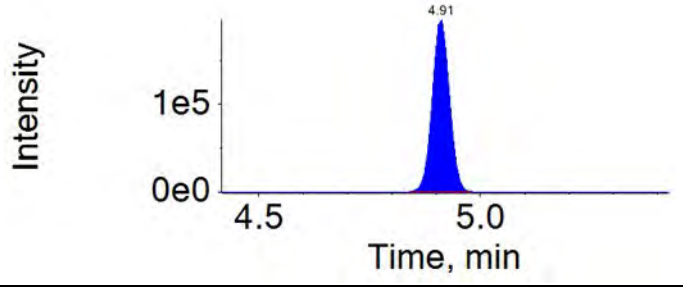


| Extraction Standard: E13C5-PFPeA | Injection Standard: 13C3-PFBA |
|---|---|
| 268.0 / 223.0 | 216.0 / 172.0 |
|  |  |



| Extraction Standard: E13C3-PFBS | Injection Standard: 13C3-PFBA |
|---|---|
| 302.0 / 80.0 | 216.0 / 172.0 |
|  |  |



| Extraction Standard: E13C2-4:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 329.0 / 81.0 | 415.0 / 370.0 |
|  |  |



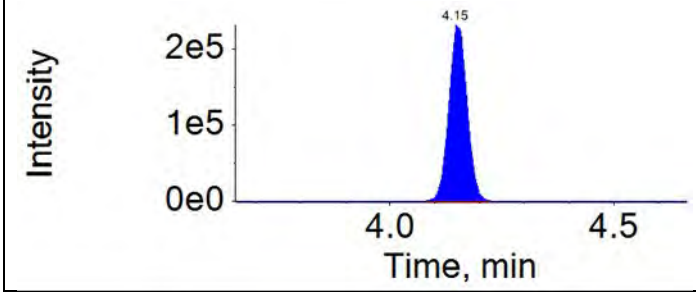
APPROVED
*By MCD at 6:55 pm, 11/14/18*

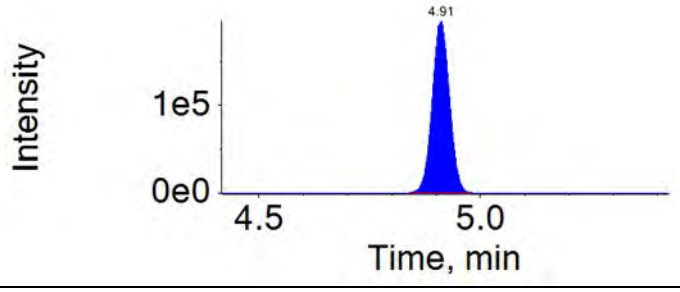


REVIEWED
*By HMK at 11:03 am, 11/15/18*

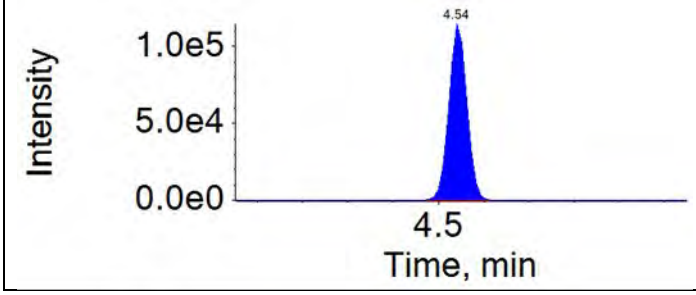
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

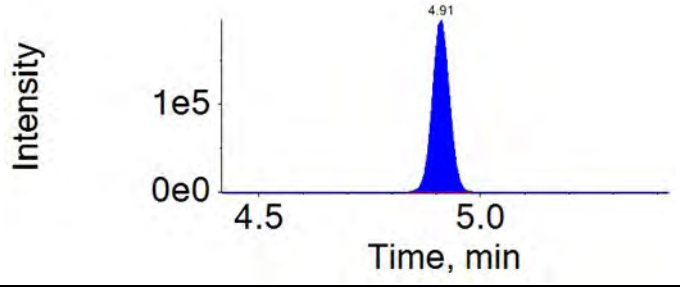
| Extraction Standard: E13C5-PFHxA | Injection Standard: 13C2-PFOA |
|---|---|
| 318.0 / 273.0 | 415.0 / 370.0 |



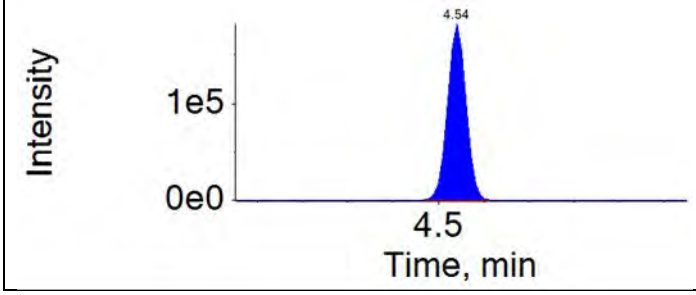



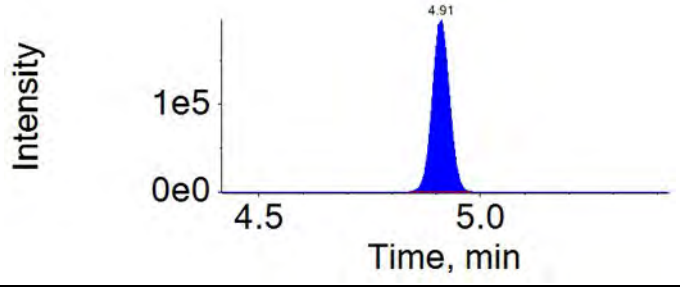

| Extraction Standard: E13C3-PFHxS | Injection Standard: 13C2-PFOA |
|---|---|
| 402.0 / 80.0 | 415.0 / 370.0 |



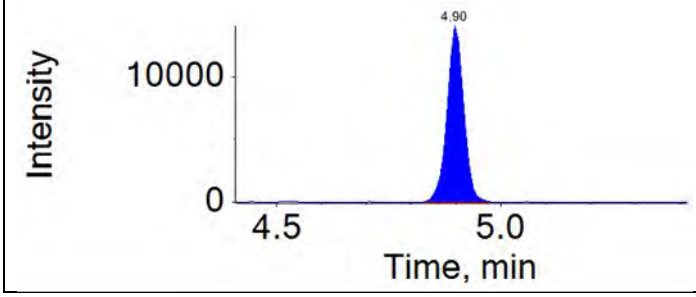



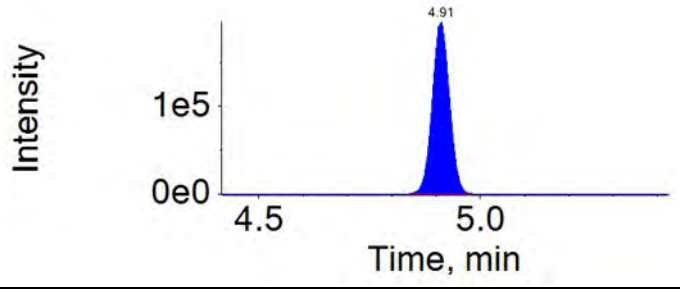

| Extraction Standard: E13C4-PFHpA | Injection Standard: 13C2-PFOA |
|---|---|
| 367.0 / 322.0 | 415.0 / 370.0 |




| Extraction Standard: E13C2-6:2-FTS | Injection Standard: 13C2-PFOA |
|---|---|
| 429.0 / 81.0 | 415.0 / 370.0 |



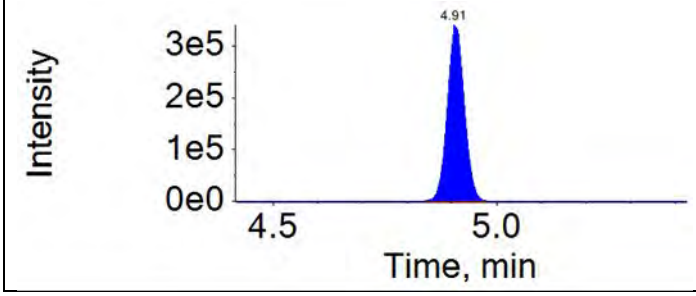
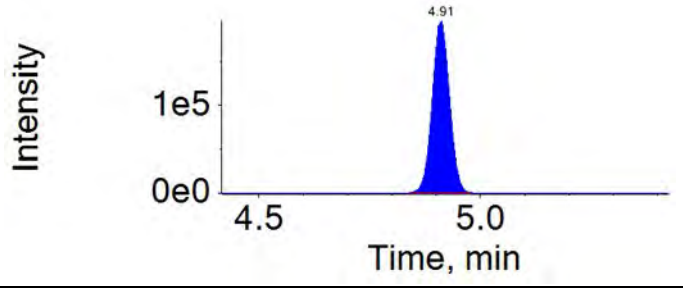




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*By MCD at 6:55 pm, 11/14/18*



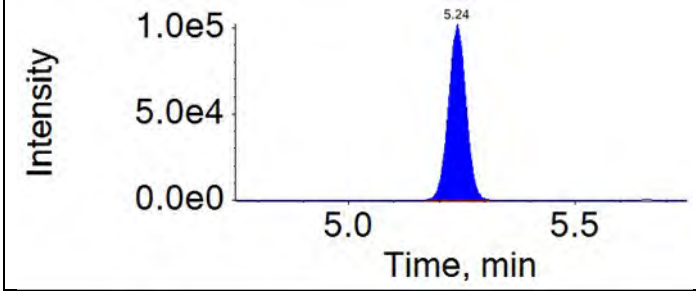
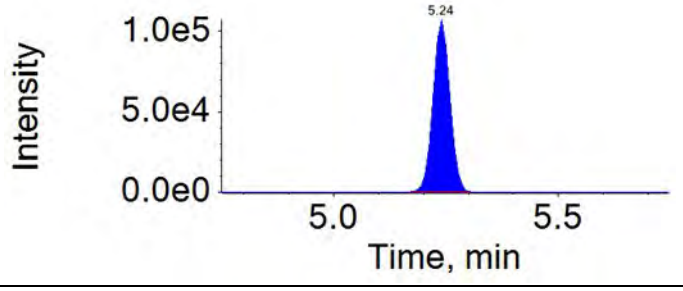
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C8-PFOA | Injection Standard: 13C2-PFOA |
|---|---|
| 421.0 / 376.0 | 415.0 / 370.0 |
|  |  |

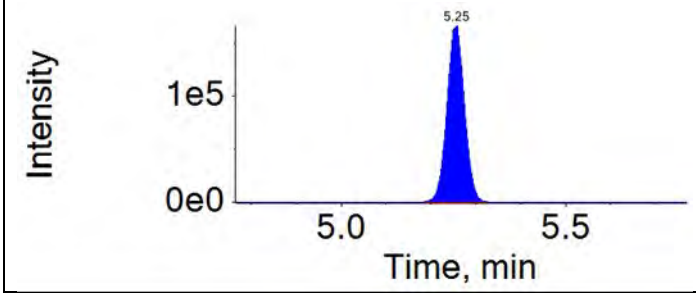
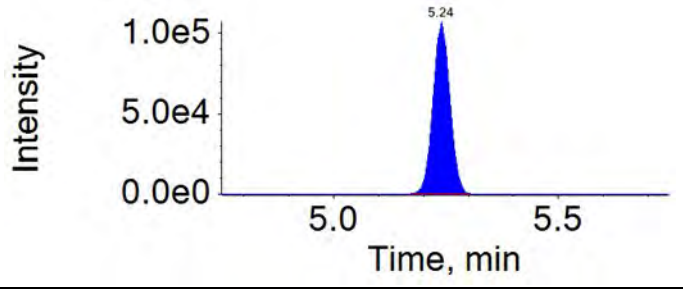




| Extraction Standard: E13C8-PFOS | Injection Standard: 13C4-PFOS |
|---|---|
| 507.0 / 80.0 | 503.0 / 80.0 |
|  |  |

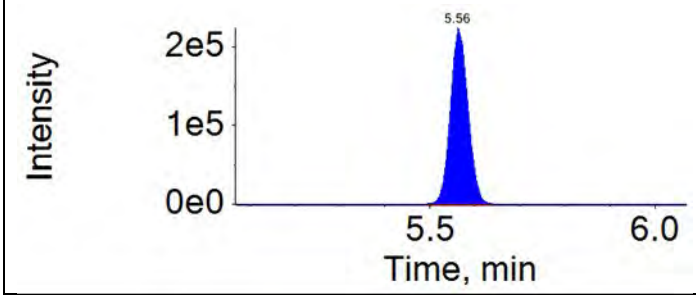
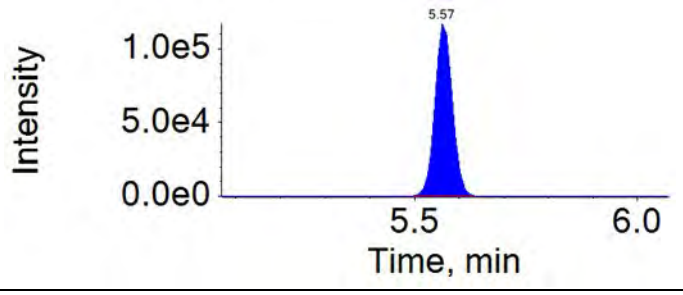




| Extraction Standard: E13C9-PFNA | Injection Standard: 13C4-PFOS |
|---|---|
| 472.0 / 427.0 | 503.0 / 80.0 |
|  |  |





| Extraction Standard: E13C6-PFDA | Injection Standard: 13C2-PFDA |
|---|---|
| 519.0 / 474.0 | 515.0 / 470.0 |
|  |  |



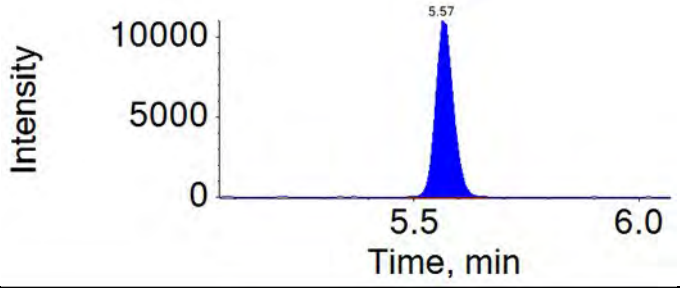
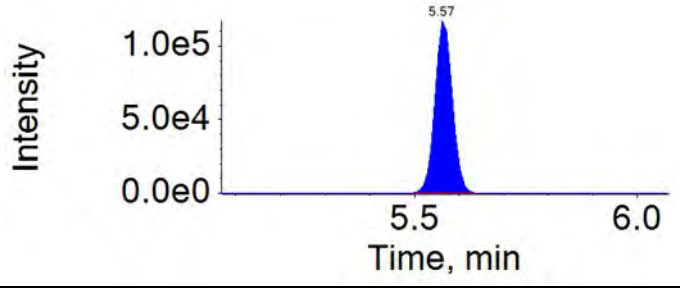


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*By MCD at 6:55 pm, 11/14/18*



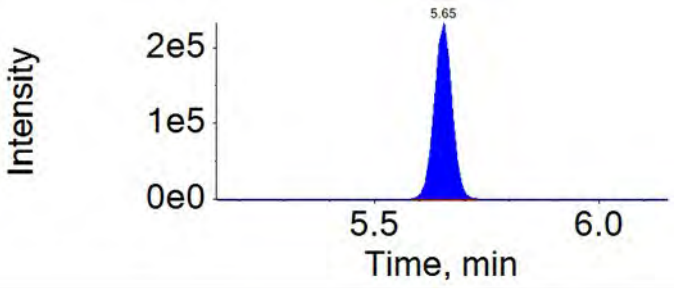
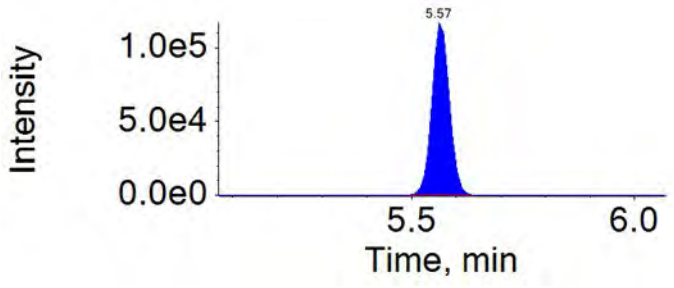
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: E13C2-8:2-FTS | Injection Standard: 13C2-PFDA |
|---|---|
| 529.0 / 81.0 | 515.0 / 470.0 |
|  |  |

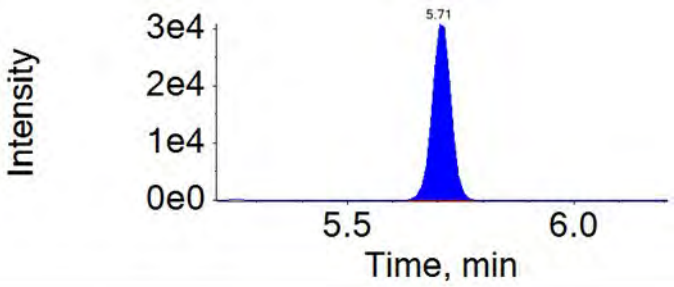
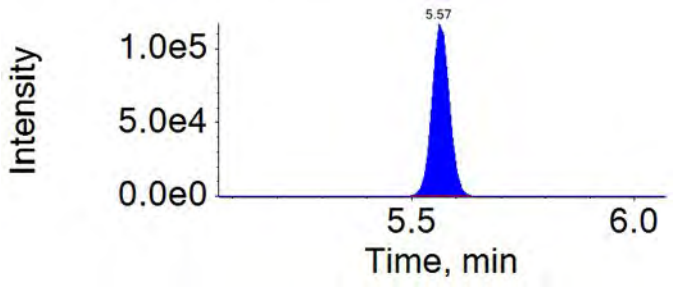




| Extraction Standard: E13C8-PFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 506.0 / 78.0 | 515.0 / 470.0 |
|  |  |

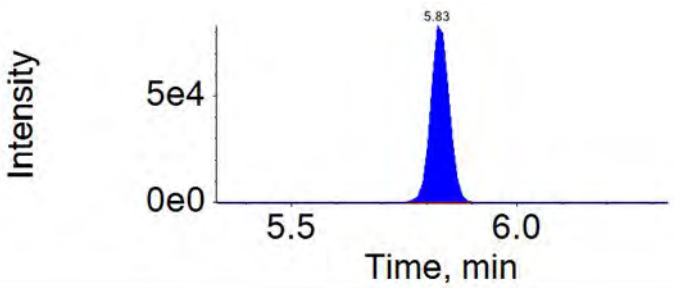
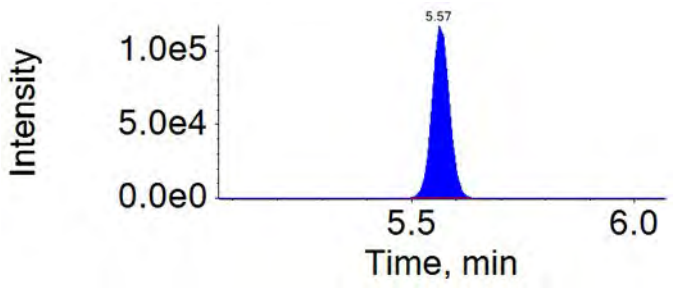




| Extraction Standard: Ed3-NMeFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 573.0 / 419.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: E13C7-PFUnDA | Injection Standard: 13C2-PFDA |
|---|---|
| 570.0 / 525.0 | 515.0 / 470.0 |
|  |  |



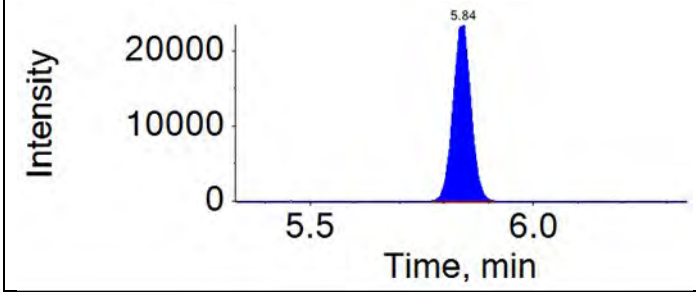
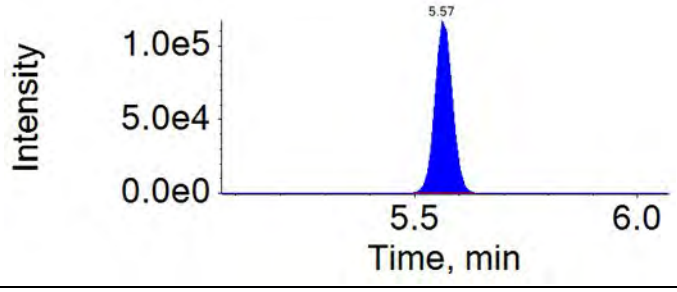


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*By MCD at 6:55 pm, 11/14/18*



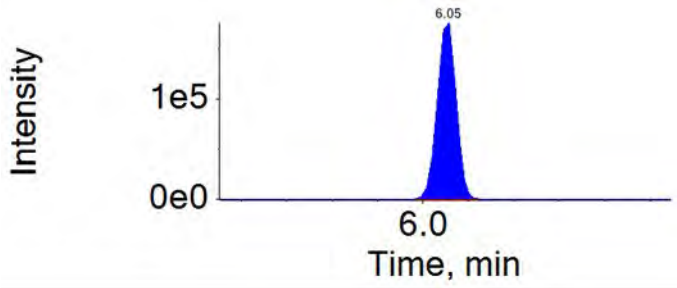
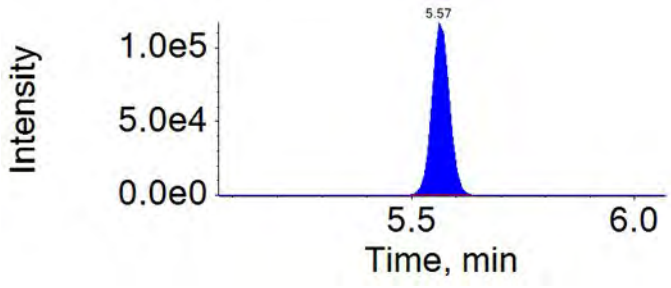
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Extraction Standard: Ed5-NEtFOSAA | Injection Standard: 13C2-PFDA |
|---|---|
| 589.0 / 419.0 | 515.0 / 470.0 |
|  |  |

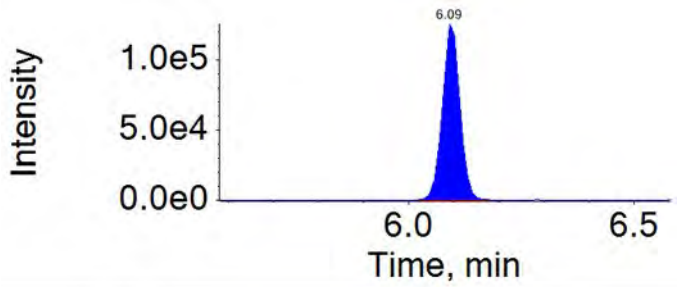
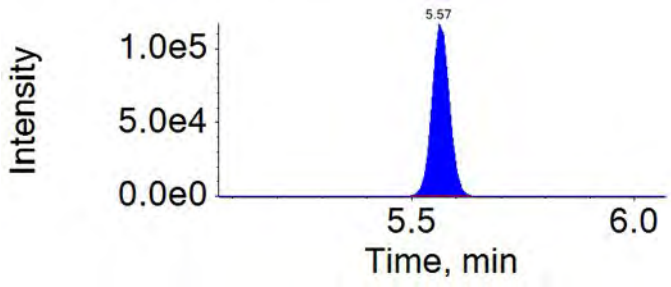




| Extraction Standard: E13C2-PFDoDA | Injection Standard: 13C2-PFDA |
|---|---|
| 615.0 / 570.0 | 515.0 / 470.0 |
|  |  |

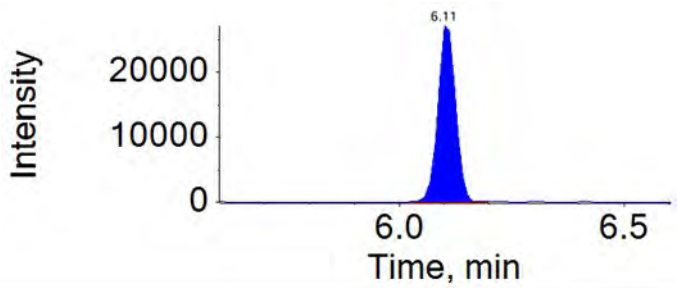
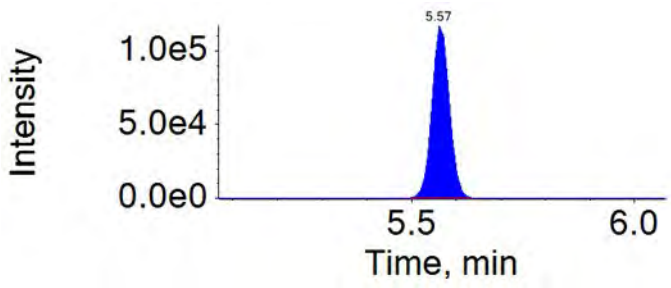




| Extraction Standard: Ed7-NMePFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 623.0 / 59.0 | 515.0 / 470.0 |
|  |  |





| Extraction Standard: Ed3-NMePFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 515.0 / 169.0 | 515.0 / 470.0 |
|  |  |





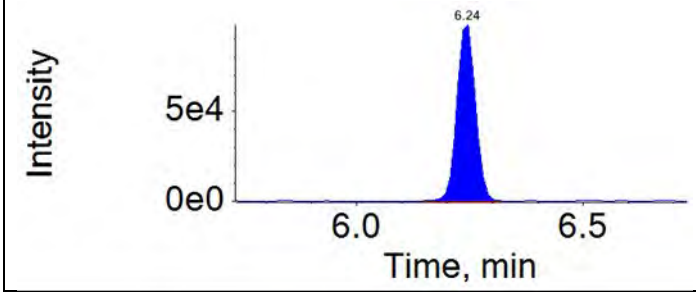
APPROVED
*By MCD at 6:55 pm, 11/14/18*

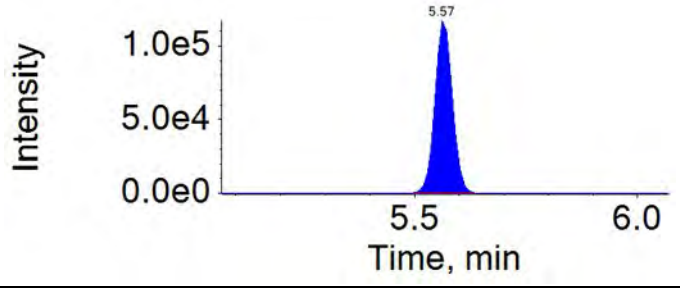


REVIEWED
*By HMK at 11:03 am, 11/15/18*

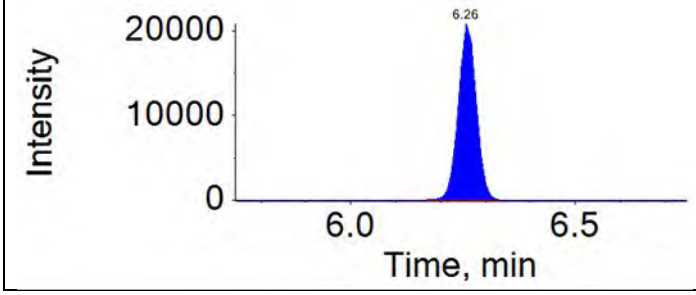
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

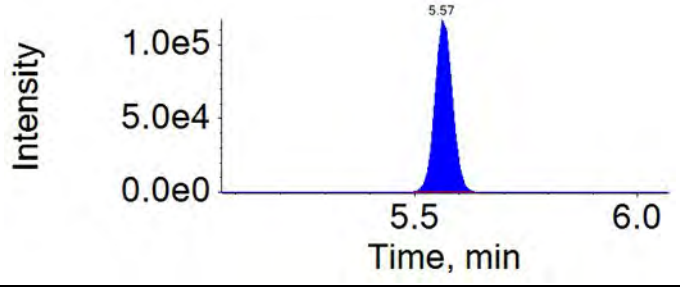
| Extraction Standard: Ed9-NEtPFOSAE | Injection Standard: 13C2-PFDA |
|---|---|
| 639.0 / 59.0 | 515.0 / 470.0 |



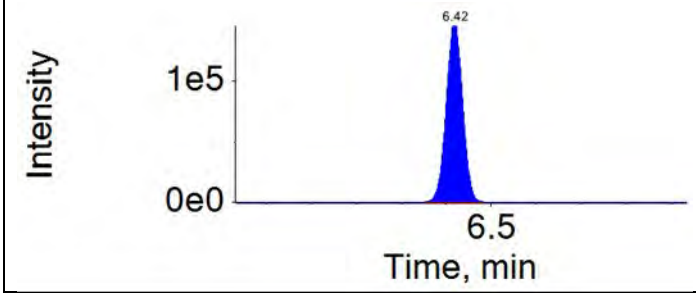



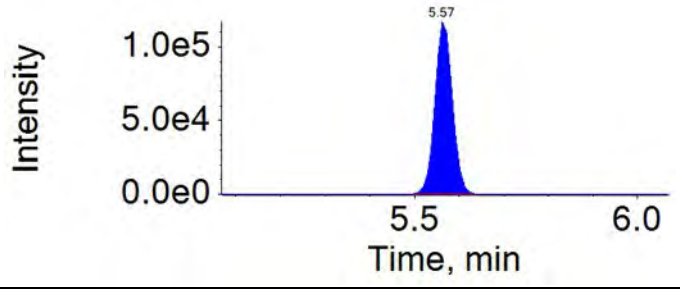

| Extraction Standard: Ed5-NEtPFOSA | Injection Standard: 13C2-PFDA |
|---|---|
| 531.0 / 169.0 | 515.0 / 470.0 |




| Extraction Standard: E13C2-PFTeDA | Injection Standard: 13C2-PFDA |
|---|---|
| 715.0 / 670.0 | 515.0 / 470.0 |



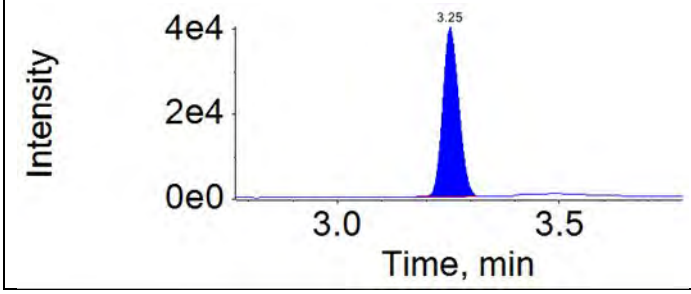
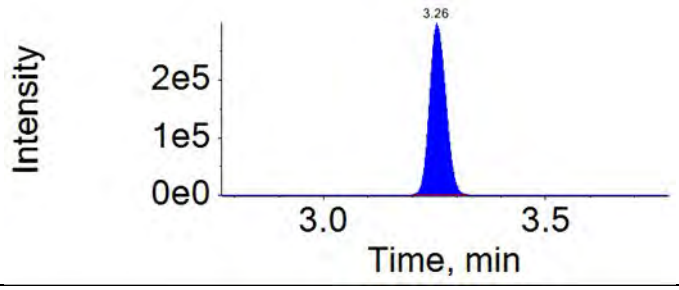




APPROVED
*By MCD at 6:55 pm, 11/14/18*



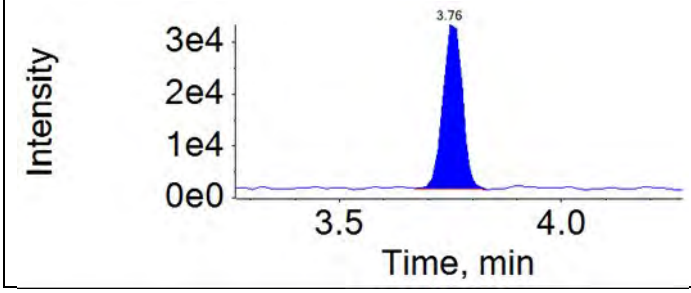
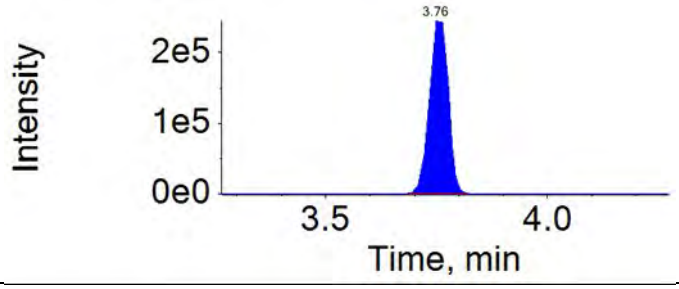
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFBA | Extraction Standard: 13C4-PFBA |
|---|---|
| 213.0 / 169.0 | 217.0 / 172.0 |
|  |  |

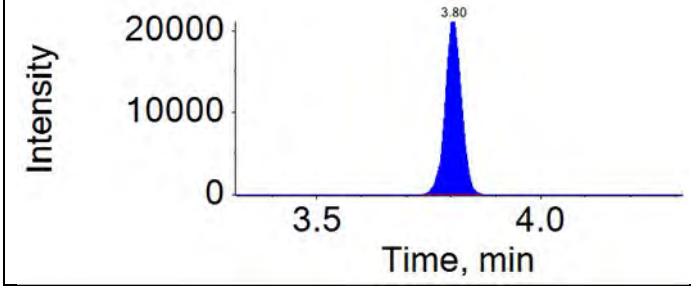
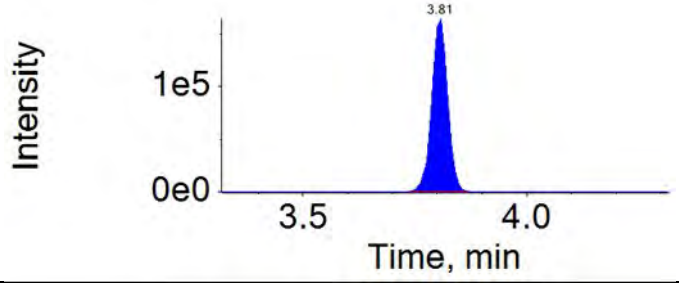




| Analyte: PFPeA | Extraction Standard: 13C5-PFPeA |
|---|---|
| 263.0 / 219.0 | 268.0 / 223.0 |
|  |  |

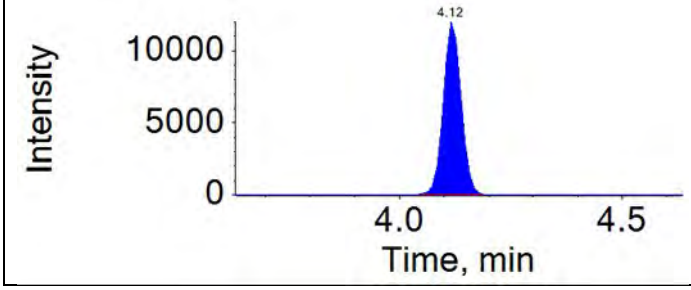
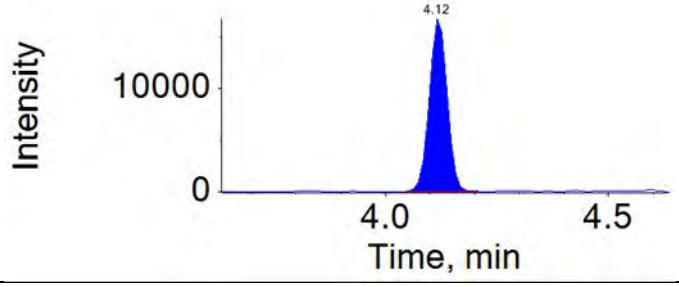




| Analyte: PFBS | Extraction Standard: 13C3-PFBS |
|---|---|
| 299.0 / 80.0 | 302.0 / 80.0 |
|  |  |





| Analyte: 4:2-FTS | Extraction Standard: 13C2-4:2-FTS |
|---|---|
| 327.0 / 307.0 | 329.0 / 81.0 |
|  |  |



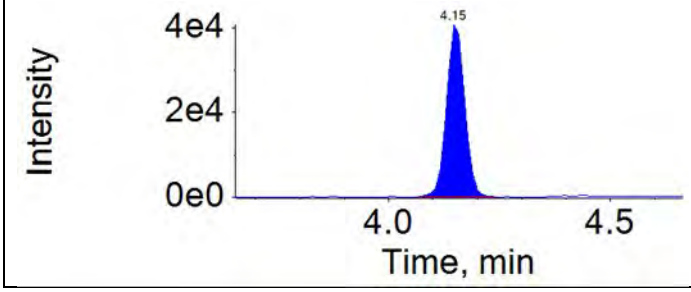
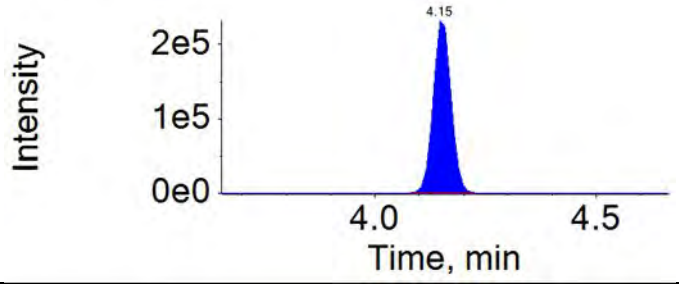


APPROVED
*By MCD at 6:55 pm, 11/14/18*



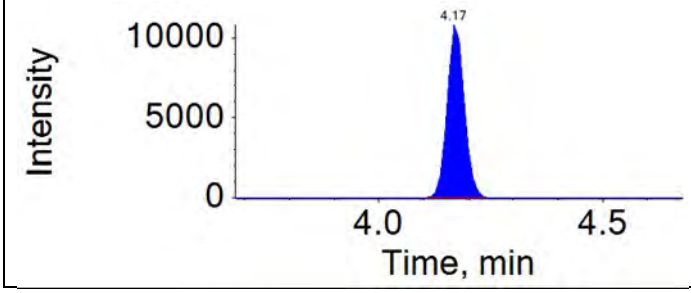
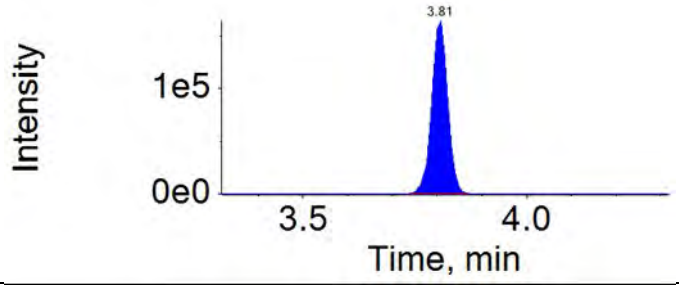
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFHxA | Extraction Standard: 13C5-PFHxA |
|---|---|
| 313.0 / 269.0 | 318.0 / 273.0 |
|  |  |

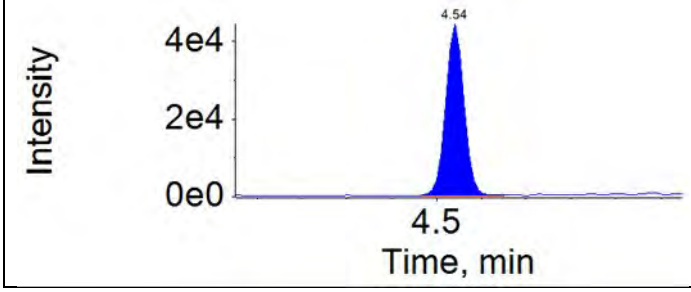
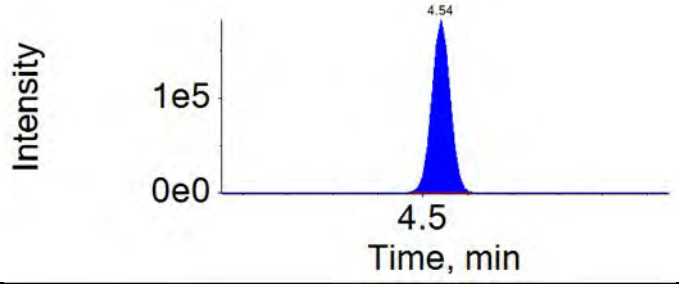




| Analyte: PFPeS | Extraction Standard: 13C3-PFBS |
|---|---|
| 349.0 / 80.0 | 302.0 / 80.0 |
|  |  |

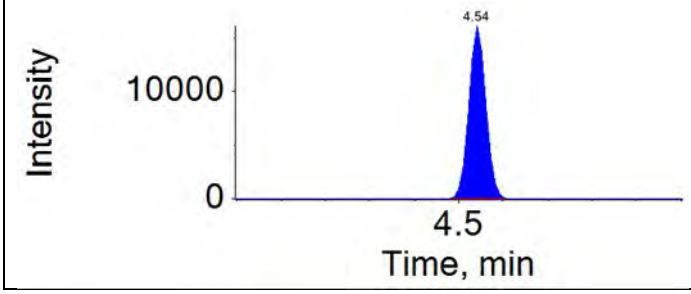
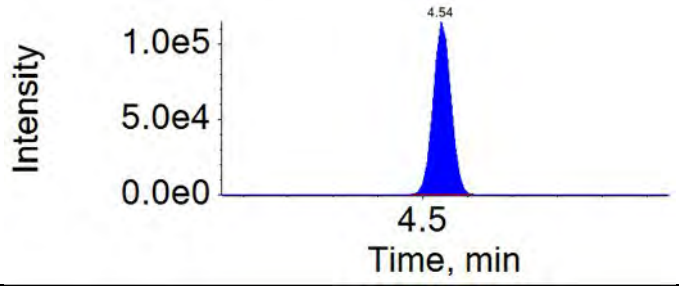




| Analyte: PFHpA | Extraction Standard: 13C4-PFHpA |
|---|---|
| 363.0 / 319.0 | 367.0 / 322.0 |
|  |  |





| Analyte: PFHxS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 399.0 / 80.0 | 402.0 / 80.0 |
|  |  |



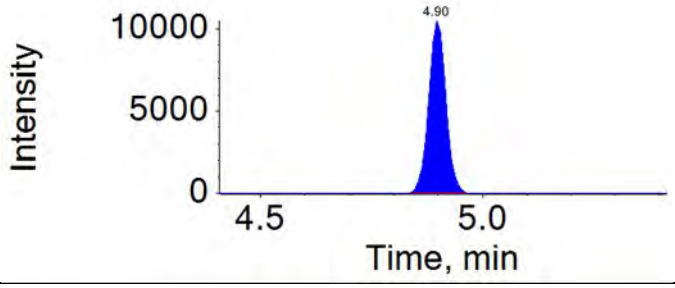
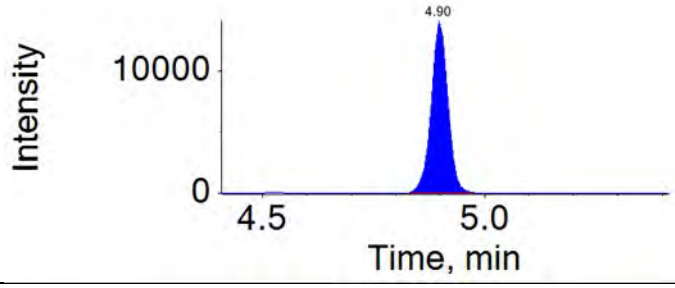


APPROVED
*By MCD at 6:55 pm, 11/14/18*



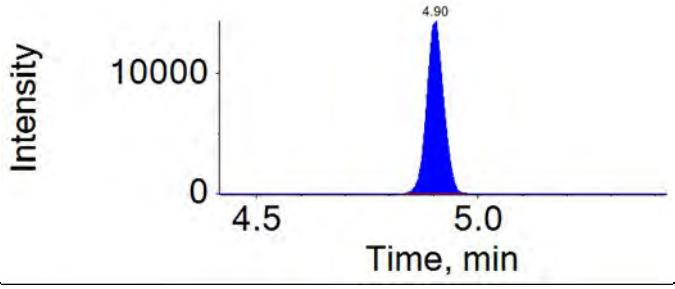
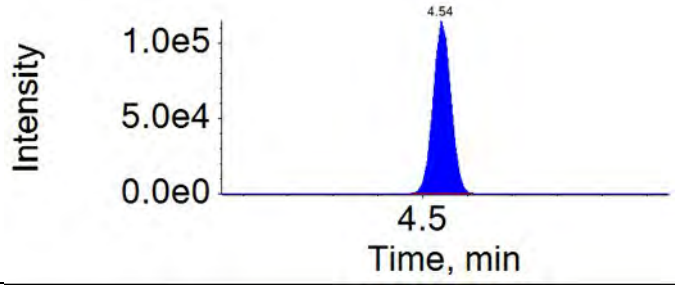
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: 6:2-FTS | Extraction Standard: 13C2-6:2-FTS |
|---|---|
| 427.0 / 407.0 | 429.0 / 81.0 |
|  |  |

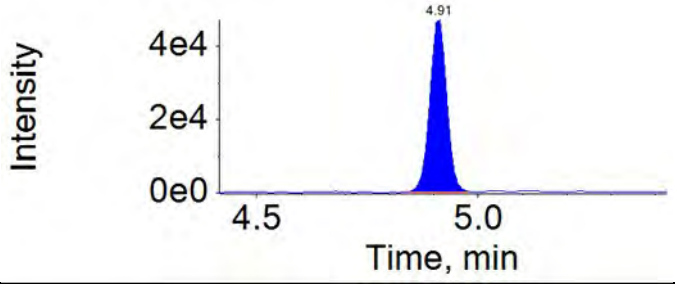
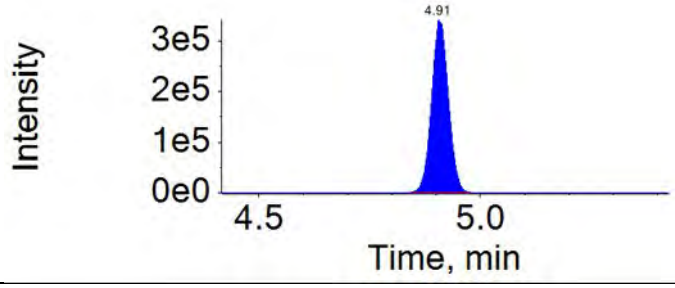




| Analyte: PFHpS | Extraction Standard: 13C3-PFHxS |
|---|---|
| 449.0 / 80.0 | 402.0 / 80.0 |
|  |  |

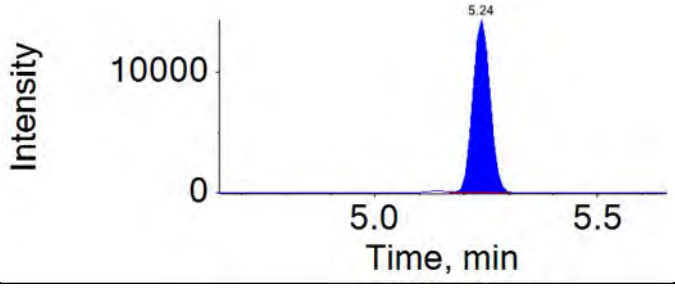
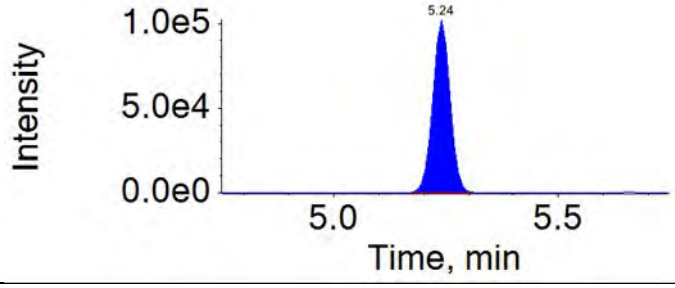




| Analyte: PFOA | Extraction Standard: 13C8-PFOA |
|---|---|
| 413.0 / 369.0 | 421.0 / 376.0 |
|  |  |





| Analyte: PFOS | Extraction Standard: 13C8-PFOS |
|---|---|
| 499.0 / 80.0 | 507.0 / 80.0 |
|  |  |



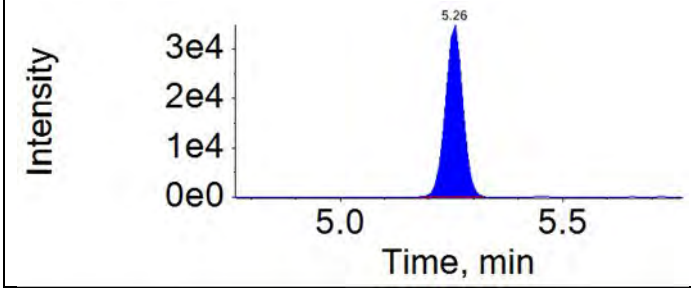
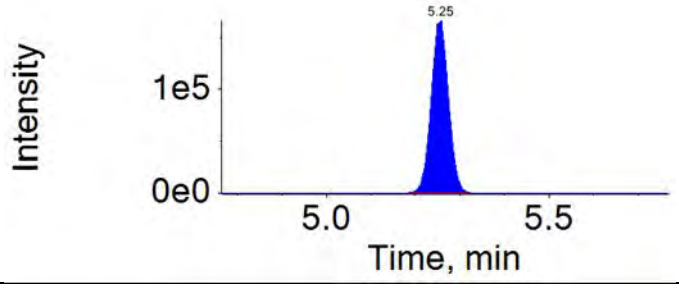


APPROVED
*By MCD at 6:55 pm, 11/14/18*



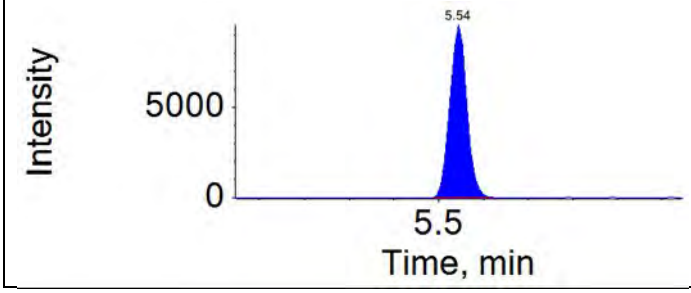
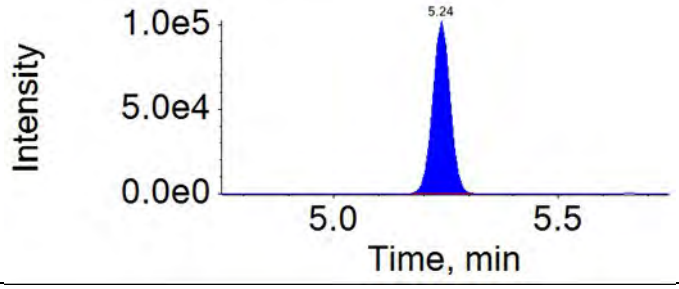
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFNA | Extraction Standard: 13C9-PFNA |
|---|---|
| 463.0 / 419.0 | 472.0 / 427.0 |
|  |  |

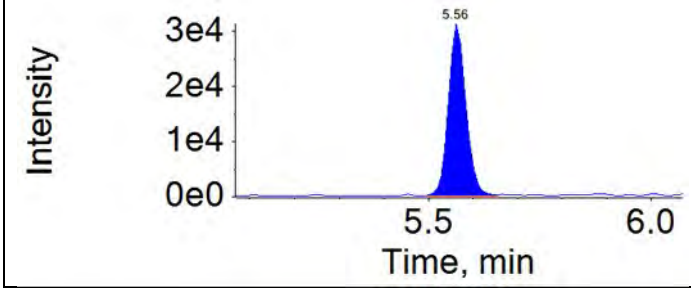
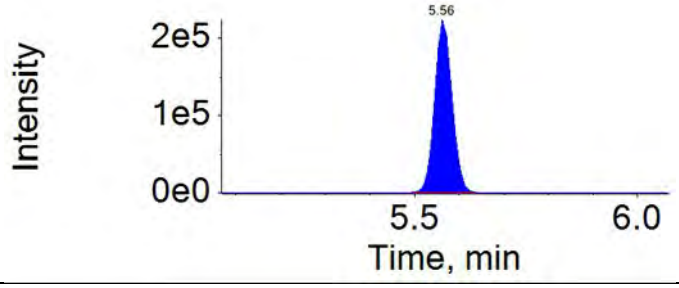




| Analyte: PFNS | Extraction Standard: 13C8-PFOS |
|---|---|
| 549.0 / 80.0 | 507.0 / 80.0 |
|  |  |

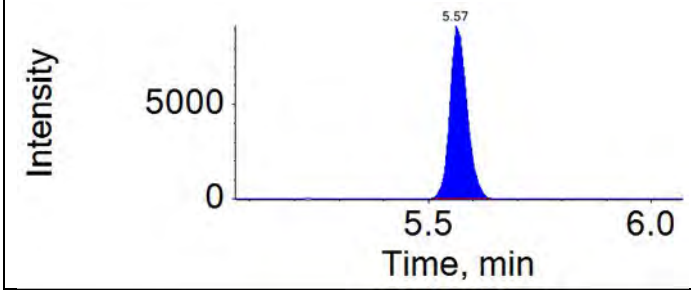
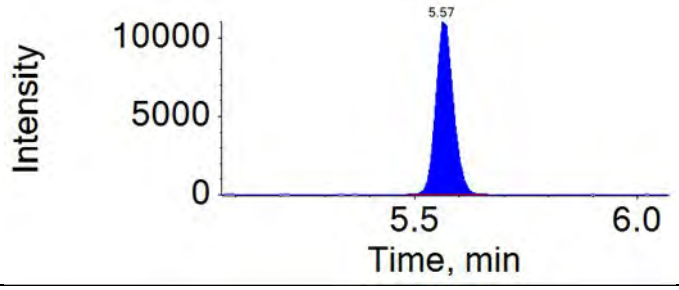




| Analyte: PFDA | Extraction Standard: 13C6-PFDA |
|---|---|
| 513.0 / 469.0 | 519.0 / 474.0 |
|  |  |





| Analyte: 8:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 527.0 / 507.0 | 529.0 / 81.0 |
|  |  |





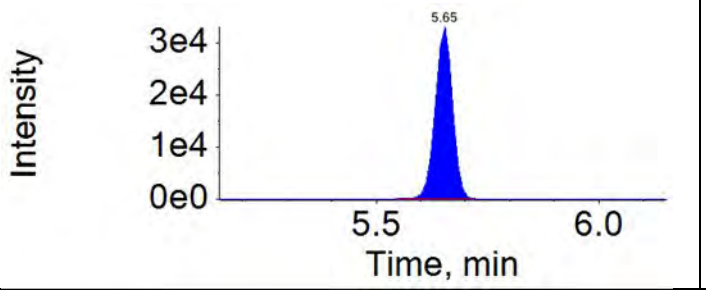
APPROVED
*By MCD at 6:55 pm, 11/14/18*

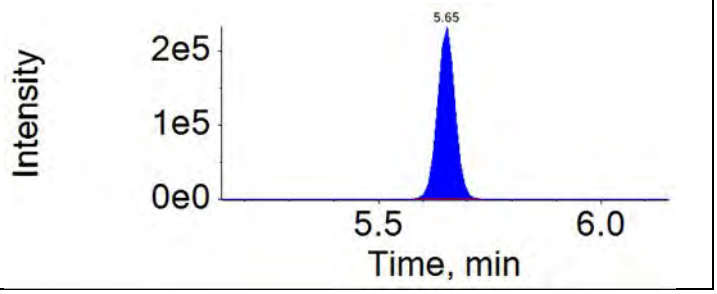


REVIEWED
*By HMK at 11:03 am, 11/15/18*

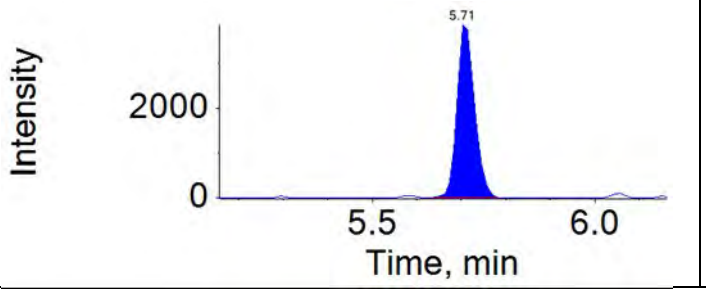
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

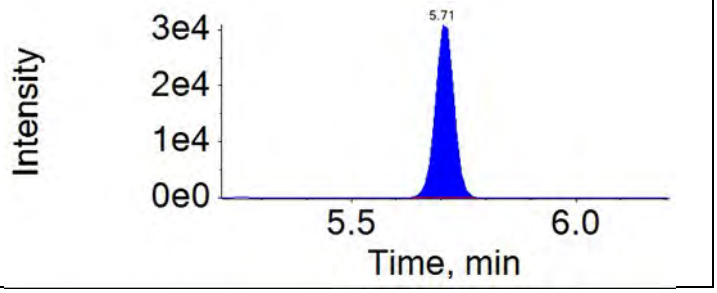
| Analyte: PFOSA | Extraction Standard: 13C8-PFOSA |
|---|---|
| 498.0 / 78.0 | 506.0 / 78.0 |



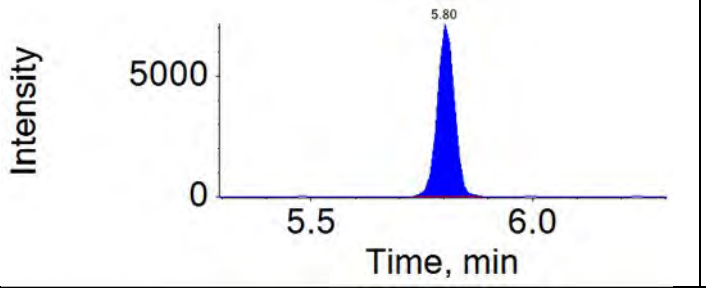



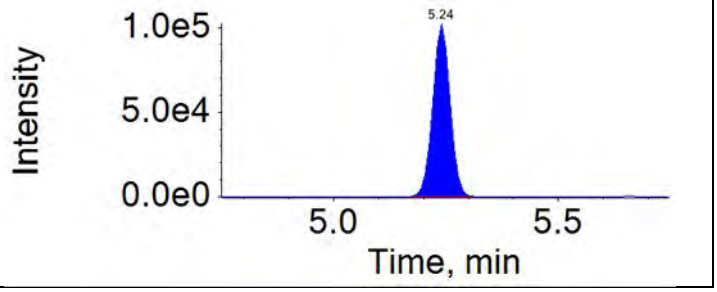

| Analyte: NMeFOSAA | Extraction Standard: d3-NMeFOSAA |
|---|---|
| 570.0 / 419.0 | 573.0 / 419.0 |



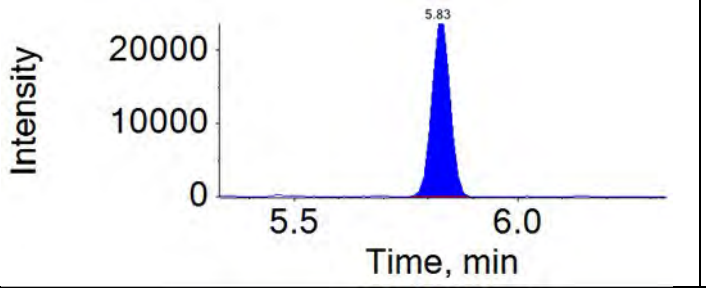



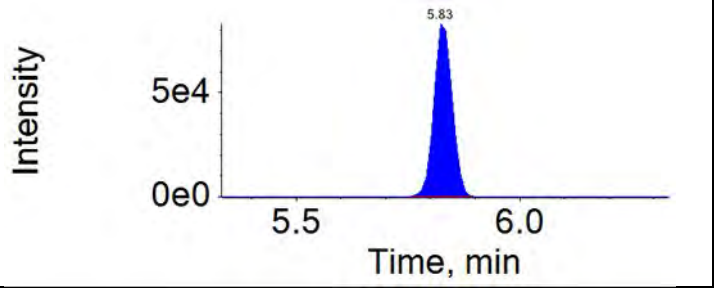

| Analyte: PFDS | Extraction Standard: 13C8-PFOS |
|---|---|
| 599.0 / 80.0 | 507.0 / 80.0 |




| Analyte: PFUnDA | Extraction Standard: 13C7-PFUnDA |
|---|---|
| 563.0 / 519.0 | 570.0 / 525.0 |



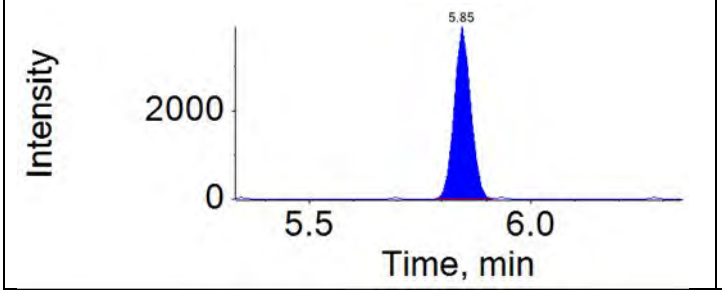

APPROVED
*By MCD at 6:55 pm, 11/14/18*

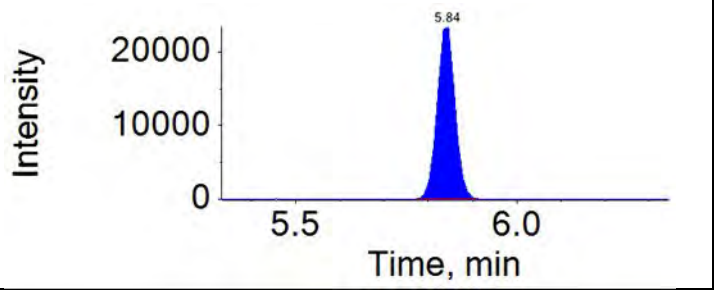


REVIEWED
*By HMK at 11:03 am, 11/15/18*

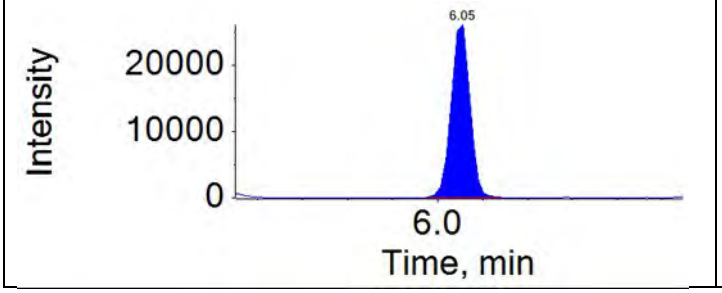
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

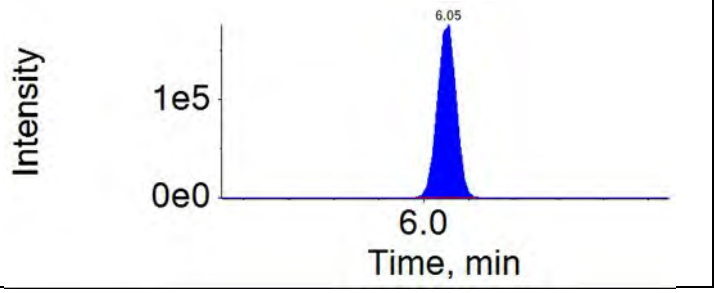
| Analyte: NEtFOSAA | Extraction Standard: d5-NEtFOSAA |
|---|---|
| 584.0 / 419.0 | 589.0 / 419.0 |



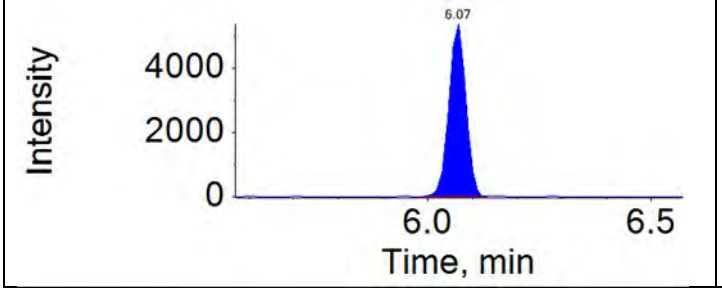



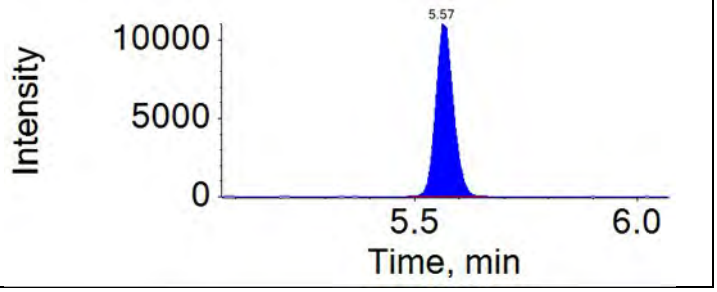

| Analyte: PFDoDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 613.0 / 569.0 | 615.0 / 570.0 |



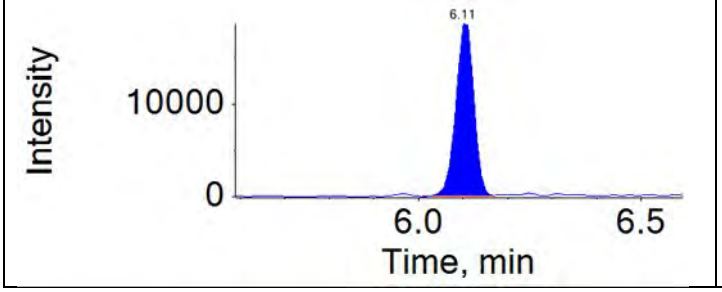



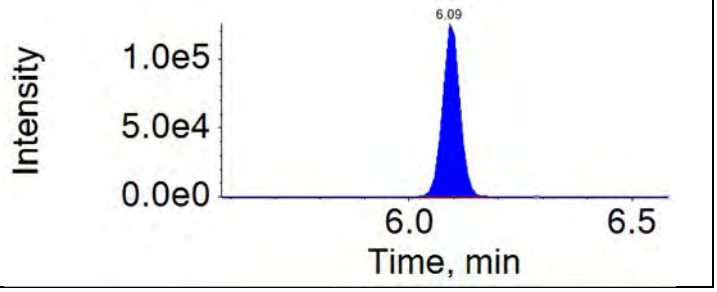

| Analyte: 10:2-FTS | Extraction Standard: 13C2-8:2-FTS |
|---|---|
| 627.0 / 607.0 | 529.0 / 81.0 |




| Analyte: NMePFOSAE | Extraction Standard: d7-NMePFOSAE |
|---|---|
| 616.0 / 59.0 | 623.0 / 59.0 |



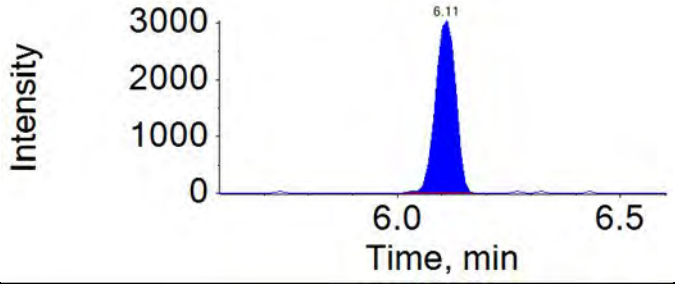

APPROVED
*By MCD at 6:55 pm, 11/14/18*

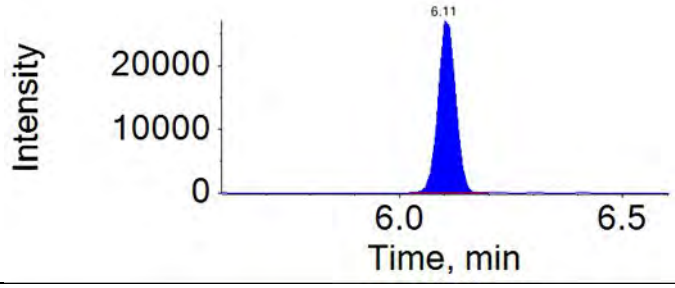


REVIEWED
*By HMK at 11:03 am, 11/15/18*

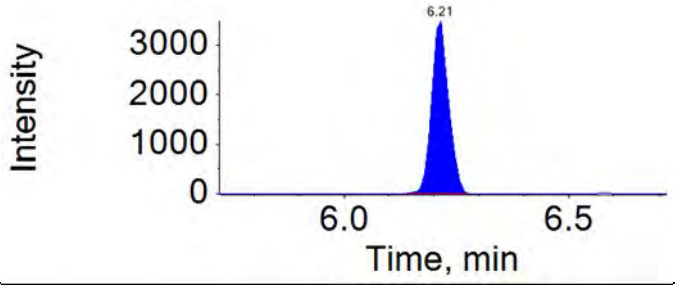
**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

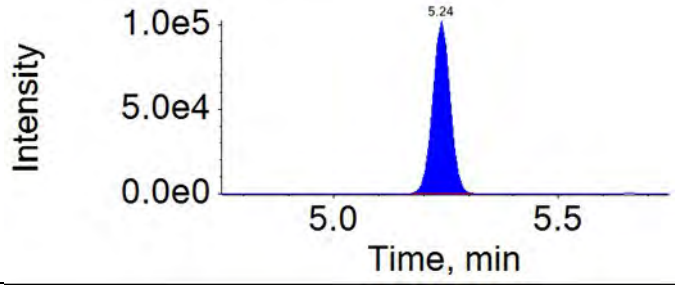
| Analyte: NMePFOSA | Extraction Standard: d3-NMePFOSA |
|---|---|
| 512.0 / 169.0 | 515.0 / 169.0 |



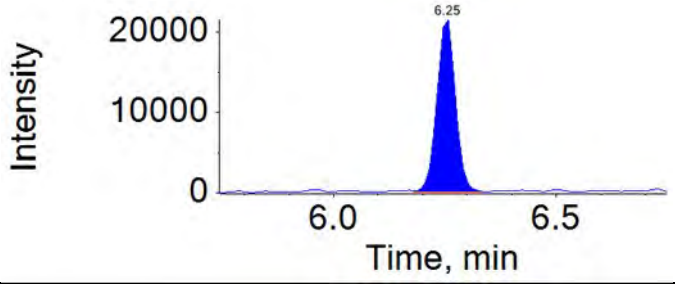



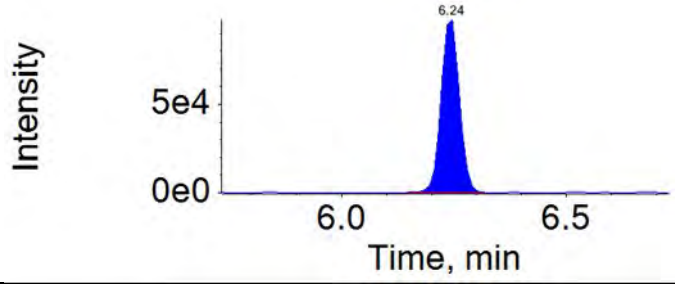

| Analyte: PFDoS | Extraction Standard: 13C8-PFOS |
|---|---|
| 699.0 / 80.0 | 507.0 / 80.0 |



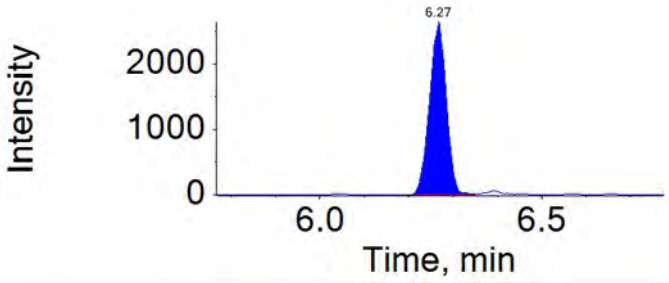



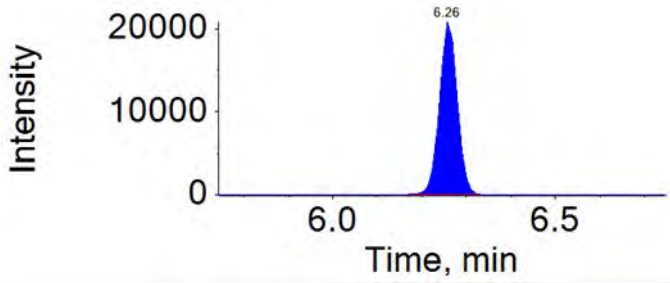

| Analyte: NEtPFOSAE | Extraction Standard: d9-NEtPFOSAE |
|---|---|
| 630.0 / 59.0 | 639.0 / 59.0 |




| Analyte: NEtPFOSA | Extraction Standard: d5-NEtPFOSA |
|---|---|
| 526.0 / 169.0 | 531.0 / 169.0 |



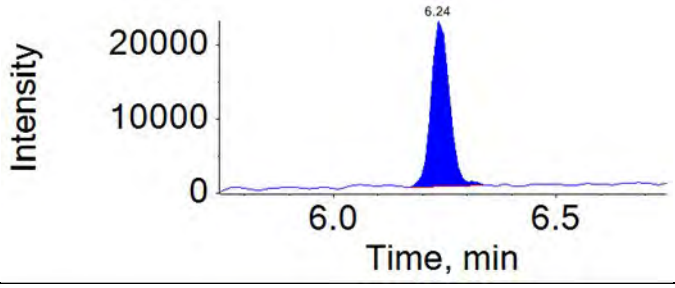
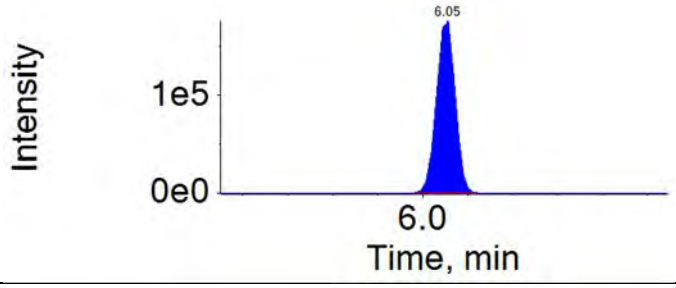




APPROVED
*By MCD at 6:55 pm, 11/14/18*



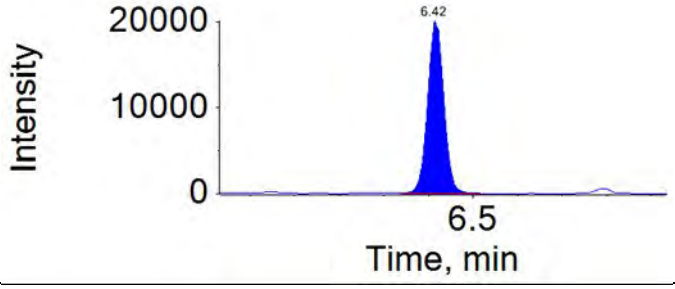
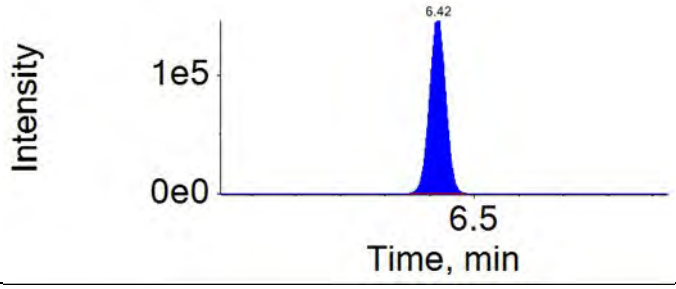
REVIEWED
*By HMK at 11:03 am, 11/15/18*

**ICAL Name:** 18NOV12DCAL **Result Table:** 18316029 11/14/2018 6:48:04 PM
**QMethod Name:** 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

| Analyte: PFTrDA | Extraction Standard: 13C2-PFDoDA |
|---|---|
| 663.0 / 619.0 | 615.0 / 570.0 |
|  |  |

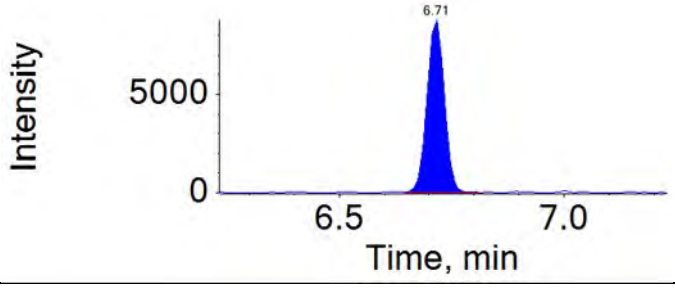
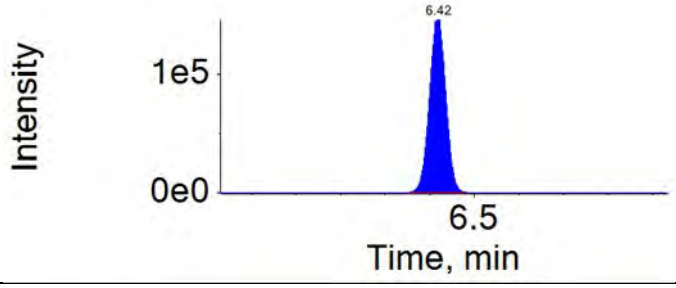




| Analyte: PFTeDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 713.0 / 669.0 | 715.0 / 670.0 |
|  |  |

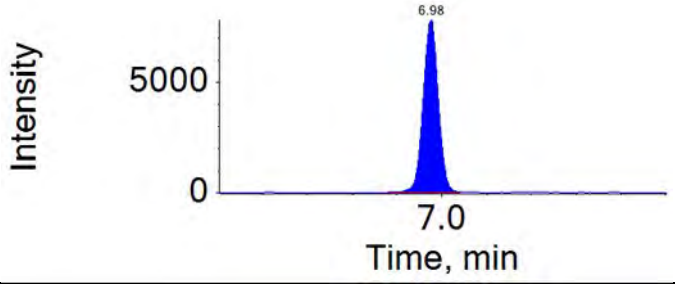
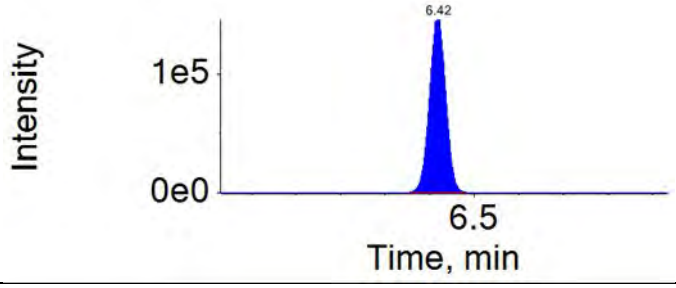




| Analyte: PFHxDA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 813.0 / 769.0 | 715.0 / 670.0 |
|  |  |





| Analyte: PFODA | Extraction Standard: 13C2-PFTeDA |
|---|---|
| 913.0 / 869.0 | 715.0 / 670.0 |
|  |  |





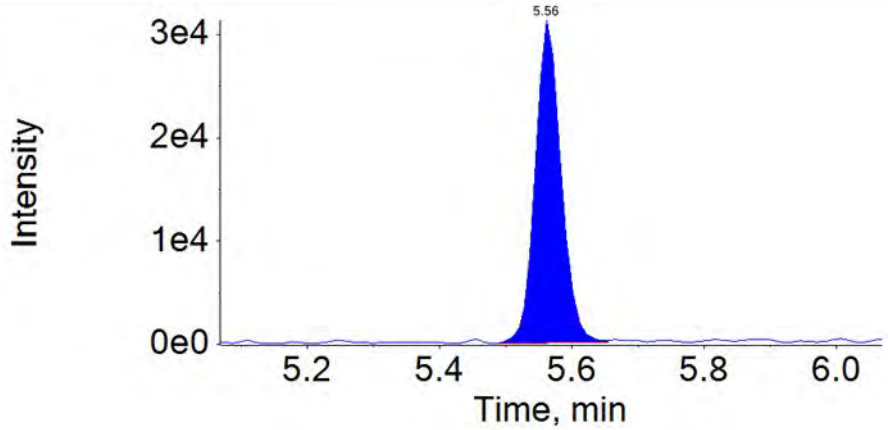
APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

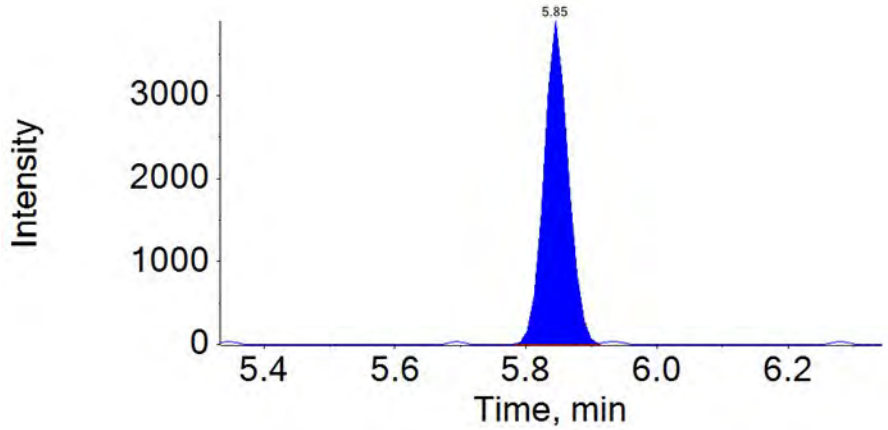
**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFDA
**RT (min.):**
5.56
**Peak Area:**
84660.3
**Mass Range:**
513.0 / 469.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029



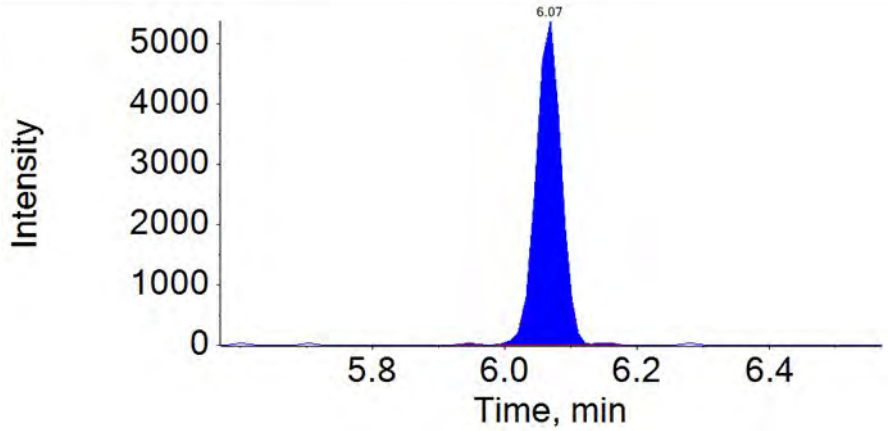

**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA
**RT (min.):**
5.85
**Peak Area:**
10025.8
**Mass Range:**
584.0 / 419.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029




**Integration Comment:** incorrect integration

**Component Name:**
10:2-FTS
**RT (min.):**
6.07
**Peak Area:**
14382.8
**Mass Range:**
627.0 / 607.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029




**Integration Comment:** incorrect integration

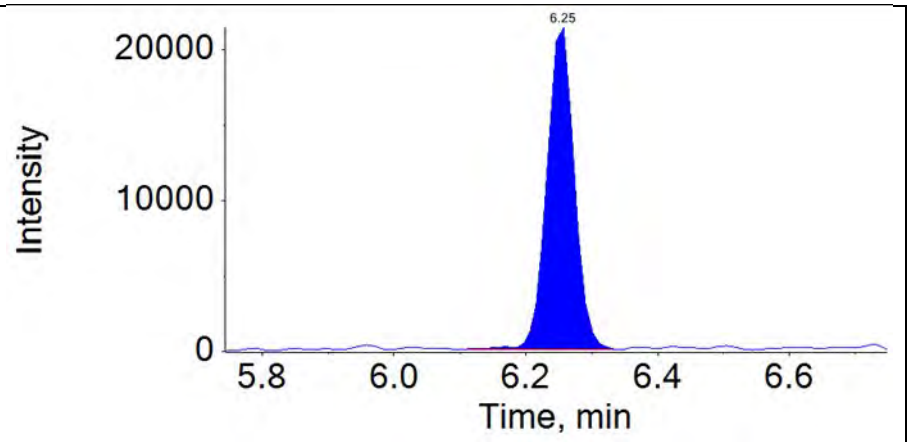
APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

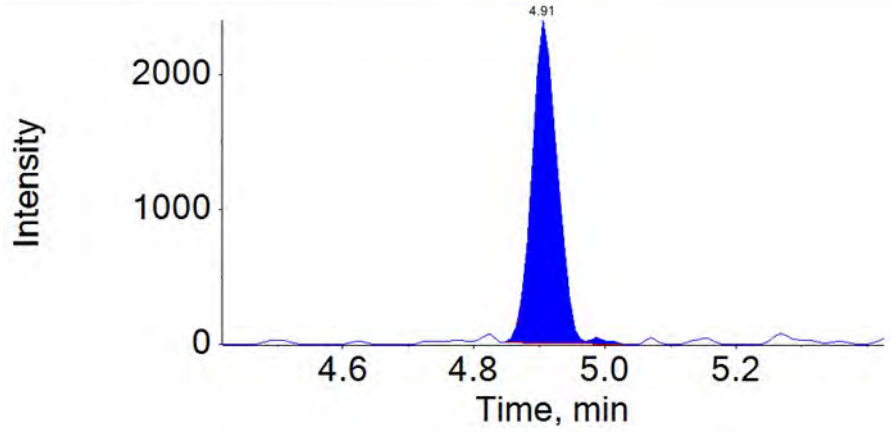
**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
NEtPFOSAE
**RT (min.):**
6.25
**Peak Area:**
62374.2
**Mass Range:**
630.0 / 59.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029



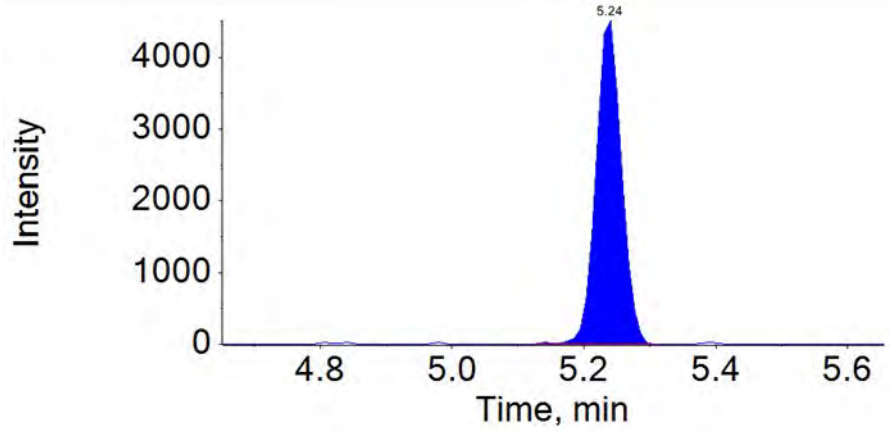

**Integration Comment:** incorrect integration

**Component Name:**
PFOA_2
**RT (min.):**
4.91
**Peak Area:**
6473.6
**Mass Range:**
413.0 / 169.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029




**Integration Comment:** incorrect integration

**Component Name:**
PFOS_2
**RT (min.):**
5.24
**Peak Area:**
12165.0
**Mass Range:**
499.0 / 99.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029




**Integration Comment:** incorrect integration

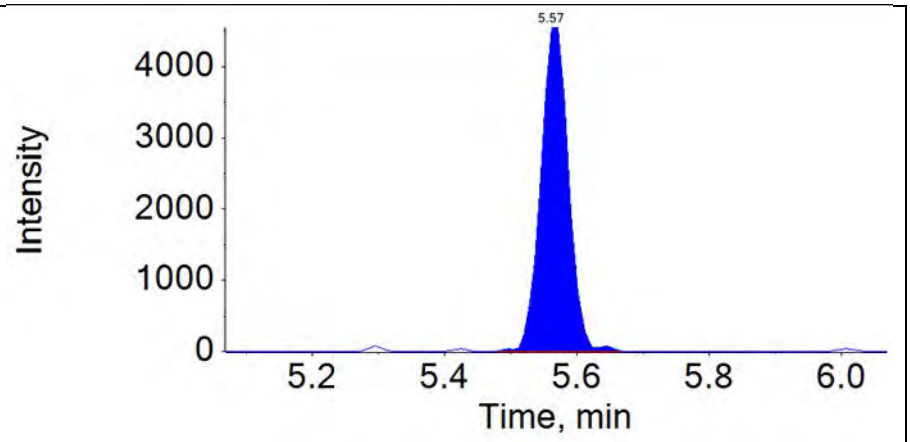
APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

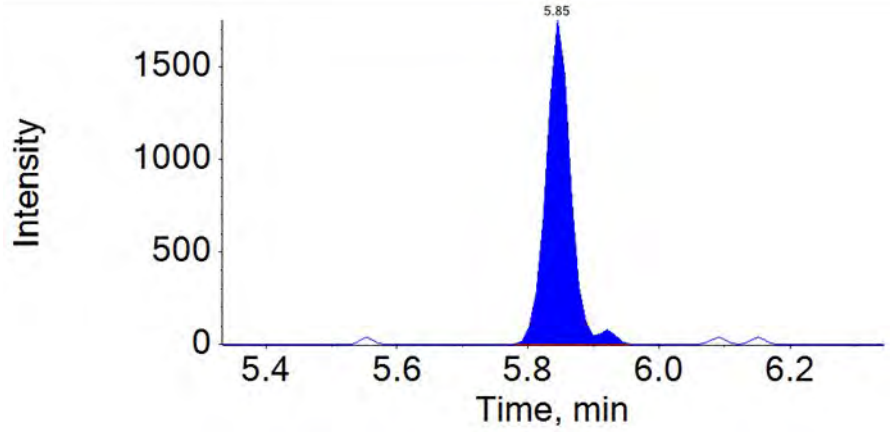
**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM
**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
8:2 FTS_2
**RT (min.):**
5.57
**Peak Area:**
13401.9
**Mass Range:**
527.0 / 81.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029



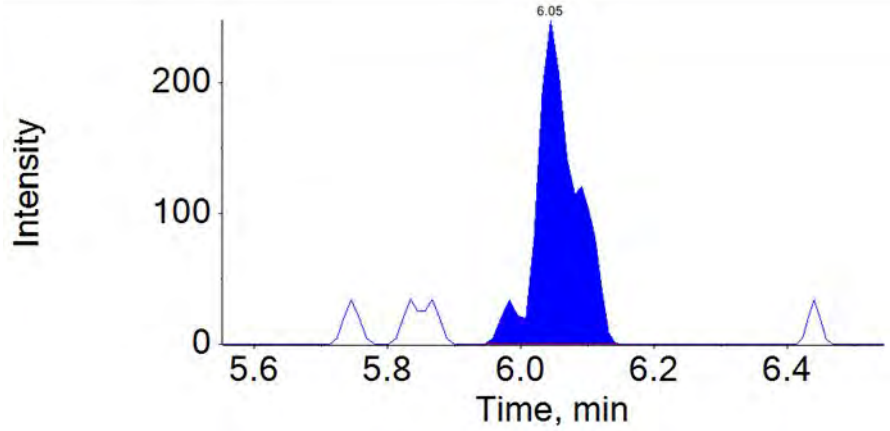

**Integration Comment:** incorrect integration

**Component Name:**
NEtFOSAA_2
**RT (min.):**
5.85
**Peak Area:**
4601.1
**Mass Range:**
584.0 / 526.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029




**Integration Comment:** incorrect integration

**Component Name:**
PFDoDA_2
**RT (min.):**
6.05
**Peak Area:**
1006.7
**Mass Range:**
613.0 / 169.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:55 pm, 11/14/18*

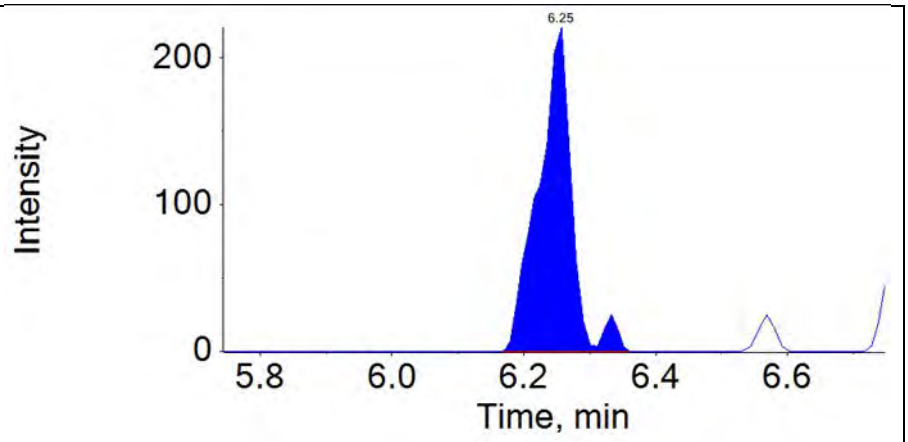


REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

**Component Name:**
PFTrDA_2
**RT (min.):**
6.25
**Peak Area:**
782.1
**Mass Range:**
663.0 / 169.0
**File Name:**
18NOV13D-91.wiff
**Sample Name:**
LCS316029




**Integration Comment:** incorrect integration

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

**Results Table Name:** 18316029
**Results Table Date:** 11/14/2018 6:48:04 PM

**Acquisition Method:** 18AUG13_3uL.dam
**QMethod File:** 18AUG20QM

APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

## Ion Ratio Report

**Sample Name:** LCS316029 **Instrument Name:** LM27631 **File Name:** 18NOV13D-91.wiff

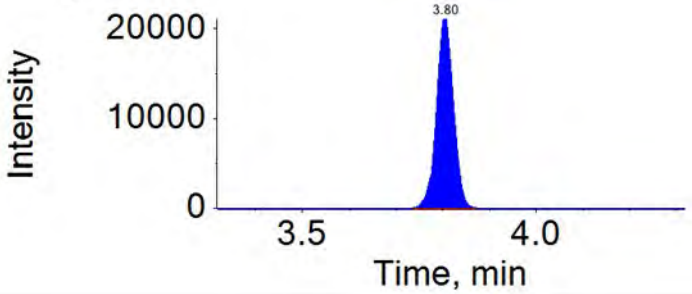
| Component Name | RT | RRT | Analyte Area Response | Int Typ | Expected Ion Ratio | Ion Ratio | Ion Ratio % Diff | Ion Ratio Limit | Ion Ratio OOS |
|---|---|---|---|---|---|---|---|---|---|
| PFBS | 3.80 | 1.00 | 53845.3 | A | N/A | 0.3422 | | | |
| PFBS_2 | 3.80 | 1.00 | 18427.0 | A | N/A | 0.3422 | -5 | 50 | |
| 4:2-FTS | 4.12 | 1.00 | 33275.5 | A | N/A | 0.6661 | | | |
| 4:2 FTS_2 | 4.12 | 1.00 | 22164.2 | A | N/A | 0.6661 | | #NA! | |
| PFHxA | 4.15 | 1.00 | 115414.5 | A | N/A | 0.0151 | | | |
| PFHxA_2 | 4.15 | 1.00 | 1742.3 | A | N/A | 0.0151 | 30 | 50 | |
| PFPeS | 4.17 | 1.10 | 28647.1 | A | N/A | 0.4700 | | | |
| PFPeS_2 | 4.17 | 1.10 | 13463.6 | A | N/A | 0.4700 | -9 | 50 | |
| PFHpA | 4.54 | 1.00 | 123898.9 | A | N/A | 0.0540 | | | |
| PFHpA_2 | 4.54 | 1.00 | 6693.3 | A | N/A | 0.0540 | -4 | 50 | |
| PFHxS | 4.54 | 1.00 | 42557.0 | A | N/A | 0.3647 | | | |
| PFHxS_2 | 4.54 | 1.00 | 15521.1 | A | N/A | 0.3647 | 6 | 50 | |
| 6:2-FTS | 4.90 | 1.00 | 28232.7 | A | N/A | 0.6305 | | | |
| 6:2 FTS_2 | 4.90 | 1.00 | 17801.5 | A | N/A | 0.6305 | | #NA! | |
| PFHpS | 4.90 | 1.08 | 38176.5 | A | N/A | 0.3801 | | | |
| PFHpS_2 | 4.90 | 1.08 | 14510.2 | A | N/A | 0.3801 | -7 | 50 | |
| PFOA | 4.91 | 1.00 | 124052.0 | A | N/A | 0.0515 | | | |
| PFOA_2 | 4.91 | 1.00 | 6390.4 | M | N/A | 0.0515 | -8 | 50 | |
| PFOS | 5.24 | 1.00 | 38309.0 | A | N/A | 0.3166 | | | |
| PFOS_2 | 5.24 | 1.00 | 12130.4 | M | N/A | 0.3166 | 7 | 50 | |
| PFNA | 5.26 | 1.00 | 94427.4 | A | N/A | 0.0205 | | | |
| PFNA_2 | 5.25 | 1.00 | 1933.9 | A | N/A | 0.0205 | -10 | 50 | |
| PFNS | 5.54 | 1.06 | 25185.5 | A | N/A | 0.4915 | | | |
| PFNS_2 | 5.54 | 1.06 | 12377.8 | A | N/A | 0.4915 | 2 | 50 | |
| PFDA | 5.56 | 1.00 | 84660.3 | M | N/A | 0.0052 | | | |
| PFDA_2 | 5.57 | 1.00 | 439.8 | A | N/A | 0.0052 | -36 | 50 | |
| 8:2-FTS | 5.57 | 1.00 | 24271.6 | A | N/A | 0.5464 | | | |
| 8:2 FTS_2 | 5.57 | 1.00 | 13262.4 | M | N/A | 0.5464 | | #NA! | |
| NMeFOSAA | 5.71 | 1.00 | 10601.5 | A | N/A | 0.1280 | | | |
| NMeFOSAA_2 | 5.71 | 1.00 | 1356.8 | A | N/A | 0.1280 | -50 | 50 | |
| PFDS | 5.80 | 1.11 | 19024.3 | A | N/A | 0.5432 | | | |
| PFDS_2 | 5.81 | 1.11 | 10334.4 | A | N/A | 0.5432 | 6 | 50 | |
| PFUnDA | 5.83 | 1.00 | 68104.2 | A | N/A | 0.0029 | | | |
| PFUnDA_2 | 5.83 | 1.00 | 194.7 | A | N/A | 0.0029 | -51 | 50 | OOS |
| NEtFOSAA | 5.85 | 1.00 | 10025.8 | M | N/A | 0.4447 | | | |
| NEtFOSAA_2 | 5.85 | 1.00 | 4458.5 | M | N/A | 0.4447 | -39 | 50 | |
| PFDoDA | 6.05 | 1.00 | 75960.8 | A | N/A | 0.0124 | | | |
| PFDoDA_2 | 6.05 | 1.00 | 940.0 | M | N/A | 0.0124 | -21 | 50 | |
| 10:2-FTS | 6.07 | 1.09 | 14233.4 | M | N/A | 0.7726 | | | |
| 10:2 FTS_2 | 6.07 | 1.09 | 10996.1 | A | N/A | 0.7726 | | #NA! | |
| PFTrDA | 6.24 | 1.03 | 63557.4 | A | N/A | 0.0117 | | | |
| PFTrDA_2 | 6.25 | 1.03 | 745.6 | M | N/A | 0.0117 | 37 | 50 | |
| PFTeDA | 6.42 | 1.00 | 50391.6 | A | N/A | 0.0052 | | | |
| PFTeDA_2 | 6.41 | 1.00 | 260.8 | A | N/A | 0.0052 | -17 | 50 | |
| PFHxDA | 6.71 | 1.05 | 23452.8 | A | N/A | 0.0694 | | | |
| PFHxDA_2 | 6.71 | 1.05 | 1627.4 | A | N/A | 0.0694 | 2 | 50 | |
| PFODA | 6.98 | 1.09 | 18360.8 | A | N/A | 0.0273 | | | |
| PFODA_2 | 6.97 | 1.09 | 500.6 | A | N/A | 0.0273 | -2 | 50 | |

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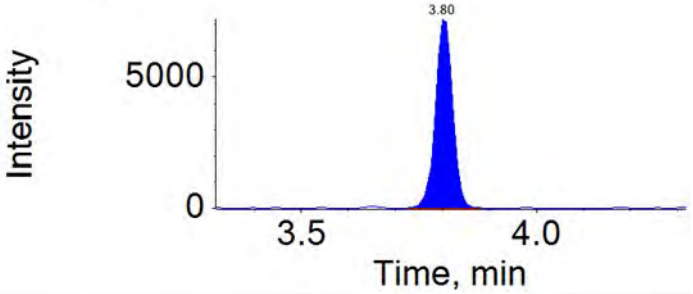


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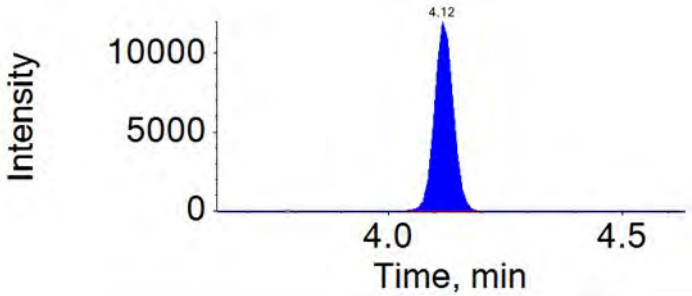
Component: PFBS
Primary Mass: 299.0 / 80.0



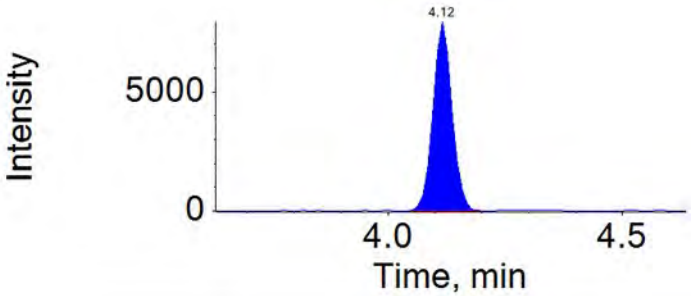

Component: PFBS_2
Secondary Mass: 299.0 / 99.0



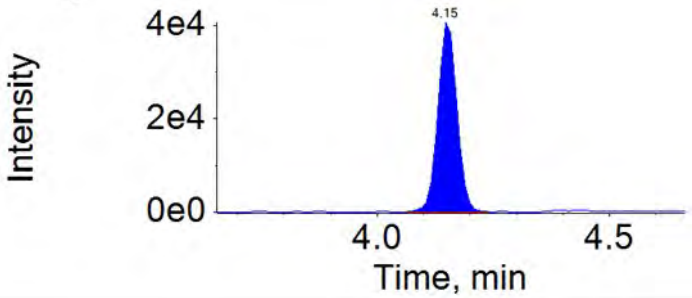

Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



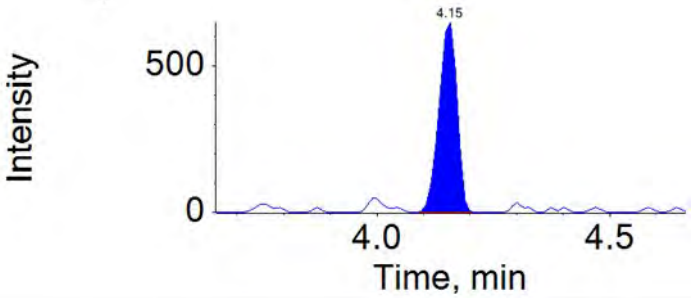

Component: 4:2 FTS_2
Secondary Mass: 327.0 / 81.0



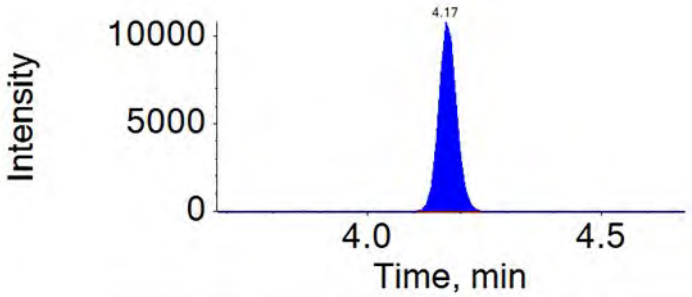

Component: PFHxA
Primary Mass: 313.0 / 269.0



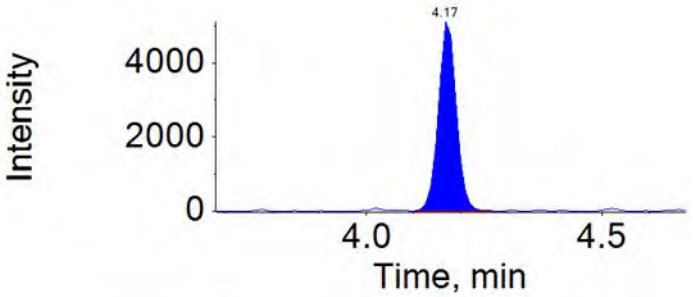

Component: PFHxA_2
Secondary Mass: 313.0 / 119.0




Component: PFPeS
Primary Mass: 349.0 / 80.0




Component: PFPeS_2
Secondary Mass: 349.0 / 99.0

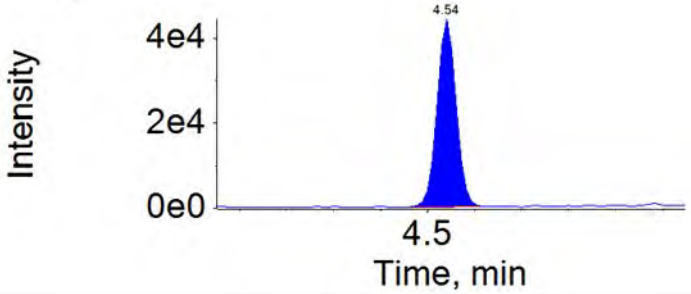



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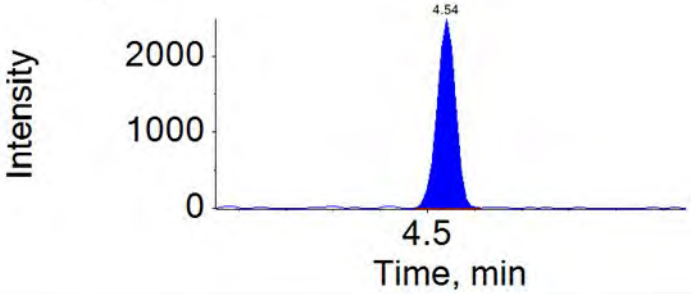


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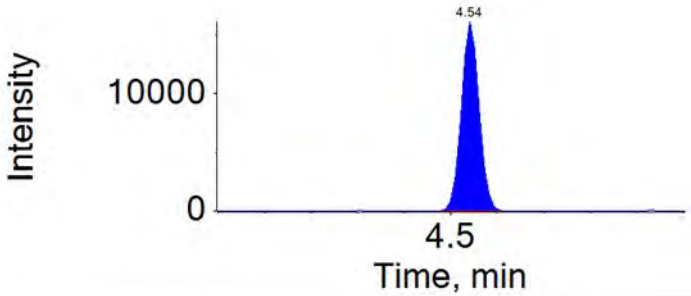
Component: PFHpA
Primary Mass: 363.0 / 319.0



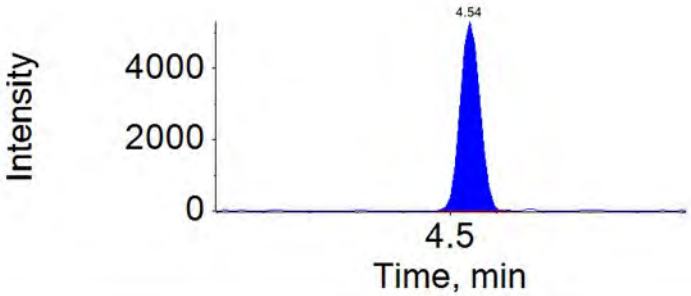

Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



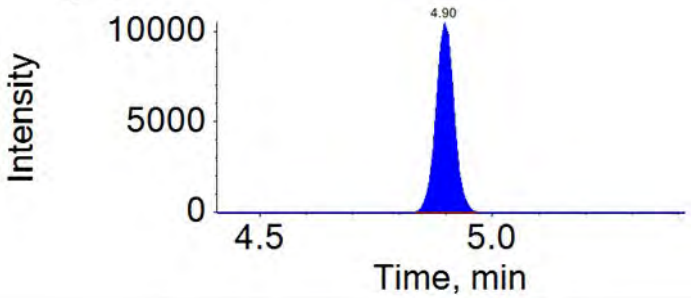

Component: PFHxS
Primary Mass: 399.0 / 80.0



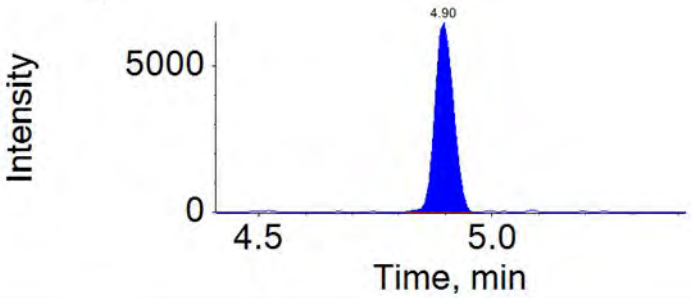

Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



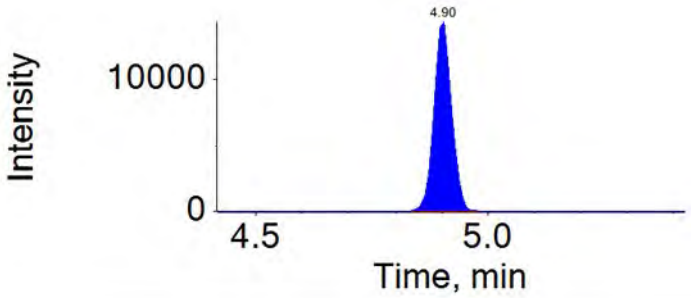

Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



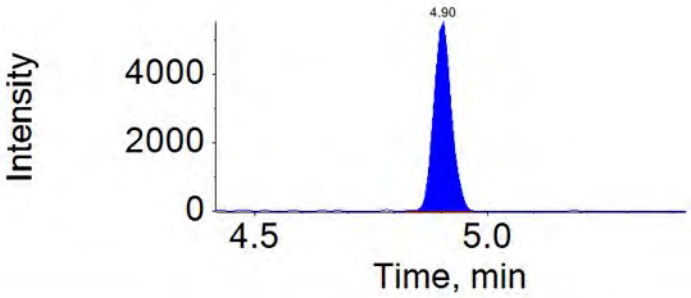

Component: 6:2 FTS_2
Secondary Mass: 427.0 / 81.0




Component: PFHpS
Primary Mass: 449.0 / 80.0




Component: PFHpS_2
Secondary Mass: 449.0 / 99.0

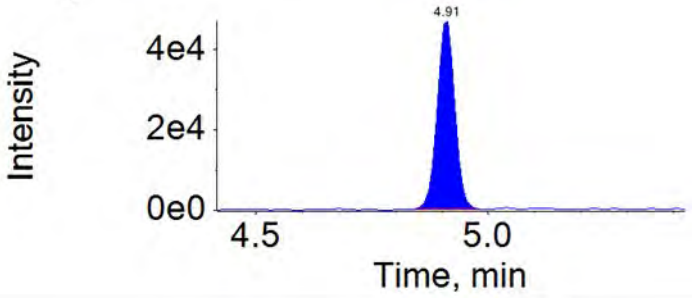



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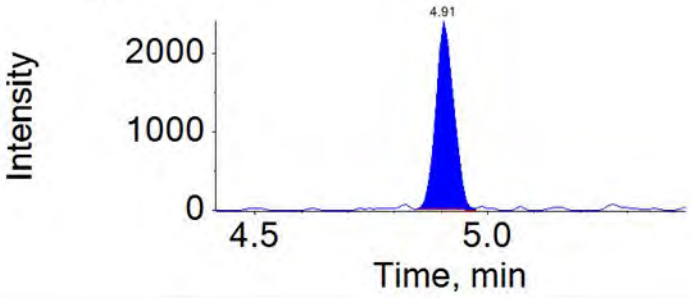


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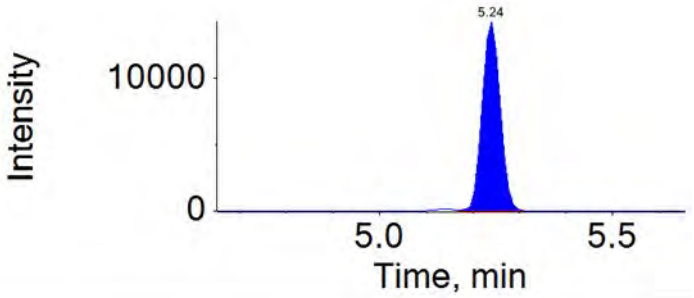
Component: PFOA
Primary Mass: 413.0 / 369.0



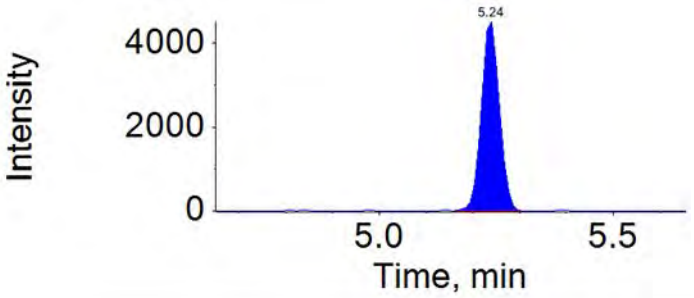

Component: PFOA_2
Secondary Mass: 413.0 / 169.0



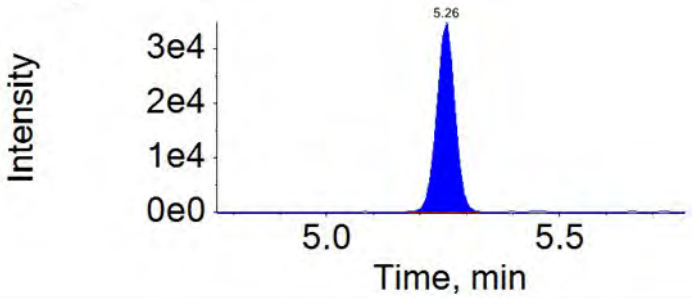

Component: PFOS
Primary Mass: 499.0 / 80.0



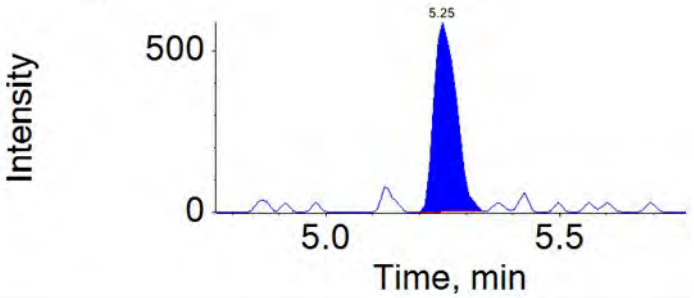

Component: PFOS_2
Secondary Mass: 499.0 / 99.0



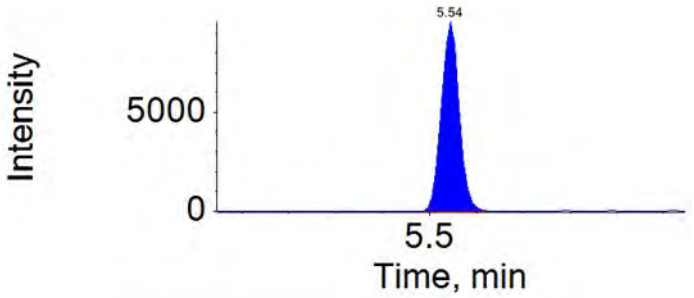

Component: PFNA
Primary Mass: 463.0 / 419.0



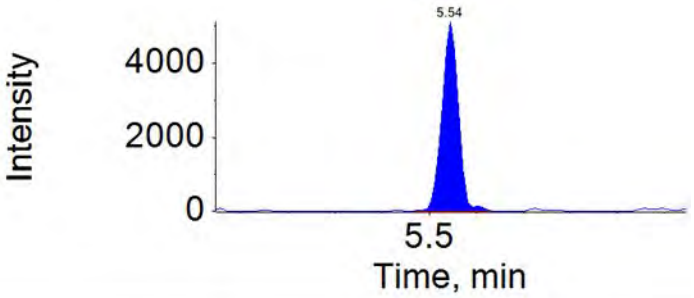

Component: PFNA_2
Secondary Mass: 463.0 / 169.0




Component: PFNS
Primary Mass: 549.0 / 80.0




Component: PFNS_2
Secondary Mass: 549.0 / 99.0

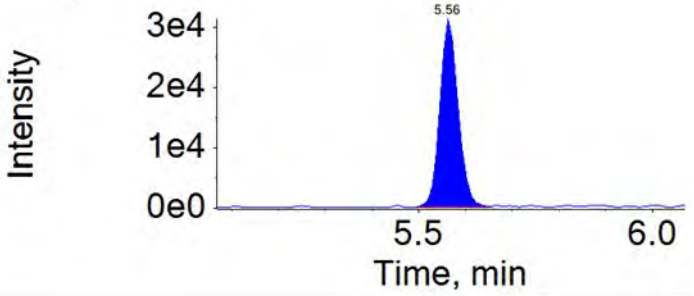



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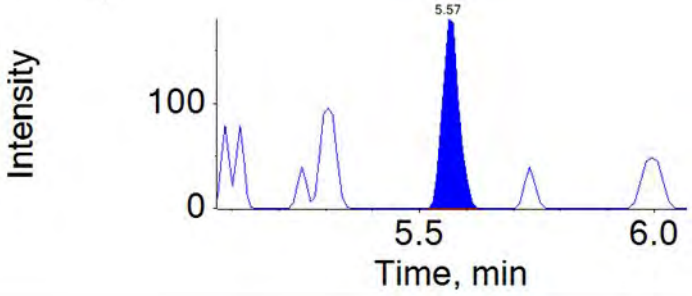


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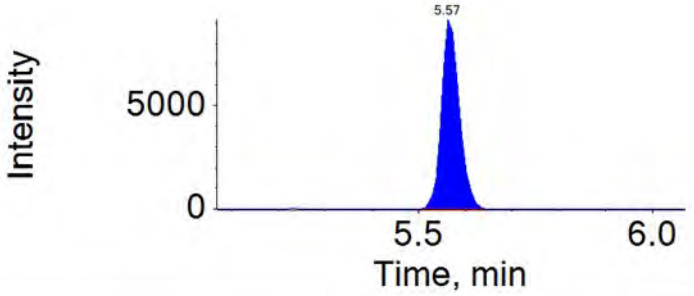
Component: PFDA
Primary Mass: 513.0 / 469.0



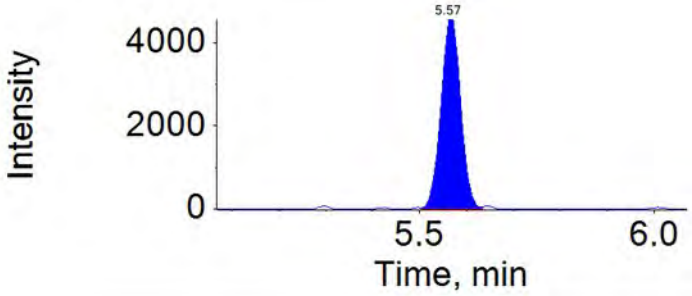

Component: PFDA_2
Secondary Mass: 513.0 / 169.0



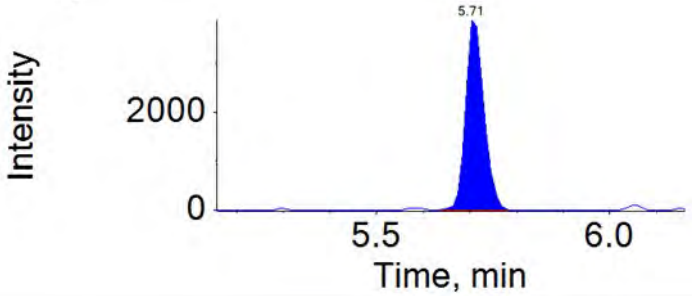

Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



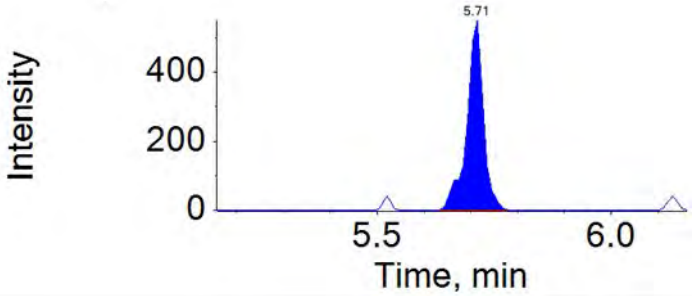

Component: 8:2 FTS_2
Secondary Mass: 527.0 / 81.0



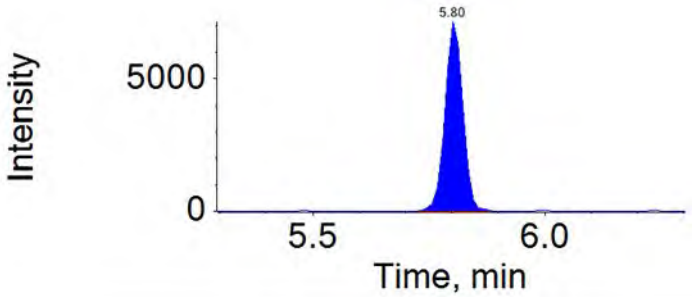

Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



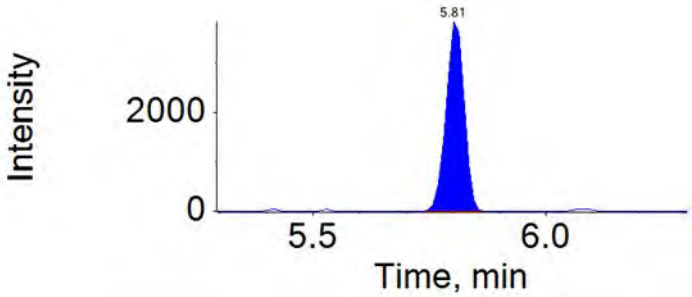

Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0




Component: PFDS
Primary Mass: 599.0 / 80.0




Component: PFDS_2
Secondary Mass: 599.0 / 99.0

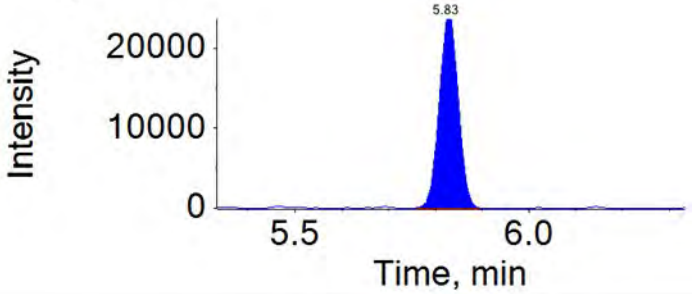



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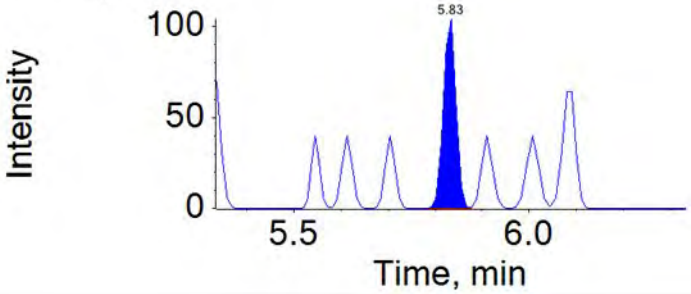


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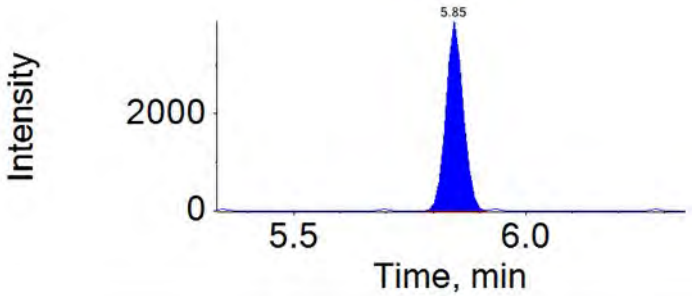
Component: PFUnDA
Primary Mass: 563.0 / 519.0



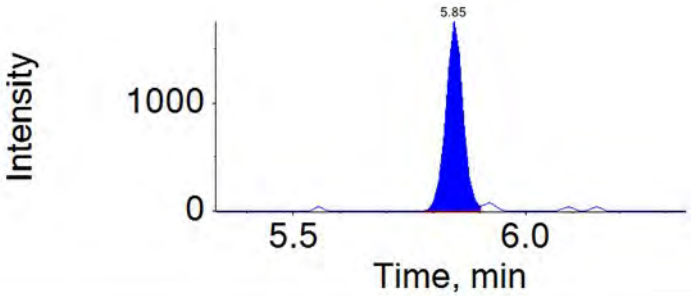

Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



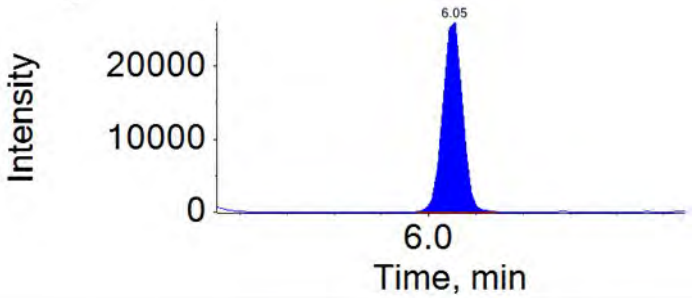

Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



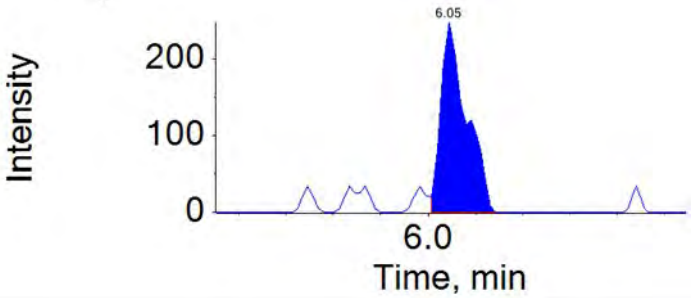

Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



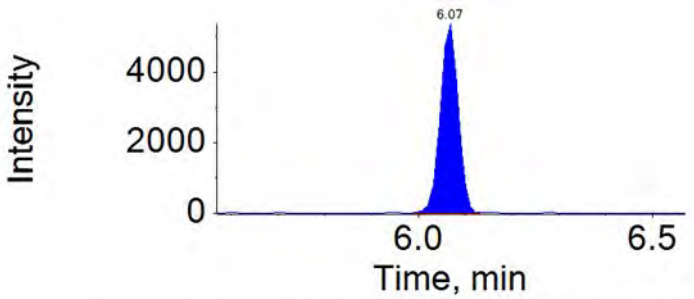

Component: PFDoDA
Primary Mass: 613.0 / 569.0



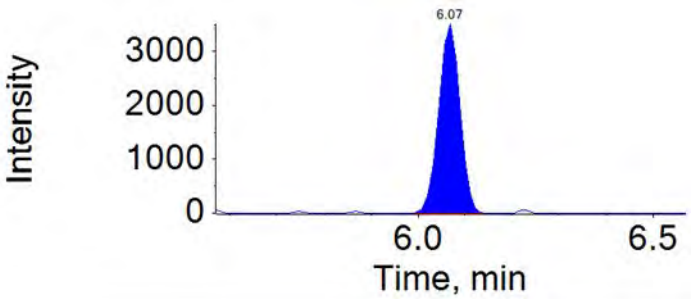

Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0




Component: 10:2-FTS
Primary Mass: 627.0 / 607.0




Component: 10:2 FTS_2
Secondary Mass: 627.0 / 81.0

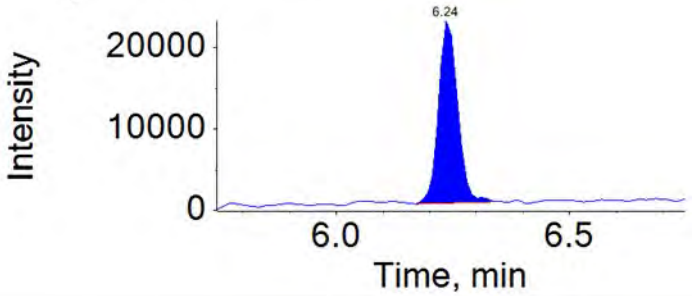



APPROVED
*By MCD at 6:55 pm, 11/14/18*

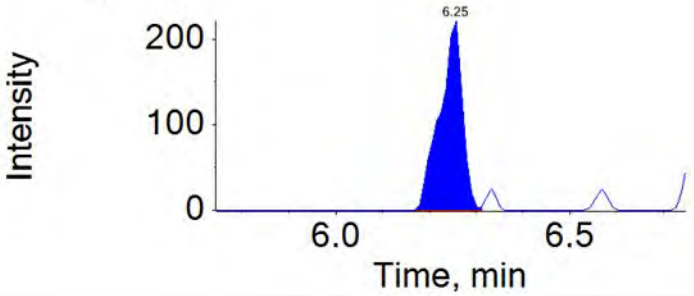


REVIEWED
*By HMK at 11:03 am, 11/15/18*

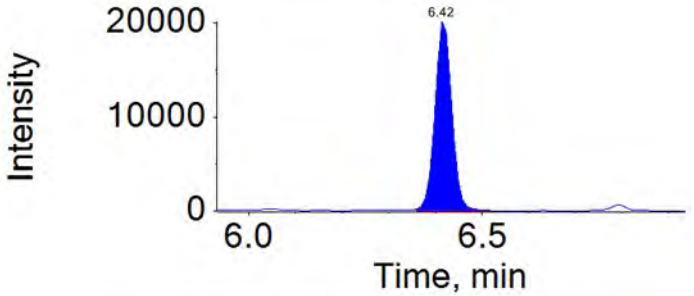
Component: PFTrDA
Primary Mass: 663.0 / 619.0



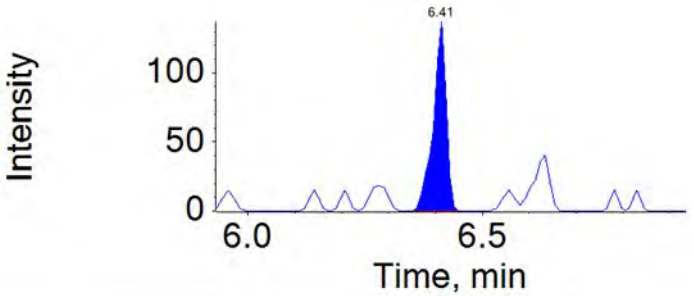

Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



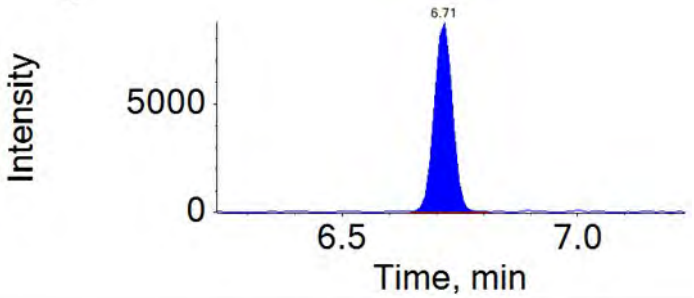

Component: PFTeDA
Primary Mass: 713.0 / 669.0



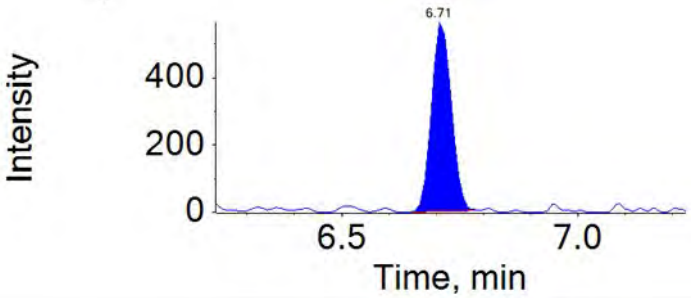

Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



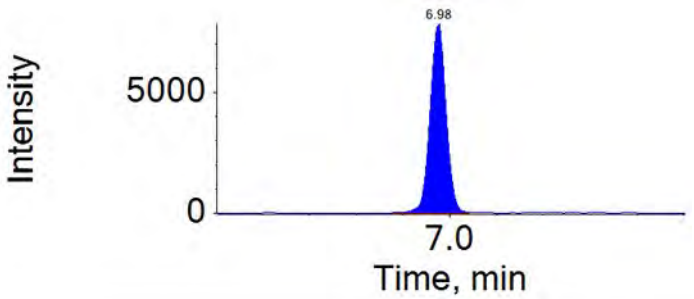

Component: PFHxDA
Primary Mass: 813.0 / 769.0



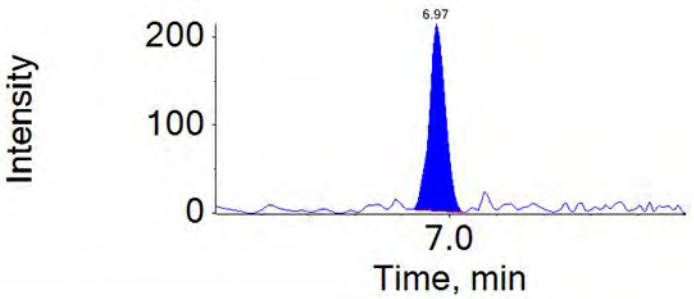

Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0




Component: PFODA
Primary Mass: 913.0 / 869.0




Component: PFODA_2
Secondary Mass: 913.0 / 169.0




APPROVED
*By MCD at 6:55 pm, 11/14/18*



REVIEWED
*By HMK at 11:03 am, 11/15/18*

# Preparation Logs

# PFAS by LC/MS/MS

**Organic Extraction Batchlog** Assigned to: 26543 Anthony Polaski Reviewed by: MCD 7824 Start Date: 11/12/18 Start time: 16:00

**18316029** Tech 1: ACP26543 Tech 2: ——

Analyses on Batch: PFAS in Soil by LC/MS/MS-DoD

Dept: 33 Prep Analysis: 14510 PFAS Solid Prep - DoD (3) mL ACP26543 11/12/18

| Port # | QC | Sample Code | Amt (g) | SS/IS Sol. | Amt (mL) | MS Sol. | Amt (mL) | FV ~~(uL)~~ (3) | IS Amt (uL) | BC | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| —— | 9885162MS | 22224 | 1.06 | SSMODX1833CA | .05 | MSMODX1833AQ | .04 | 1mL | 20 | 170a | |
| | 9885163MSD | 22224 | 1.03 | SSMODX1833CA | .05 | MSMODX1833AQ | .04 | 1mL | ↓ | 170a | |
| | BLANKA | BLK316029 | 1.00 | SSMODX1833CA | .05 | N/A | N/A | 1mL | ↓ | —— | |
| —— | LCSA | LCS316029 | ↓ | SSMODX1833CA | .05 | MSMODX1833AQ | .04 | 1mL | ↓ | —— | |

Spike Solutions: Witness: DDM25478 Instrument: LM27631

MSMODX1833AQ PFAS 537 Native Spike

SSMODX1833CA PFAS 537 Modified Extraction/Surrogate Spik Sequence: 18NOV12DOD / 18NOV13D

| Port # | | Sample # | Sample Code | Amt (g) | SS/IS Sol. | Amt (mL) | FV ~~(uL)~~ (3) | IS Amt (uL) | BC | Comments | Analyses | Due | Pri |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 9885078 R | 82204 | 1.02 | SSMODX1833CA | .05 | 1mL | 20 | 170a | | 14478 | 11/15/2018 | N |
| | 2 | 9885160 R | 22223 | 1.10 | SSMODX1833CA | .05 | 1mL | ↓ | 170a | | 14478 | 11/15/2018 | N |
| | 3 | 9885161 R | BKG 22224 | 1.09 | SSMODX1833CA | .05 | 1mL | ↓ | 170a | | 14478 | 11/15/2018 | N |
| | 4 | 9885164 R | 22227 | 1.02 | SSMODX1833CA | .05 | 1mL | ↓ | 170a | | 14478 | 11/15/2018 | N |
| | 5 | 9885165 R | 22228 | 1.03 | SSMODX1833CA | .05 | 1mL | ↓ | 170a | | 14478 | 11/15/2018 | N |

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NA MCD 7824 11/14/18



18316029

**Organic Extraction Batchlog** **18316029**

| 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 | 375111121833B |
| Auto-pipette (dilutions) | ——— |
| Auto-pipette (extract vialin | P1000-1 |
| Envi-Carb | 97224 |
| Internal Standard | IS18311334 |
| Methanol | DV013-05 |
| Sand | MKBW7349V |
| Syringe (IS) | PFAS 11 |
| Syringe (MS) | PFAS 10 |
| Syringe (SS) | PFAS 13 |

NA MCD7824 11/4/18

ACP26543 11/12/18

| Balance # | B629764122 | Sonic Bath ID | 3800A | N-evap A | 33C | SPE Manifold | NA |
|---|---|---|---|---|---|---|---|

18316029

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.



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SSL Batch Page 801 of 803

# Moisture Data

**MOISTURE**

**SAMPLE NUMBERS:**

| Sample # | Sample Code |
|---|---|
| 9885160 | 22223 |
| 9885161 | 22224BKG |
| 9885162 | 22224MS |
| 9885163 | 22224MSD |
| 9885164 | 22227 |
| 9885165 | 22228 |

**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: 18312820008B | Sample number(s): 9885160-9885165 | | | | |
| 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: 18312820008B | Sample number(s): 9885160-9885165 | | | |
| Moisture | 3.2 | 2.8 | 13* | 5 |
| Moisture | 3.2 | 2.8 | 13* | 5 |
| Moisture Duplicate | 3.2 | 2.8 | 13* | 5 |

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

## Moisture Data Report

**Batch #: 18312820008**

| Sample ID | Batch ID | Analysis# | Tare Wt | Sample Wt | Dry Wt | %Moisture | Analysis Date (Emp#) | Verified Date (Emp#) |
|---|---|---|---|---|---|---|---|---|
| 9885160 | B | 00111 | 1.0753 | 5.4409 | 6.3509 | 3.04 | 11/ 8/18 (835/LEB) | 11/ 9/18 (236/CW) |
| 9885161BKG | B | 00111 | 1.0699 | 5.8670 | 6.7507 | 3.17 | 11/ 8/18 (835/LEB) | 11/ 9/18 (236/CW) |
| 9885162MS | B | 00118 | | | | 3.17 | 11/ 8/18 (835/LEB) | 11/ 9/18 (236/CW) |
| 9885163MSD | B | 00118 | | | | 3.17 | 11/ 8/18 (835/LEB) | 11/ 9/18 (236/CW) |
| 9885163MSD | B | 00121 | 1.0672 | 5.8522 | 6.7557 | 2.80 | 11/ 8/18 (835/LEB) | 11/ 9/18 (236/CW) |
| 9885164 | B | 00111 | 1.1505 | 5.7195 | 6.7267 | 2.51 | 11/ 8/18 (835/LEB) | 11/ 9/18 (236/CW) |
| 9885165 | B | 00111 | 1.0801 | 5.3564 | 6.2480 | 3.52 | 11/ 8/18 (835/LEB) | 11/ 9/18 (236/CW) |
| LCS 89.5% Std. | | 00111 | 1.1482 | 5.0574 | 1.6860 | 89.37 | 11/ 8/18 (835/LEB) | 11/ 9/18 (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-Bldg53-S-02-01 Calculation EUROFINS NA NONE Wet NONE 000 S UNK 20181108 13:57:00 9885160 20190118 2006161 0.00 1 1 3 -86 3.0 3.0 PCT Y TRG 0.50 0.50 0.50 0.50 0.50 BSI18 18312820008B 18312820008B 18312820008B Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 335-67-1 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 375-95-1 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 335-76-2 0.64 0 NG_G U N TRG 0.28 0.28 0.28 0.64 0.94 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 2058-94-8 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 307-55-1 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 72629-94-8 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 376-06-7 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 307-24-4 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029 18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-01 537_MOD EUROFINS NA NONE Dry METHOD 000 S UNK 20181112 16:00:00 20181113 23:33:00 9885160 20190118 2006161 0.00 1 1 3 375-85-9 0.64 0 NG_G U N TRG 0.19 0.19 0.19 0.64 0.75 BSI18 18316029

18316029 18316029 18316029 Y
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18316029 18316029 18316029 Y
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U N TRG 0.47 0.47 0.47 1.9 2.8 BSI18 18316029
18316029 18316029 18316029 Y
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18316029 18316029 18316029 Y
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TRG 0.50 0.50 0.50 0.50 0.50 BSI18 18312820008B 18312820008B
18312820008B Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-03 537_MOD EUROFINS NA NONE Dry METHOD 000 S
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U N TRG 0.19 0.19 0.19 0.64 0.76 BSI18 18316029
18316029 18316029 18316029 Y
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UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 375-95-1 0.64 0 NG_G
U N TRG 0.19 0.19 0.19 0.64 0.76 BSI18 18316029
18316029 18316029 18316029 Y
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UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 335-76-2 0.64 0 NG_G
U N TRG 0.28 0.28 0.28 0.64 0.95 BSI18 18316029
18316029 18316029 18316029 Y
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18316029 18316029 18316029 Y
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18316029 18316029 18316029 Y
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UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 72629-94-8 0.64 0 NG_G
U N TRG 0.19 0.19 0.19 0.64 0.76 BSI18 18316029
18316029 18316029 18316029 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-03 537_MOD EUROFINS NA NONE Dry METHOD 000 S
UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 376-06-7 0.64 0 NG_G
U N TRG 0.19 0.19 0.19 0.64 0.76 BSI18 18316029
18316029 18316029 18316029 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-03 537_MOD EUROFINS NA NONE Dry METHOD 000 S
UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 307-24-4 0.64 0 NG_G
U N TRG 0.19 0.19 0.19 0.64 0.76 BSI18 18316029
18316029 18316029 18316029 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-03 537_MOD EUROFINS NA NONE Dry METHOD 000 S
UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 375-85-9 0.64 0 NG_G
U N TRG 0.19 0.19 0.19 0.64 0.76 BSI18 18316029
18316029 18316029 18316029 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-03 537_MOD EUROFINS NA NONE Dry METHOD 000 S
UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 375-73-5 0.57 0 NG_G
U N TRG 0.19 0.19 0.19 0.57 0.76 BSI18 18316029
18316029 18316029 18316029 Y
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UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 355-46-4 0.61 0 NG_G
U N TRG 0.19 0.19 0.19 0.61 0.76 BSI18 18316029
18316029 18316029 18316029 Y
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UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 1763-23-1 0.62 0 NG_G
U N TRG 0.19 0.19 0.19 0.62 0.76 BSI18 18316029
18316029 18316029 18316029 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-03 537_MOD EUROFINS NA NONE Dry METHOD 000 S
UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 2991-50-6 1.9 0 NG_G
U N TRG 0.47 0.47 0.47 1.9 2.8 BSI18 18316029
18316029 18316029 18316029 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-03 537_MOD EUROFINS NA NONE Dry METHOD 000 S
UNK 20181112 16:00:00 20181113 23:42:00 9885161 20190118 2006161 0.00 1 1 3.2 2355-31-9 1.9 0 NG_G
U N TRG 0.47 0.47 0.47 1.9 2.8 BSI18 18316029
18316029 18316029 18316029 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-05 Calculation EUROFINS NA NONE Wet NONE 000 S
UNK 20181108 13:57:00 9885164 20190118 2006161 0.00 1 1 2.5 -86 2.5 2.5 PCT Y
TRG 0.50 0.50 0.50 0.50 0.50 BSI18 18312820008B 18312820008B
18312820008B Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Bldg53-S-02-05 537_MOD EUROFINS NA NONE Dry METHOD 000 S
UNK 20181112 16:00:00 20181114 00:09:00 9885164 20190118 2006161 0.00 1 1 2.5 335-67-1 0.68 0 NG_G
U N TRG 0.20 0.20 0.20 0.68 0.80 BSI18 18316029
18316029 18316029 18316029 Y
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