Navy_CLEAN_PFAS_FOIA_request_covers_Nov2019.indd

NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1901920

Marine Corps Air Station Yuma
Yuma, Arizona

November 2019

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

August 22, 2019

Vista Work Order No. 1901920

Ms. Lisa Bienkowski
Tetra Tech EC, Inc.
17885 Von Karman Avenue, Suite 500
Irvine, CA 92614

Dear Ms. Bienkowski,

Enclosed are the amended results for the sample set received at Vista Analytical Laboratory on July 03, 2019 under your Project Name '4663.3803'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Martha Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1901920
Case Narrative

Sample Condition on Receipt:

Nine soil samples and eleven aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. This report was amended to document that an LCSD was included in the aqueous preparation batch.

Analytical Notes:

PFAS Isotope Dilution Method

The following samples contained particulate and were centrifuged prior to extraction:

Laboratory ID	Sample Name
1901920-02	SAOA-B08-GW
1901920-05	SAOA-B12-GW
1901920-06	SAOA-B12-GW-D
1901920-11	NAOA-B02-GW
1901920-16	NAOA-B01-GW
1901920-17	NAOA-B01-GW-D

The aqueous samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method (Modified EPA Method 537). The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ concentrations. The LCS/LCSD recoveries were within the acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

VAL-PFAS Method

The soil samples were extracted and analyzed for a selected list of PFAS using VAL Method PFAS. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 the LOQ. The recovery of EtFOSAA was greater than 130% in the OPR. This analyte was not detected in the samples. The recoveries of all other analytes were within the method acceptance criteria.

As requested, an MS/MSD was performed on sample "CAOA-B02-SO-0.5-1". The MSD recovery was out of the acceptance criteria for PFHxA.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1901920-02	SAOA-B08-GW	PFAS Isotope Dilution Method	13C2-PFTeDA	H	44.1
1901920-06	SAOA-B12-GW-D	PFAS Isotope Dilution Method	13C2-PFTeDA	H	30.7
1901920-11	NAOA-B02-GW	PFAS Isotope Dilution Method	13C2-PFTeDA	H	45.7
1901920-16	NAOA-B01-GW	PFAS Isotope Dilution Method	13C2-PFTeDA	H	47.7
1901920-17	NAOA-B01-GW-D	PFAS Isotope Dilution Method	13C2-PFTeDA	H	39.8
1901920-19	CAOA-B02-SO-20-20.5	PFAS Isotope Dilution Method	13C2-PFDoA	H	46.3
B9G0062-BLK1	B9G0062-BLK1	PFAS Isotope Dilution Method	13C2-PFTeDA	H	46.6
B9G0062-BSD1	B9G0062-BSD1	PFAS Isotope Dilution Method	13C2-PFDoA	H	45.8
B9G0062-BSD1	B9G0062-BSD1	PFAS Isotope Dilution Method	13C2-PFTeDA	H	41.4
B9G0116-BLK1	B9G0116-BLK1	PFAS Isotope Dilution Method	d5-EtFOSAA	H	47.3
B9G0116-BS1	B9G0116-BS1	PFAS Isotope Dilution Method	d5-EtFOSAA	H	45.5

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1901920-01	SAOA-B08-SO-30-30.5		27-Jun-19 15:35	03-Jul-19 09:10	HDPE Jar, 8 oz
1901920-02	SAOA-B08-GW		27-Jun-19 16:40	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-03	EB-06272019-GW		27-Jun-19 17:00	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-04	FRB-06282019		28-Jun-19 09:20	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-05	SAOA-B12-GW		28-Jun-19 10:20	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-06	SAOA-B12-GW-D		28-Jun-19 10:25	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-07	NAOA-B08-SO-1-1.5		01-Jul-19 08:00	03-Jul-19 09:10	HDPE Jar, 8 oz
1901920-08	NAOA-B08-SO-20-20.5		01-Jul-19 08:30	03-Jul-19 09:10	HDPE Jar, 8 oz
1901920-09	NAOA-B09-SO-1-1.5		01-Jul-19 09:25	03-Jul-19 09:10	HDPE Jar, 8 oz
1901920-10	NAOA-B09-SO-20-20.5		01-Jul-19 09:55	03-Jul-19 09:10	HDPE Jar, 8 oz
1901920-11	NAOA-B02-GW		01-Jul-19 14:30	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-12	EB-07012019		01-Jul-19 16:00	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-13	NAOA-B01-SO-1-1.5		01-Jul-19 16:50	03-Jul-19 09:10	HDPE Jar, 8 oz
1901920-14	FRB-07012019		01-Jul-19 17:00	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-15	NAOA-B01-SO-20-20.5		01-Jul-19 17:15	03-Jul-19 09:10	HDPE Bottle, 125 mL
1901920-16	NAOA-B01-GW		02-Jul-19 08:25	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-17	NAOA-B01-GW-D		02-Jul-19 08:30	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1901920-18	CAOA-B02-SO-0.5-1	MS/MSD	02-Jul-19 11:30	03-Jul-19 09:10	HDPE Jar, 8 oz
					HDPE Jar, 8 oz
					HDPE Jar, 8 oz
1901920-19	CAOA-B02-SO-20-20.5		02-Jul-19 12:00	03-Jul-19 09:10	HDPE Jar, 8 oz
1901920-20	EB-07022019		02-Jul-19 12:15	03-Jul-19 09:10	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL

Vista Project: 1901920

ANALYTICAL RESULTS

Sample ID: Method Blank

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Matrix: Solid

Laboratory Data

Lab Sample: B9G0116-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFHxA	307-24-4	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFHpA	375-85-9	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFHxS	355-46-4	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFOA	335-67-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFNA	375-95-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFOS	1763-23-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFDA	335-76-2	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
MeFOSAA	2355-31-9	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
EtFOSAA	2991-50-6	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFUnA	2058-94-8	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFDoA	307-55-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFTrDA	72629-94-8	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
PFTeDA	376-06-7	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	92.1	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C2-PFHxA	IS	92.8	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C4-PFHpA	IS	92.2	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C3-PFHxS	IS	89.0	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C2-PFOA	IS	81.4	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C5-PFNA	IS	81.9	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C8-PFOS	IS	76.8	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C2-PFDA	IS	65.9	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
d3-MeFOSAA	IS	55.4	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
d5-EtFOSAA	IS	47.3	50 - 150	H	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C2-PFUnA	IS	56.8	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C2-PFDoA	IS	55.4	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1
13C2-PFTeDA	IS	67.3	50 - 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:45	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR **VAL - PFAS**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Matrix: Solid

Laboratory Data

Lab Sample: B9G0116-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ug/kg	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	10.4	10.0	104	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFHxA	307-24-4	11.4	10.0	114	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFHpA	375-85-9	10.8	10.0	108	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFHxS	355-46-4	10.3	10.0	103	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFOA	335-67-1	10.8	10.0	108	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFNA	375-95-1	11.1	10.0	111	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFOS	1763-23-1	10.5	10.0	105	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFDA	335-76-2	11.5	10.0	115	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
MeFOSAA	2355-31-9	9.66	10.0	96.6	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
EtFOSAA	2991-50-6	13.4	10.0	134	70 - 130	H	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFUnA	2058-94-8	11.7	10.0	117	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFDoA	307-55-1	11.5	10.0	115	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFTrDA	72629-94-8	12.3	10.0	123	60 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
PFTeDA	376-06-7	11.6	10.0	116	70 - 130		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	95.4	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C2-PFHxA	IS	90.3	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C4-PFHpA	IS	90.3	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C3-PFHxS	IS	99.5	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C2-PFOA	IS	89.8	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C5-PFNA	IS	80.3	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C8-PFOS	IS	82.0	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C2-PFDA	IS	67.0	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
d3-MeFOSAA	IS	54.5	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
d5-EtFOSAA	IS	45.5	50- 150	H	B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C2-PFUnA	IS	56.4	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C2-PFDoA	IS	54.8	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1
13C2-PFTeDA	IS	67.8	50- 150		B9G0116	10-Jul-19	1.00 g	12-Jul-19 21:13	1

Sample ID: SAOA-B08-SO-30-30.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Soil
Date Collected: 27-Jun-19 15:35

Laboratory Data

Lab Sample: 1901920-01
Date Received: 03-Jul-19 09:10
% Solids: 99.1

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFHxA	307-24-4	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFHpA	375-85-9	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFHxS	355-46-4	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFOA	335-67-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFNA	375-95-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFOS	1763-23-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFDA	335-76-2	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
MeFOSAA	2355-31-9	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
EtFOSAA	2991-50-6	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFUnA	2058-94-8	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFDoA	307-55-1	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFTrDA	72629-94-8	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
PFTeDA	376-06-7	ND	0.845	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	89.8	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C2-PFHxA	IS	92.7	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C4-PFHpA	IS	89.6	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C3-PFHxS	IS	92.8	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C2-PFOA	IS	85.7	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C5-PFNA	IS	80.3	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C8-PFOS	IS	84.0	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C2-PFDA	IS	69.6	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
d3-MeFOSAA	IS	56.1	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
d5-EtFOSAA	IS	51.6	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C2-PFUnA	IS	59.3	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C2-PFDoA	IS	57.9	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1
13C2-PFTeDA	IS	67.5	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 22:49	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B08-SO-1-1.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Soil
Date Collected: 01-Jul-19 08:00

Laboratory Data

Lab Sample: 1901920-07
Date Received: 03-Jul-19 09:10
% Solids: 98.5

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFHxA	307-24-4	3.40	0.833	0.985	1.97		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFHpA	375-85-9	2.43	0.833	0.985	1.97		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFHxS	355-46-4	8.07	0.833	0.985	1.97		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFOA	335-67-1	4.59	0.833	0.985	1.97		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFNA	375-95-1	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFOS	1763-23-1	27.2	0.833	0.985	1.97		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFDA	335-76-2	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
MeFOSAA	2355-31-9	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
EtFOSAA	2991-50-6	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFUnA	2058-94-8	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFDoA	307-55-1	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFTrDA	72629-94-8	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
PFTeDA	376-06-7	ND	0.833	0.985	1.97	U	B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	99.8	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C2-PFHxA	IS	96.0	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C4-PFHpA	IS	102	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C3-PFHxS	IS	91.5	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C2-PFOA	IS	92.3	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C5-PFNA	IS	91.3	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C8-PFOS	IS	96.7	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C2-PFDA	IS	77.7	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
d3-MeFOSAA	IS	59.5	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
d5-EtFOSAA	IS	63.2	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C2-PFUnA	IS	68.3	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C2-PFDoA	IS	66.6	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1
13C2-PFTeDA	IS	73.2	50 - 150		B9G0116	10-Jul-19	1.03 g	12-Jul-19 22:59	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B08-SO-20-20.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Soil
Date Collected: 01-Jul-19 08:30

Laboratory Data

Lab Sample: 1901920-08
Date Received: 03-Jul-19 09:10
% Solids: 98.8
Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFHxA	307-24-4	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFHpA	375-85-9	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFHxS	355-46-4	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFOA	335-67-1	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFNA	375-95-1	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFOS	1763-23-1	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFDA	335-76-2	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
MeFOSAA	2355-31-9	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
EtFOSAA	2991-50-6	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFUnA	2058-94-8	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFDoA	307-55-1	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFTrDA	72629-94-8	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
PFTeDA	376-06-7	ND	0.847	1.00	2.00	U	B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	98.1	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C2-PFHxA	IS	90.9	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C4-PFHpA	IS	93.9	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C3-PFHxS	IS	100	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C2-PFOA	IS	87.1	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C5-PFNA	IS	82.4	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C8-PFOS	IS	81.3	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C2-PFDA	IS	71.3	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
d3-MeFOSAA	IS	62.7	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
d5-EtFOSAA	IS	58.9	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C2-PFUnA	IS	64.4	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C2-PFDoA	IS	64.4	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1
13C2-PFTeDA	IS	71.3	50 - 150		B9G0116	10-Jul-19	1.01 g	12-Jul-19 23:10	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B09-SO-1-1.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Soil
Date Collected: 01-Jul-19 09:25

Laboratory Data

Lab Sample: 1901920-09
Date Received: 03-Jul-19 09:10
% Solids: 99.3

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.853	0.803	0.950	1.90	J	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFHxA	307-24-4	11.0	0.803	0.950	1.90		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFHpA	375-85-9	1.16	0.803	0.950	1.90	J	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFHxS	355-46-4	7.54	0.803	0.950	1.90		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFOA	335-67-1	2.64	0.803	0.950	1.90		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFNA	375-95-1	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFOS	1763-23-1	14.3	0.803	0.950	1.90		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFDA	335-76-2	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
MeFOSAA	2355-31-9	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
EtFOSAA	2991-50-6	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFUnA	2058-94-8	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFDoA	307-55-1	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFTrDA	72629-94-8	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
PFTeDA	376-06-7	ND	0.803	0.950	1.90	U	B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	93.5	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C2-PFHxA	IS	97.3	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C4-PFHpA	IS	100	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C3-PFHxS	IS	96.5	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C2-PFOA	IS	97.7	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C5-PFNA	IS	87.7	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C8-PFOS	IS	88.9	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C2-PFDA	IS	74.4	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
d3-MeFOSAA	IS	60.0	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
d5-EtFOSAA	IS	62.9	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C2-PFUnA	IS	60.5	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C2-PFDoA	IS	58.9	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1
13C2-PFTeDA	IS	69.7	50 - 150		B9G0116	10-Jul-19	1.06 g	12-Jul-19 23:52	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B09-SO-20-20.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Soil
Date Collected: 01-Jul-19 09:55

Laboratory Data

Lab Sample: 1901920-10
Date Received: 03-Jul-19 09:10
% Solids: 98.9

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFHxA	307-24-4	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFHpA	375-85-9	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFHxS	355-46-4	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFOA	335-67-1	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFNA	375-95-1	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFOS	1763-23-1	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFDA	335-76-2	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
MeFOSAA	2355-31-9	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
EtFOSAA	2991-50-6	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFUnA	2058-94-8	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFDoA	307-55-1	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFTrDA	72629-94-8	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
PFTeDA	376-06-7	ND	0.806	0.954	1.91	U	B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	91.3	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C2-PFHxA	IS	89.3	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C4-PFHpA	IS	86.9	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C3-PFHxS	IS	90.4	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C2-PFOA	IS	86.3	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C5-PFNA	IS	77.9	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C8-PFOS	IS	77.6	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C2-PFDA	IS	66.4	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
d3-MeFOSAA	IS	62.3	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
d5-EtFOSAA	IS	63.3	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C2-PFUnA	IS	58.7	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C2-PFDoA	IS	59.9	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1
13C2-PFTeDA	IS	75.0	50 - 150		B9G0116	10-Jul-19	1.06 g	13-Jul-19 00:03	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B01-SO-1-1.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Soil
Date Collected: 01-Jul-19 16:50

Laboratory Data

Lab Sample: 1901920-13
Date Received: 03-Jul-19 09:10
% Solids: 99.1
Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFHxA	307-24-4	0.926	0.812	0.961	1.92	J	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFHpA	375-85-9	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFHxS	355-46-4	1.80	0.812	0.961	1.92	J	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFOA	335-67-1	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFNA	375-95-1	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFOS	1763-23-1	3.87	0.812	0.961	1.92		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFDA	335-76-2	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
MeFOSAA	2355-31-9	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
EtFOSAA	2991-50-6	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFUnA	2058-94-8	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFDoA	307-55-1	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFTrDA	72629-94-8	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
PFTeDA	376-06-7	ND	0.812	0.961	1.92	U	B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	104	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C2-PFHxA	IS	93.2	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C4-PFHpA	IS	95.5	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C3-PFHxS	IS	97.3	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C2-PFOA	IS	90.7	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C5-PFNA	IS	80.7	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C8-PFOS	IS	87.7	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C2-PFDA	IS	69.5	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
d3-MeFOSAA	IS	60.1	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
d5-EtFOSAA	IS	65.4	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C2-PFUnA	IS	62.5	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C2-PFDoA	IS	58.1	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1
13C2-PFTeDA	IS	68.7	50 - 150		B9G0116	10-Jul-19	1.05 g	13-Jul-19 00:14	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B01-SO-20-20.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Soil
Date Collected: 01-Jul-19 17:15

Laboratory Data

Lab Sample: 1901920-15
Date Received: 03-Jul-19 09:10
% Solids: 98.6
Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFHxA	307-24-4	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFHpA	375-85-9	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFHxS	355-46-4	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFOA	335-67-1	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFNA	375-95-1	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFOS	1763-23-1	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFDA	335-76-2	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
MeFOSAA	2355-31-9	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
EtFOSAA	2991-50-6	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFUnA	2058-94-8	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFDoA	307-55-1	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFTrDA	72629-94-8	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
PFTeDA	376-06-7	ND	0.824	0.976	1.95	U	B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	105	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C2-PFHxA	IS	92.8	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C4-PFHpA	IS	93.3	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C3-PFHxS	IS	104	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C2-PFOA	IS	90.5	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C5-PFNA	IS	85.2	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C8-PFOS	IS	96.5	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C2-PFDA	IS	68.9	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
d3-MeFOSAA	IS	62.3	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
d5-EtFOSAA	IS	66.0	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C2-PFUnA	IS	64.0	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C2-PFDoA	IS	63.0	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1
13C2-PFTeDA	IS	76.8	50 - 150		B9G0116	10-Jul-19	1.04 g	13-Jul-19 00:24	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CAOA-B02-SO-0.5-1

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Soil
Date Collected: 02-Jul-19 11:30

Laboratory Data

Lab Sample: 1901920-18
Date Received: 03-Jul-19 09:10
% Solids: 99.8

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFHxA	307-24-4	2.13	0.822	0.973	1.95		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFHpA	375-85-9	1.01	0.822	0.973	1.95	J	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFHxS	355-46-4	1.01	0.822	0.973	1.95	J	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFOA	335-67-1	1.56	0.822	0.973	1.95	J	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFNA	375-95-1	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFOS	1763-23-1	8.16	0.822	0.973	1.95		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFDA	335-76-2	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
MeFOSAA	2355-31-9	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
EtFOSAA	2991-50-6	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFUnA	2058-94-8	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFDoA	307-55-1	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFTrDA	72629-94-8	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
PFTeDA	376-06-7	ND	0.822	0.973	1.95	U	B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	92.5	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C2-PFHxA	IS	91.2	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C4-PFHpA	IS	91.6	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C3-PFHxS	IS	91.0	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C2-PFOA	IS	84.7	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C5-PFNA	IS	79.5	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C8-PFOS	IS	88.3	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C2-PFDA	IS	68.4	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
d3-MeFOSAA	IS	72.2	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
d5-EtFOSAA	IS	74.0	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C2-PFUnA	IS	64.6	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C2-PFDoA	IS	66.9	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1
13C2-PFTeDA	IS	75.6	50 - 150		B9G0116	10-Jul-19	1.03 g	13-Jul-19 00:35	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CAOA-B02-SO-0.5-1 **VAL - PFAS**

Name:	Tetra Tech EC, Inc.	Lab Sample:	B9G0116-MS1/B9G0116-MSD1	Source Lab Sample:	1901920-18
Project:	4663.3803	QC Batch:	B9G0116	Date Extracted:	10-Jul-19
Matrix:	Solid	Samp Size:	1.01/1.03 g	Column:	BEH C18

Analyte	CAS Number	Sample (ug/kg)	MS (ug/kg)	MS Spike Amt	MS % Rec	MS Quals	MSD (ug/kg)	MSD Spike Amt	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
PFBS	375-73-5	ND	11.2	9.92	111		10.3	9.73	104	6.51		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFHxA	307-24-4	2.13	14.6	9.92	126		15.5	9.73	138	9.09	H	70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFHpA	375-85-9	1.01	12.3	9.92	114		13.0	9.73	123	7.59		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFHxS	355-46-4	1.01	12.9	9.92	120		12.2	9.73	115	4.26		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFOA	335-67-1	1.56	13.7	9.92	122		12.7	9.73	115	5.91		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFNA	375-95-1	ND	11.6	9.92	111		11.3	9.73	110	0.905		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFOS	1763-23-1	8.16	19.2	9.92	111		19.1	9.73	112	0.897		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFDA	335-76-2	ND	12.6	9.92	121		11.6	9.73	114	5.96		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
MeFOSAA	2355-31-9	ND	10.6	9.92	107		9.52	9.73	97.9	8.88		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
EtFOSAA	2991-50-6	ND	12.7	9.92	128		10.2	9.73	105	19.7		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFUnA	2058-94-8	ND	12.1	9.92	122		11.4	9.73	117	4.18		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFDoA	307-55-1	ND	11.6	9.92	117		11.0	9.73	113	3.48		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFTrDA	72629-94-8	ND	12.0	9.92	121		11.6	9.73	119	1.67		60-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1
PFTeDA	376-06-7	ND	12.0	9.92	121		11.4	9.73	117	3.36		70-130	30	12-Jul-19 21:24	1	12-Jul-19 21:35	1

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
13C3-PFBS	IS	104		97.0		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C2-PFHxA	IS	88.7		84.4		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C4-PFHpA	IS	89.0		84.2		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C3-PFHxS	IS	96.3		95.0		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C2-PFOA	IS	83.1		82.7		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C5-PFNA	IS	79.7		72.6		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C8-PFOS	IS	88.9		83.7		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C2-PFDA	IS	65.1		62.6		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
d3-MeFOSAA	IS	71.4		74.6		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
d5-EtFOSAA	IS	70.7		73.9		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C2-PFUnA	IS	62.7		63.7		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C2-PFDoA	IS	68.1		70.6		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1
13C2-PFTeDA	IS	73.8		74.7		50-150	12-Jul-19 21:24	1	12-Jul-19 21:35	1

Sample ID: CAOA-B02-SO-20-20.5

VAL - PFAS

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: soil
Date Collected: 02-Jul-19 12:00

Laboratory Data

Lab Sample: 1901920-19
Date Received: 03-Jul-19 09:10
% Solids: 98.3

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFHxA	307-24-4	5.45	0.843	0.997	1.99		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFHpA	375-85-9	1.64	0.843	0.997	1.99	J	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFHxS	355-46-4	3.38	0.843	0.997	1.99		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFOA	335-67-1	1.66	0.843	0.997	1.99	J	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFNA	375-95-1	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFOS	1763-23-1	12.1	0.843	0.997	1.99		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFDA	335-76-2	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
MeFOSAA	2355-31-9	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
EtFOSAA	2991-50-6	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFUnA	2058-94-8	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFDoA	307-55-1	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFTrDA	72629-94-8	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
PFTeDA	376-06-7	ND	0.843	0.997	1.99	U	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	93.2	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C2-PFHxA	IS	93.3	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C4-PFHpA	IS	94.3	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C3-PFHxS	IS	89.8	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C2-PFOA	IS	85.9	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C5-PFNA	IS	78.3	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C8-PFOS	IS	91.2	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C2-PFDA	IS	63.8	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
d3-MeFOSAA	IS	52.3	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
d5-EtFOSAA	IS	55.2	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C2-PFUnA	IS	50.1	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C2-PFDoA	IS	46.3	50 - 150	H	B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1
13C2-PFTeDA	IS	69.8	50 - 150		B9G0116	10-Jul-19	1.02 g	13-Jul-19 00:45	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Method Blank — **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Matrix: Aqueous

Laboratory Data

Lab Sample: B9G0062-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFHxA	307-24-4	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFHpA	375-85-9	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFHxS	355-46-4	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFOA	335-67-1	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFNA	375-95-1	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFOS	1763-23-1	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFDA	335-76-2	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
MeFOSAA	2355-31-9	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
EtFOSAA	2991-50-6	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFUnA	2058-94-8	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFDoA	307-55-1	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFTrDA	72629-94-8	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
PFTeDA	376-06-7	ND	0.00274	0.00400	0.00800	U	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	103	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C2-PFHxA	IS	93.3	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C4-PFHpA	IS	86.3	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C3-PFHxS	IS	95.6	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C2-PFOA	IS	78.8	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C5-PFNA	IS	77.7	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C8-PFOS	IS	73.5	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C2-PFDA	IS	70.1	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
d3-MeFOSAA	IS	63.6	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
d5-EtFOSAA	IS	65.1	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C2-PFUnA	IS	71.1	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C2-PFDoA	IS	59.6	50 - 150		B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1
13C2-PFTeDA	IS	46.6	50 - 150	H	B9G0062	10-Jul-19	0.125 L	12-Jul-19 03:38	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: LCSD **PFAS Isotope Dilution Method**

Name:	Tetra Tech EC, Inc.	Lab Sample:	B9G0062-BS1/B9G0062-BSD1
Project:	4663.3803	QC Batch:	B9G0062
Matrix:	Aqueous	Samp Size:	0.125/0.125 L
		Date Extracted:	10-Jul-19
		Column:	BEH C18

Analyte	CAS Number	LCS (ug/L)	LCS Spike Amt	LCS % Rec	LCS Quals	LCSD (ug/L)	LCSD Spike Amt	LCSD % Rec	RPD	LCSD Quals	%Rec Limits	RPD Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
PFBS	375-73-5	0.0806	0.0800	101		0.0817	0.0800	102	1.31		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFHxA	307-24-4	0.0850	0.0800	106		0.0890	0.0800	111	4.67		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFHpA	375-85-9	0.0930	0.0800	116		0.0834	0.0800	104	10.9		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFHxS	355-46-4	0.0995	0.0800	124		0.0894	0.0800	112	10.7		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFOA	335-67-1	0.0870	0.0800	109		0.0846	0.0800	106	2.89		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFNA	375-95-1	0.0840	0.0800	105		0.0831	0.0800	104	1.12		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFOS	1763-23-1	0.0880	0.0800	110		0.0817	0.0800	102	7.33		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFDA	335-76-2	0.0844	0.0800	106		0.0808	0.0800	101	4.37		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
MeFOSAA	2355-31-9	0.103	0.0800	129		0.0845	0.0800	106	19.8		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
EtFOSAA	2991-50-6	0.0901	0.0800	113		0.0910	0.0800	114	1.06		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFUnA	2058-94-8	0.0827	0.0800	103		0.0860	0.0800	108	4.01		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFDoA	307-55-1	0.0925	0.0800	116		0.0862	0.0800	108	7.04		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFTrDA	72629-94-8	0.0869	0.0800	109		0.0817	0.0800	102	6.11		60-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1
PFTeDA	376-06-7	0.0906	0.0800	113		0.0883	0.0800	110	2.54		70-130	30	12-Jul-19 03:16	1	12-Jul-19 03:27	1

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C3-PFBS	IS	95.8		100		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C2-PFHxA	IS	97.5		100		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C4-PFHpA	IS	85.1		97.7		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C3-PFHxS	IS	82.4		84.2		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C2-PFOA	IS	82.8		80.0		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C5-PFNA	IS	78.9		71.0		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C8-PFOS	IS	67.8		72.8		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C2-PFDA	IS	70.9		67.0		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
d3-MeFOSAA	IS	60.3		68.3		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
d5-EtFOSAA	IS	69.6		59.3		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C2-PFUnA	IS	63.0		59.0		50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C2-PFDoA	IS	52.5		45.8	H	50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1
13C2-PFTeDA	IS	52.0		41.4	H	50-150	12-Jul-19 03:16	1	12-Jul-19 03:27	1

Sample ID: SAOA-B08-GW

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 27-Jun-19 16:40

Laboratory Data

Lab Sample: 1901920-02
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0104	0.00257	0.00376	0.00751		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFHxA	307-24-4	0.0391	0.00257	0.00376	0.00751		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFHpA	375-85-9	0.0104	0.00257	0.00376	0.00751		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFHxS	355-46-4	0.0532	0.00257	0.00376	0.00751		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFOA	335-67-1	0.0175	0.00257	0.00376	0.00751		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFNA	375-95-1	ND	0.00257	0.00376	0.00751	U	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFOS	1763-23-1	0.144	0.00257	0.00376	0.00751		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFDA	335-76-2	0.00298	0.00257	0.00376	0.00751	J	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
MeFOSAA	2355-31-9	ND	0.00257	0.00376	0.00751	U	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
EtFOSAA	2991-50-6	ND	0.00257	0.00376	0.00751	U	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFUnA	2058-94-8	ND	0.00257	0.00376	0.00751	U	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFDoA	307-55-1	ND	0.00257	0.00376	0.00751	U	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFTrDA	72629-94-8	ND	0.00257	0.00376	0.00751	U	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
PFTeDA	376-06-7	ND	0.00257	0.00376	0.00751	U	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	90.6	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C2-PFHxA	IS	90.8	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C4-PFHpA	IS	83.0	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C3-PFHxS	IS	75.3	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C2-PFOA	IS	87.6	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C5-PFNA	IS	77.9	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C8-PFOS	IS	96.7	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C2-PFDA	IS	80.2	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
d3-MeFOSAA	IS	63.7	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
d5-EtFOSAA	IS	58.1	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C2-PFUnA	IS	77.3	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C2-PFDoA	IS	54.5	50 - 150		B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1
13C2-PFTeDA	IS	44.1	50 - 150	H	B9G0062	10-Jul-19	0.133 L	12-Jul-19 04:10	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EB-06272019-GW

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 27-Jun-19 17:00

Laboratory Data

Lab Sample: 1901920-03
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFHxA	307-24-4	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFHpA	375-85-9	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFHxS	355-46-4	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFOA	335-67-1	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFNA	375-95-1	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFOS	1763-23-1	0.0103	0.00300	0.00439	0.00875	Q	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFDA	335-76-2	0.00428	0.00300	0.00439	0.00875	J, Q	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
MeFOSAA	2355-31-9	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
EtFOSAA	2991-50-6	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFUnA	2058-94-8	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFDoA	307-55-1	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFTrDA	72629-94-8	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
PFTeDA	376-06-7	ND	0.00300	0.00439	0.00875	U	B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	101	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C2-PFHxA	IS	92.9	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C4-PFHpA	IS	88.8	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C3-PFHxS	IS	97.0	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C2-PFOA	IS	91.6	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C5-PFNA	IS	84.5	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C8-PFOS	IS	83.9	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C2-PFDA	IS	80.7	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
d3-MeFOSAA	IS	71.1	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
d5-EtFOSAA	IS	71.3	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C2-PFUnA	IS	78.2	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C2-PFDoA	IS	76.9	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1
13C2-PFTeDA	IS	75.5	50 - 150		B9G0062	10-Jul-19	0.114 L	12-Jul-19 04:20	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Vista Analytical Laboratory

Sample ID: FRB-06282019

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 28-Jun-19 09:20

Laboratory Data

Lab Sample: 1901920-04
Date Received: 03-Jul-19 09:10
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFHxA	307-24-4	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFHpA	375-85-9	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFHxS	355-46-4	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFOA	335-67-1	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFNA	375-95-1	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFOS	1763-23-1	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFDA	335-76-2	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
MeFOSAA	2355-31-9	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
EtFOSAA	2991-50-6	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFUnA	2058-94-8	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFDoA	307-55-1	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFTrDA	72629-94-8	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
PFTeDA	376-06-7	ND	0.00296	0.00431	0.00864	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	94.7	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C2-PFHxA	IS	91.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C4-PFHpA	IS	88.9	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C3-PFHxS	IS	86.8	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C2-PFOA	IS	82.2	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C5-PFNA	IS	78.8	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C8-PFOS	IS	83.7	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C2-PFDA	IS	76.2	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
d3-MeFOSAA	IS	67.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
d5-EtFOSAA	IS	69.6	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C2-PFUnA	IS	78.7	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C2-PFDoA	IS	73.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1
13C2-PFTeDA	IS	83.2	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 04:31	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SAOA-B12-GW — **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 28-Jun-19 10:20

Laboratory Data

Lab Sample: 1901920-05
Date Received: 03-Jul-19 09:10
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.00758	0.00281	0.00410	0.00819	J	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFHxA	307-24-4	0.0178	0.00281	0.00410	0.00819		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFHpA	375-85-9	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFHxS	355-46-4	0.00478	0.00281	0.00410	0.00819	J	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFOA	335-67-1	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFNA	375-95-1	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFOS	1763-23-1	0.0127	0.00281	0.00410	0.00819		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFDA	335-76-2	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
MeFOSAA	2355-31-9	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
EtFOSAA	2991-50-6	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFUnA	2058-94-8	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFDoA	307-55-1	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFTrDA	72629-94-8	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
PFTeDA	376-06-7	ND	0.00281	0.00410	0.00819	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	117	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C2-PFHxA	IS	94.1	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C4-PFHpA	IS	98.8	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C3-PFHxS	IS	105	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C2-PFOA	IS	99.9	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C5-PFNA	IS	92.4	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C8-PFOS	IS	87.7	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C2-PFDA	IS	87.3	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
d3-MeFOSAA	IS	78.0	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
d5-EtFOSAA	IS	80.3	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C2-PFUnA	IS	84.3	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C2-PFDoA	IS	69.2	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1
13C2-PFTeDA	IS	53.6	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 04:41	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SAOA-B12-GW-D

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 28-Jun-19 10:25

Laboratory Data

Lab Sample: 1901920-06
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.00664	0.00271	0.00397	0.00791	J	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFHxA	307-24-4	0.0203	0.00271	0.00397	0.00791		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFHpA	375-85-9	0.00361	0.00271	0.00397	0.00791	J	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFHxS	355-46-4	0.0157	0.00271	0.00397	0.00791		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFOA	335-67-1	0.00635	0.00271	0.00397	0.00791	J	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFNA	375-95-1	0.00302	0.00271	0.00397	0.00791	J, Q	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFOS	1763-23-1	0.0904	0.00271	0.00397	0.00791		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFDA	335-76-2	0.00407	0.00271	0.00397	0.00791	J, Q	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
MeFOSAA	2355-31-9	ND	0.00271	0.00397	0.00791	U	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
EtFOSAA	2991-50-6	ND	0.00271	0.00397	0.00791	U	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFUnA	2058-94-8	ND	0.00271	0.00397	0.00791	U	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFDoA	307-55-1	ND	0.00271	0.00397	0.00791	U	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFTrDA	72629-94-8	ND	0.00271	0.00397	0.00791	U	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
PFTeDA	376-06-7	ND	0.00271	0.00397	0.00791	U	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	101	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C2-PFHxA	IS	96.2	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C4-PFHpA	IS	97.2	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C3-PFHxS	IS	83.7	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C2-PFOA	IS	96.0	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C5-PFNA	IS	89.4	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C8-PFOS	IS	104	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C2-PFDA	IS	99.9	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
d3-MeFOSAA	IS	68.1	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
d5-EtFOSAA	IS	65.0	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C2-PFUnA	IS	76.5	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C2-PFDoA	IS	63.3	50 - 150		B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1
13C2-PFTeDA	IS	30.7	50 - 150	H	B9G0062	10-Jul-19	0.126 L	12-Jul-19 04:52	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B02-GW

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 01-Jul-19 14:30

Laboratory Data

Lab Sample: 1901920-11
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0664	0.00281	0.00410	0.00820		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFHxA	307-24-4	0.245	0.00281	0.00410	0.00820		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFHpA	375-85-9	0.0408	0.00281	0.00410	0.00820		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFHxS	355-46-4	0.359	0.00281	0.00410	0.00820		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFOA	335-67-1	0.0679	0.00281	0.00410	0.00820		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFNA	375-95-1	0.00442	0.00281	0.00410	0.00820	J	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFOS	1763-23-1	0.862	0.00281	0.00410	0.00820		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFDA	335-76-2	ND	0.00281	0.00410	0.00820	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
MeFOSAA	2355-31-9	ND	0.00281	0.00410	0.00820	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
EtFOSAA	2991-50-6	ND	0.00281	0.00410	0.00820	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFUnA	2058-94-8	ND	0.00281	0.00410	0.00820	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFDoA	307-55-1	ND	0.00281	0.00410	0.00820	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFTrDA	72629-94-8	ND	0.00281	0.00410	0.00820	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
PFTeDA	376-06-7	ND	0.00281	0.00410	0.00820	U	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	103	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C2-PFHxA	IS	101	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C4-PFHpA	IS	110	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C3-PFHxS	IS	98.6	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C2-PFOA	IS	103	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C5-PFNA	IS	95.8	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C8-PFOS	IS	103	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C2-PFDA	IS	84.6	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
d3-MeFOSAA	IS	71.2	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
d5-EtFOSAA	IS	68.8	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C2-PFUnA	IS	75.6	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C2-PFDoA	IS	60.0	50 - 150		B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1
13C2-PFTeDA	IS	45.7	50 - 150	H	B9G0062	10-Jul-19	0.122 L	12-Jul-19 20:52	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EB-07012019

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 01-Jul-19 16:00

Laboratory Data

Lab Sample: 1901920-12
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFHxA	307-24-4	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFHpA	375-85-9	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFHxS	355-46-4	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFOA	335-67-1	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFNA	375-95-1	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFOS	1763-23-1	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFDA	335-76-2	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
MeFOSAA	2355-31-9	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
EtFOSAA	2991-50-6	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFUnA	2058-94-8	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFDoA	307-55-1	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFTrDA	72629-94-8	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
PFTeDA	376-06-7	ND	0.00307	0.00446	0.00896	U	B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	103	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C2-PFHxA	IS	100	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C4-PFHpA	IS	95.1	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C3-PFHxS	IS	84.8	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C2-PFOA	IS	95.7	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C5-PFNA	IS	85.6	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C8-PFOS	IS	84.2	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C2-PFDA	IS	73.8	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
d3-MeFOSAA	IS	59.5	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
d5-EtFOSAA	IS	68.8	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C2-PFUnA	IS	72.2	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C2-PFDoA	IS	70.8	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1
13C2-PFTeDA	IS	78.9	50 - 150		B9G0062	10-Jul-19	0.112 L	12-Jul-19 05:13	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: FRB-07012019 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 01-Jul-19 17:00

Laboratory Data

Lab Sample: 1901920-14
Date Received: 03-Jul-19 09:10
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFHxA	307-24-4	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFHpA	375-85-9	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFHxS	355-46-4	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFOA	335-67-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFNA	375-95-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFOS	1763-23-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFDA	335-76-2	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
MeFOSAA	2355-31-9	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
EtFOSAA	2991-50-6	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFUnA	2058-94-8	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFDoA	307-55-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFTrDA	72629-94-8	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
PFTeDA	376-06-7	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	101	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C2-PFHxA	IS	95.2	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C4-PFHpA	IS	86.4	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C3-PFHxS	IS	98.6	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C2-PFOA	IS	92.1	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C5-PFNA	IS	87.0	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C8-PFOS	IS	87.1	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C2-PFDA	IS	76.1	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
d3-MeFOSAA	IS	66.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
d5-EtFOSAA	IS	63.1	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C2-PFUnA	IS	79.4	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C2-PFDoA	IS	72.6	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1
13C2-PFTeDA	IS	79.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 05:24	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B01-GW

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 02-Jul-19 08:25

Laboratory Data

Lab Sample: 1901920-16
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0823	0.00265	0.00388	0.00773		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFHxA	307-24-4	0.176	0.00265	0.00388	0.00773		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFHpA	375-85-9	0.0307	0.00265	0.00388	0.00773		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFHxS	355-46-4	0.167	0.00265	0.00388	0.00773		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFOA	335-67-1	0.00628	0.00265	0.00388	0.00773	J	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFNA	375-95-1	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFOS	1763-23-1	0.0664	0.00265	0.00388	0.00773		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFDA	335-76-2	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
MeFOSAA	2355-31-9	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
EtFOSAA	2991-50-6	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFUnA	2058-94-8	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFDoA	307-55-1	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFTrDA	72629-94-8	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
PFTeDA	376-06-7	ND	0.00265	0.00388	0.00773	U	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	93.7	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C2-PFHxA	IS	90.8	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C4-PFHpA	IS	84.3	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C3-PFHxS	IS	79.4	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C2-PFOA	IS	91.2	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C5-PFNA	IS	81.8	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C8-PFOS	IS	92.3	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C2-PFDA	IS	81.1	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
d3-MeFOSAA	IS	67.9	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
d5-EtFOSAA	IS	63.1	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C2-PFUnA	IS	74.8	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C2-PFDoA	IS	60.2	50 - 150		B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1
13C2-PFTeDA	IS	47.7	50 - 150	H	B9G0062	10-Jul-19	0.129 L	12-Jul-19 05:34	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: NAOA-B01-GW-D

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 02-Jul-19 08:30

Laboratory Data

Lab Sample: 1901920-17
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.170	0.00249	0.00362	0.00726		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFHxA	307-24-4	0.613	0.00249	0.00362	0.00726		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFHpA	375-85-9	0.0573	0.00249	0.00362	0.00726		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFHxS	355-46-4	0.120	0.00249	0.00362	0.00726		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFOA	335-67-1	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFNA	375-95-1	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFOS	1763-23-1	0.0447	0.00249	0.00362	0.00726		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFDA	335-76-2	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
MeFOSAA	2355-31-9	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
EtFOSAA	2991-50-6	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFUnA	2058-94-8	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFDoA	307-55-1	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFTrDA	72629-94-8	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
PFTeDA	376-06-7	ND	0.00249	0.00362	0.00726	U	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	90.9	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C2-PFHxA	IS	88.8	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C4-PFHpA	IS	101	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C3-PFHxS	IS	87.3	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C2-PFOA	IS	82.3	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C5-PFNA	IS	78.8	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C8-PFOS	IS	80.6	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C2-PFDA	IS	65.1	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
d3-MeFOSAA	IS	59.0	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
d5-EtFOSAA	IS	60.4	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C2-PFUnA	IS	60.5	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C2-PFDoA	IS	56.4	50 - 150		B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1
13C2-PFTeDA	IS	39.8	50 - 150	H	B9G0062	10-Jul-19	0.138 L	12-Jul-19 21:03	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EB-07022019

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ

Matrix: Aqueous
Date Collected: 02-Jul-19 12:15

Laboratory Data

Lab Sample: 1901920-20
Date Received: 03-Jul-19 09:10

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFHxA	307-24-4	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFHpA	375-85-9	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFHxS	355-46-4	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFOA	335-67-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFNA	375-95-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFOS	1763-23-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFDA	335-76-2	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
MeFOSAA	2355-31-9	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
EtFOSAA	2991-50-6	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFUnA	2058-94-8	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFDoA	307-55-1	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFTrDA	72629-94-8	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
PFTeDA	376-06-7	ND	0.00294	0.00431	0.00859	U	B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	111	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C2-PFHxA	IS	91.4	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C4-PFHpA	IS	85.6	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C3-PFHxS	IS	97.3	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C2-PFOA	IS	93.3	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C5-PFNA	IS	91.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C8-PFOS	IS	84.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C2-PFDA	IS	86.4	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
d3-MeFOSAA	IS	65.1	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
d5-EtFOSAA	IS	73.4	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C2-PFUnA	IS	82.9	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C2-PFDoA	IS	77.5	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1
13C2-PFTeDA	IS	86.9	50 - 150		B9G0062	10-Jul-19	0.116 L	12-Jul-19 06:27	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Analytical Laboratory

CHAIN OF CUSTODY

1 of 2

For Laboratory Use Only
Work Order #: 1901920 Temp: 0.7 °C
Storage ID: R-13, WR-2 Storage Secured: Yes ☑ No ☐

Project ID: 4663.3803 PO#: 1164824 Sampler: O'HARE/MCCARTHY (name)

TAT (check one): Standard: ☐ 21 days Rush (surcharge may apply) ☐ 14 days ☐ 7 days Specify: 10 BD

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Accts Payable	Tetra Tech EC, Inc.	1230 Columbia St. Suite 750	San Diego	CA	619-234-8696	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Jeremy McCarthy	7/2/19	1620	FEDEX	7/2/19	1620
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
FedEx	07/03/19	0910	Ashley Mason	07/03/19	0910

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

ATTN: SAMPLE RECEIVING

Method of Shipment: FED EX

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537 PFOA/ PFOS	UCMR3 PFAS List 6	537 List 14	Full List of 26	Other: Please List Below	EPA Method 537(DW only) PFOA/ PFOS	UCMR3 PFAS List 6	PFAS List 14	Comments
SAOA-B08-SO-30-30.5	6/27/19	1535	YUMA, AZ	1	P	SO			X						
SAOA-B08-GW	6/27/19	1640	Yuma, AZ	2	P	AQ			X						
EB-06272019-GW	6/27/19	1700	Yuma, AZ	2	P	AQ			X						
FRB-06282019	6/28/19	0920	Yuma, AZ	2	P	AQ			X						
SAOA-B12-GW	6/28/19	1020	Yuma, AZ	2	P	AQ			X						
SAOA-B12-GW-D	6/28/19	1025	Yuma, AZ	2	P	AQ			X						
NAOA-B08-SO-1-1.5	7/1/19	0800	Yuma, AZ	1	P	SO			X						
NAOA-B08-SO-20-20.5	7/1/19	0830	Yuma, AZ	1	P	SO			X						
NAOA-B09-SO-1-1.5	7/1/19	0925	Yuma, AZ	1	P	SO			X						
NAOA-B09-SO-20-20.5	7/1/19	0955	Yuma, AZ	1	P	SO			X						

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Lisa Bienkowski
Company: Tetra Tech EC, Inc.
Address: 17885 Von Karman Avenue, Suite 500
City: Irvine State: CA Zip: 92614
Phone: 949-809-5028 Fax:
Email: lisa.bienkowski@tetratech.com

Container Types: P= HDPE, PJ= HDPE Jar
O = Other:

Bottle Preservation Type: T = Thiosulfate,
TZ = Trizma:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Vista Analytical Laboratory

CHAIN OF CUSTODY

2 of 2

For Laboratory Use Only
Work Order #: 1901920 Temp: 0.7°c °C
Storage ID: R-13, WR-2 Storage Secured: Yes ☑ No ☐

Project ID: 4663.3803 PO#: 1164824 Sampler: McKinstry (name)

TAT (check one): Standard: ☐ 21 days Rush (surcharge may apply) ☐ 14 days ☐ 7 days Specify: 10 BD

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Accts Payable	Tetra Tech EC, Inc.	1230 Columbia St. Suite 750	San Diego	CA	619-234-8696	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Jeremy McKinstry	7/2/19	1620	FEDEX	7/2/19	1620
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
FedEx	07/03/19	0910	Ashley Mason	07/03/19	0910

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

ATTN: SAMPLE RECEIVING

Method of Shipment: FED EX

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537: PFOA/PFOS	UCMR3 PFAS List:6	537 List: 14	Full List of 26	Other: Please List Below	EPA Method 537(DW only): PFOA/PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
NAOA-B02-GW	7/1/19	1430	YUMA, AZ	2	P	AQ			X						
EB-07012019	7/1/19	1600	Yuma, AZ	2	P	AQ			X						
NAOA-B01-SO-1-1.5	7/1/19	1650	Yuma, AZ	1	P	SO			X						
FRB-07012019	7/1/19	1700	Yuma, AZ	3	P	AQ			X						
NAOA-B01-SO-20-20.5	7/1/19	1715	Yuma, AZ	1	P	SO			X						
NAOA-B01-GW	7/2/19	0825	Yuma, AZ	2	P	AQ			X						
NAOA-B01-GW-D	7/2/19	0830	Yuma, AZ	2	P	AQ			X						
CAOA-B02-SO-0.5-1	7/2/19	1130	Yuma, AZ	3	P	SO			X						Run MS/MSD
CAOA-B02-SO-20-20.5	7/2/19	1200	Yuma, AZ	1	P	SO			X						
EB-07022019	7/2/19	1215	Yuma, AZ	2	P	AQ			X						

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Lisa Bienkowski
Company: Tetra Tech EC, Inc.
Address: 17885 Von Karman Avenue, Suite 500
City: Irvine State: CA Zip: 92614
Phone: 949-809-5028 Fax:
Email: lisa.bienkowski@tetratech.com

Container Types: P= HDPE, PJ= HDPE Jar
O = Other:

Bottle Preservation Type: T = Thiosulfate,
TZ = Trizma:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 1901920 TAT 14 days

Samples Arrival:	**Date/Time** 07/03/19 0910	**Initials:** ajm	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 07/03/19 1401	**Initials:** ajm	**Location:** WR-2 / R-13 **Shelf/Rack:** A-5 E/4 / A-1

Delivered By:	(FedEx)	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice	Dry Ice	None		

Temp °C: 0.7 (uncorrected)	**Probe used: Y / (N)**	**Thermometer ID:** IR-3
Temp °C: 0.7 (corrected)		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 7882 5501 7542			—
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Preservation Documented:	$Na_2S_2O_3$	Trizma	(None)	Other	Yes	No	(NA)
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose		

Comments:

ORIGIN ID:YUMA (619) 200-6897
TETRA TECH
JEREMY MCKINSTRY
1230 COLUMBIA ST STE 750
106-4663.3803.1400.0100
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 02JUL19
ACTWGT: 45.70 LB
CAD: 006995179/SSFE2002
DIMS: 24x13x14 IN

BILL THIRD PARTY

TO ATTN SAMPLE RECVING
VISTA ANALYTICAL LAB
1104 WINDFIELD WAY

EL DORADO HILLS CA 95762
(916) 673-1620

INV:
PO:
REF:
DEPT:

FedEx
Express

TRK# 0201 7882 5501 7542

WED - 03 JUL 10:30A
PRIORITY OVERNIGHT

WD MHRA

95762
CA-US SMF

RT 757 1
ST 1 10:30 A
7542
07.03

ORIGIN ID:YUMA (619) 200-6897
TETRA TECH
JEREMY MCKINSTRY
1230 COLUMBIA ST STE 750
106-4663.3803.1400.0100
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 02JUL19
ACTWGT: 45.70 LB
CAD: 006995179/SSFE2002
DIMS: 24x13x14 IN

BILL THIRD PARTY

TO ATTN SAMPLE RECVING
VISTA ANALYTICAL LAB
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EL DORADO HILLS CA 95762
(916) 673-1620
INV:
PO:
REF:
DEPT:

FedEx
Express

TRK# 0201 7882 5501 7542

WED - 03 JUL 10:30A
PRIORITY OVERNIGHT

WD MHRA

95762
CA-US SMF

RT 757 1
10:30 A
ST 1
7542
07.03

EXTRACTION INFORMATION

Process Sheet

Workorder: 1901920

Prep Expiration: 2019-08-26
Client: Tetra Tech EC, Inc.

Workorder Due: 17-Jul-19 00:00
TAT: 14

Method: **VAL - PFAS DoD (LOQ as RL)**
Matrix: **Solid**

Prep Batch: B9G0116

Also run: **Percent Solids**
Version: 537 (14 Analyte) - DoD Limits
DoD: DoD QSM 5.1

Prep Data Entered: QE 07/12/19 (Date and Initials)

Initial Sequence: S9G0029

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1901920-01	A	☑	☑	SAOA-B08-SO-30-30.5		WR-2 A-5	HDPE Jar, 8 oz
1901920-07		☑	☑	NAOA-B08-SO-1-1.5		WR-2 A-5	HDPE Jar, 8 oz
1901920-08		☑	☑	NAOA-B08-SO-20-20.5		WR-2 A-5	HDPE Jar, 8 oz
1901920-09		☑	☑	NAOA-B09-SO-1-1.5		WR-2 A-5	HDPE Jar, 8 oz
1901920-10		☑	☑	NAOA-B09-SO-20-20.5		WR-2 A-5	HDPE Jar, 8 oz
1901920-13		☑	☑	NAOA-B01-SO-1-1.5		WR-2 A-5	HDPE Jar, 8 oz
1901920-15		☑	☑	NAOA-B01-SO-20-20.5		WR-2 A-5	HDPE Jar, 8 oz
1901920-18	ABC	☑	☑	CAOA-B02-SO-0.5-1	MS/MSD	WR-2 A-5	HDPE Jar, 8 oz
1901920-19	A	☑	☑	CAOA-B02-SO-20-20.5		WR-2 A-5	HDPE Jar, 8 oz

WO Comments: **Internal COC**

Pre-Prep Check Out: SAE 07/08/19
Pre-Prep Check In: SAE 07/08/19

Prep Check Out: HR 07/10/19
Prep Check In: N/A

Prep Reconciled Initals/Date: SAE 07/08/19
Spike Reconciled Initals/Date: HR 07/10/19
VialBoxID: Smile

Matrix: Solid
Method: VAL - PFAS DoD (LOQ as RL)

PREPARATION BENCH SHEET

B9G0116

Chemist: AE
Prep Date: 07/10/19
Prep Time: 15:58

Prepared using: ☒ Sonication ☒ Shaker ☒ SPE Extraction ☒ Centrifuge ID: C4

Initial/Date: HR 07/10/19
BalanceID: HRMS - 9

Cen	VISTA Sample ID	Sample Amt. (g)	IS/NS CHEM/WIT DATE	Pre-Ext	Extraction	SPE	ENVI-Carb	RS CHEM/WIT DATE
☐	B9G0116-BLK1	(1.00)	AE HR 07/10/19	AE 07/10/19	AE 07/11/19	AE 07/11/19	AE 07/11/19	AE HR 07/11/19
☐	B9G0116-BS1	(1.00)						
☐	B9G0116-MS1 ⑤ 1901920-18	1.01						
☐	B9G0116-MSD1 ⑤ 1901920-18	1.03						
☐	1901857-02	1.01						
☐	1901857-03 ⑤②③	1.03						
☐	1901857-07	1.00						
☐	1901857-08 ②	1.05						
☐	1901857-10	1.06						
☐	1901920-01 ②	1.01						
☐	1901920-07	1.03						
☐	1901920-08 ②	1.01						
☐	1901920-09 ②	1.06						
☐	1901920-10 ②	1.06						
☐	1901920-13	1.05						

IS: IPE2201, 10 µL (V4)
IS SUP: NA
NS: IPE2204, 10 µL (V3)
NS SUP: NA
RS: IPE2202, 10 µL (V4)

SPE Chem: Strata X-AW 33µm 200mg/6mL
SPE Lot#: 518-000831
Extraction Solvent: 1:1 MeOH:ACN
ENVI-Carb Lot#: 1115550
Ele SOLV: MeOH/0.5%NH4OH in MeOH
Final Volume(s): 1 mL

Notes:
⑤ 07/11/19 AE
② 07/11/19 AE
③ OVL 07/11/19

Comments: Assume 1 g = 1 mL

1 = Sample deeply colored
2 = Cartridge sorbent discolored after SPE
3 = Sample clogged cartridge, additional cartridge(s) used
4 = Sample recombined at final volume
5 = Sample took longer to SPE, required stronger vacuum
6 = Required Nitrogen line to finish SPE
7 = Required Nitrogen line to finish elution

Matrix: Solid
Method: VAL - PFAS DoD (LOQ as RL)

PREPARATION BENCH SHEET

B9G0116

Chemist: AE

Prepared using: ☒ Sonication ☒ Shaker ☒ SPE Extraction ☒ Centrifuge ID: C4

Prep Date: 07/10/19

Initial/Date: HR 07/10/19

BalanceID: HRMS-9

Prep Time: 15:58

Cen	VISTA Sample ID	Sample Amt. (g)	IS/NS CHEM/WIT DATE	Pre-Ext	Extraction	SPE	ENVI-Carb	RS CHEM/WIT DATE
☐	1901920-15	1.04	AE HR 07/10/19	AE 07/10/19	AE 07/11/19	AE 07/11/19	AE 07/11/19	AE HR 07/11/19
☐	1901920-18 ⑤②	1.03	↓	↓	↓	↓	↓	↓
☐	1901920-19 ②	1.02	↓	↓	↓	↓	↓	↓

IS: 19E2201, 10 mL (V4)

IS SUP: NA

NS: 19E2204, 10 mL (V3)

NS SUP: NA

RS: 19E2202, 10 mL (V4)

SPE Chem: Strata X-AW 33µm 200mg/6mL

SPE Lot#: SLE-UU6831

Extraction Solvent: 1:1 MeOH:ACN

ENVI-Carb Lot#: 1115550

Ele SOLV: MeOH/0.5%NH4OH in MeOH

Final Volume(s) 1 mL

Notes:
⑤ 07/11/19 AE
② 07/11/19 AE

Comments: Assume 1 g = 1 mL

1 = Sample deeply colored
2 = Cartridge sorbent discolored after SPE
3 = Sample clogged cartridge, additional cartridge(s) used
4 = Sample recombined at final volume
5 = Sample took longer to SPE, required stronger vacuum
6 = Required Nitrogen line to finish SPE
7 = Required Nitrogen line to finish elution

Matrix: Solid

Method: VAL - PFAS DoD (LOQ as RL)

Vista Internal Chain-of-Custody

B9G0116

Vista Analytical Laboratory

	Location		L2	R12	L2	R12	L2	R12	L4		
	Reason		Pre-extraction	R9	R4	R2	R6	R9	R8		
	Initials		HR	QE	QE	HR	ONL	QE	CGH		
	Date/Time		07/10/19 14:58	07/16/19 16:47	07/11/19 07:08	07/11/19 15:03	07/12/19 06:12	07/12/19 14:56	07/12/19 1755		
Initial Storage	LabNumber	Cont									
WR-2 B-5	1901857-02	A	O	E	E	E	E	E	E		
WR-2 B-5	1901857-03	T	T	T	T	T	T	T	T		
WR-2 B-5	1901857-07										
WR-2 B-5	1901857-08										
WR-2 B-5	1901857-10										
WR-2 A-5	1901920-01										
WR-2 A-5	1901920-07										
WR-2 A-5	1901920-08										
WR-2 A-5	1901920-09										
WR-2 A-5	1901920-10										
WR-2 A-5	1901920-13										
WR-2 A-5	1901920-15	↓									
WR-2 A-5	1901920-18	A,B,C									
WR-2 A-5	1901920-19	A	↓	↓	↓	↓	↓	↓	↓		

Location Key:
L1 = Prep Lab 1
L2 = Prep Lab 2
L3 = HRMS Diox
L4 = Instrument
Other = _____

Reason Key:
R1 = Percent Solids
R2 = Eluate Preservation
R3 = Sub-Sample
R4 = Extraction
R6 = Concentration
R7 = Filtering
R8 = Analysis
R9 = Storage
Other = _____

Type Key:
O = Original Sample
E = Extract of Sample

Batch: B9G0116

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1901857-02	1.01	99.4723	1.0047	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901857-03	1.03	98.39141	1.0134	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901857-07	1	99.74555	0.9975	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901857-08	1.05	98.20514	1.0312	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901857-10	1.06	98.44962	1.0436	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-01	1.01	99.05437	1.0004	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-07	1.03	98.51852	1.0147	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-08	1.01	98.77451	0.9976	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-09	1.06	99.28909	1.0525	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-10	1.06	98.85584	1.0479	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-13	1.05	99.12281	1.0408	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-15	1.04	98.55421	1.0250	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-18	1.03	99.75845	1.0275	1000	10-Jul-19 15:58	AME			Soil	VAL - PFAS DoD (LOQ as
1901920-19	1.02	98.31731	1.0028	1000	10-Jul-19 15:58	AME			soil	VAL - PFAS DoD (LOQ as
B9G0116-BLK1	1	(100)	(1.000)	1000	10-Jul-19 15:58	AME				QC
B9G0116-BS1	1	(100)	(1.000)	1000	10-Jul-19 15:58	AME	19E2204	10		QC
B9G0116-MS1	1.01	99.75845	1.0076	1000	10-Jul-19 15:58	AME	19E2204	10		QC
B9G0116-MSD1	1.03	99.75845	1.0275	1000	10-Jul-19 15:58	AME	19E2204	10		QC

All bolded data on report verified against written benchsheet by (initial/date) AE 07/12/19

Solids estimate

Batch: B9G0064

Lab ID	Analysis	% Solids	Entered	Target weight	Weigh this much
1901920-01	Percent Solids	99.05		1.00	1.01
1901920-07	Percent Solids	98.52		1.00	1.02
1901920-08	Percent Solids	98.77		1.00	1.01
1901920-09	Percent Solids	99.29		1.00	1.01
1901920-10	Percent Solids	98.86		1.00	1.01
1901920-13	Percent Solids	99.12		1.00	1.01
1901920-15	Percent Solids	98.55		1.00	1.01
1901920-18	Percent Solids	99.76		1.00	1.00
1901920-19	Percent Solids	98.32		1.00	1.02
B9G0064-DUP1	Percent Solids	99.76		1.00	1.00
B9G0064-DUP2	Percent Solids	100.00		1.00	1.00

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B9G0064

Analyst: SAE **Test Code:** %Moist/%Solids

Analyte: **Units:** %

Dried at 110°C+/-5°C

Oven ID: *01* 02

Data Entry Verified by:
(Initial and Date) SAE 07/10/19

Inst HRMS-9

Date/Time IN:	Date/Time OUT
7/8/19 14:35	7/10/19 11:08

	B	C	D	E	F	G	H	I	K	L	M	N	O	P
				Intial and Date:	SAE 07/08/19	SAE 07/10/19			SAE 07/08/19					SAE 07/08/19
Particle Size	SampID		SampType	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
	1901920-01	A	Sample	1.3100	5.5400	5.5000	4.1900	99.05	fine sand	NA	NA	NA	NA	x
	1901920-07	A	Sample	1.2800	5.3300	5.2700	3.9900	98.52	fine sand	NA	NA	NA	NA	x
	1901920-08	A	Sample	1.3100	5.3900	5.3400	4.0300	98.77	sand	NA	NA	NA	NA	x
	1901920-09	A	Sample	1.3000	5.5200	5.4900	4.1900	99.29	fine sand	NA	NA	NA	NA	x
	1901920-10	A	Sample	1.2900	5.6600	5.6100	4.3200	98.86	fine sand	NA	NA	NA	NA	x
	1901920-13	A	Sample	1.2900	5.8500	5.8100	4.5200	99.12	fine sand	NA	NA	NA	NA	x
	1901920-15	A	Sample	1.3000	5.4500	5.3900	4.0900	98.55	sand	NA	NA	NA	NA	x
	1901920-18	ABC	Sample	1.3000	5.4400	5.4300	4.1300	99.76	rocky sand	NA	NA	NA	NA	x
	1901920-19	A	Sample	1.2800	5.4400	5.3700	4.0900	98.32	fine sand	NA	NA	NA	NA	x
	B9G0064-DUP1	1901920-18	Duplicate	1.2900	5.5400	5.5300	4.2400	99.76	rocky sand	NA	NA	NA	NA	x
	B9G0064-DUP2	1901920-18	Duplicate	1.3100	5.2200	5.2200	3.9100	100.00	rocky sand	NA	NA	NA	NA	x

*Sample homogenized in sample container unless otherwise noted.

Matrix: Solid

Method: Percent Solids

Vista Internal Chain-of-Custody

B9G0064

Vista Analytical Laboratory

	Location		L2	O-1	L2							
	Reason		Prep R1	R1	R1							
	Initials		SAE	SAE	SAE							
	Date/Time		07/08/19 13:09	07/08/19 14:35	07/10/19 11:08							
Initial Storage	LabNumber	Cont										
WR-2 A-5	1901920-01	A	O	O								
WR-2 A-5	1901920-07	↓	↓	↓								
WR-2 A-5	1901920-08	↓	↓	↓								
WR-2 A-5	1901920-09	↓	↓	↓								
WR-2 A-5	1901920-10	↓	↓	↓								
WR-2 A-5	1901920-13	↓	↓	↓								
WR-2 A-5	1901920-15	↓	↓	↓								
WR-2 A-5	1901920-18	ABC	↓	↓								
WR-2 A-5	1901920-19	A	↓	↓								

Location Key:
L1 = Prep Lab 1
L2 = Prep Lab 2
L3 = HRMS Diox
L4 = Instrument
Other = _____

Reason Key:
R1 = Percent Solids
R2 = Eluate Preservation
R3 = Sub-Sample
R4 = Extraction
R6 = Concentration
R7 = Filtering
R8 = Analysis
R9 = Storage
Other = _____

Type Key:
O = Original Sample
E = Extract of Sample

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B9G0064

Analyst: SAE
Analyte:
Oven ID: Dried at 110°C+/-5°C (01) 02

Test Code: %Moist/%Solids
Units: %

Data Entry Verified by: (Initial and Date) SAE 07/10/19

Inst HRMS-9

Date/Time IN: 07/08/19 14:35 Date/Time OUT 07/10/19 8:08

	B	C	D	E	F	G	H	I	K	L	M	N	O	P
				Intial and Date:	SAE 07/08/19	SAE 07/10/19			SAE 07/08/19					SAE 07/08/19
Particle Size	SampID		SampType	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
	1901920-01		Sample	1.31	5.54	5.50			Fine Sand					✓
	1901920-07		Sample	1.28	5.33	5.27			↓					✓
	1901920-08		Sample	1.31	5.39	5.34			Sand					✓
	1901920-09		Sample	1.30	5.52	5.49			Fine Sand					✓
	1901920-10		Sample	1.29	5.66	5.61			↓					✓
	1901920-13		Sample	1.29	5.85	5.81			↓					✓
	1901920-15		Sample	1.30	5.45	5.39			Sand					✓
	1901920-18		Sample	1.30	5.44	5.43			Rocky Sand					✓
	1901920-19		Sample	1.28	5.44	5.37			Fine Sand					✓
	B9G0064-MS1	1901920-18	Duplicate	1.29	5.54	5.53			rocky Sand					✓
	B9G0064-MSD1	1901920-18	Duplicate	1.31	5.22	5.22			↓					✓

SAE 07/10/19 SAE 07/10/19

*Sample homogenized in sample container unless otherwise noted.

Process Sheet

Workorder: 1901920

Prep Expiration: 2019-07-11
Client: Tetra Tech EC, Inc.

Workorder Due: 17-Jul-19 00:00
TAT: 14

Method: **537M PFAS DOD (LOQ as mRL)**
Matrix: **Aqueous**

Prep Batch: B9G0062

Prep Data Entered: MJ 07/11/19
Date and Initials

Version: 537 (14 Analyte) - DoD Limits
DoD: DoD QSM 5.1

Initial Sequence: S9G0025

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1901920-02	"A"	☑	☑	SAOA-B08-GW		R-13 A-1	HDPE Bottle, 125 mL
1901920-03		☑	☑	EB-06272019-GW		R-13 A-1	HDPE Bottle, 125 mL
1901920-04		☑	☑	FRB-06282019		R-13 A-1	HDPE Bottle, 125 mL
1901920-05		☑	☑	SAOA-B12-GW		R-13 A-1	HDPE Bottle, 125 mL
1901920-06		☑	☑	SAOA-B12-GW-D		R-13 A-1	HDPE Bottle, 125 mL
1901920-11		☑	☑	NAOA-B02-GW		R-13 A-1	HDPE Bottle, 125 mL
1901920-12		☑	☑	EB-07012019		R-13 A-1	HDPE Bottle, 125 mL
1901920-14		☑	☑	FRB-07012019		R-13 A-1	HDPE Bottle, 125 mL
1901920-16		☑	☑	NAOA-B01-GW		R-13 A-1	HDPE Bottle, 125 mL
1901920-17		☑	☑	NAOA-B01-GW-D		R-13 A-1	HDPE Bottle, 125 mL
1901920-20		☑	☑	EB-07022019		R-13 A-1	HDPE Bottle, 125 mL

WO Comments: **Internal COC**

Pre-Prep Check Out: ONL 07/10/19
Pre-Prep Check In: N/A

Prep Check Out: N/A
Prep Check In: N/A

Prep Reconciled Initals/Date: ONL 07/10/19
Spike Reconciled Initals/Date: MP 07/10/19
VialBoxID: Future

· Matrix: Aqueous

· Method: 537M PFAS DOD (LOQ as mRL)

PREPARATION BENCH SHEET

B9G0062

Chemist: ONL

Prep Date: 07/10/19

Prep Time: 06:42

Prepared using: ☐ Sonication Shaker ☐ SPE Extraction ☒ Centrifuge ID: C3/C5

Date/Initals: ONL 07/10/19 | BalanceID: HRMS-9

Cen	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	ENVI-Carb	RS CHEM/WIT DATE
☒	B9G0062-BLK1	5	2	0	1	N/A	N/A	(0.125)	ONL HR 07/10/19	OPV 07/10/19	OPV 07/10/19	OPV ONL 07/10/19
☒	B9G0062-BS1	5	2	0	1	↓	↓	(0.125)	↓	↓	↓	↓
☒	B9G0062-BSD1	5	2	0	1	↓	↓	(0.125)	↓	↓	↓	↓
☒	1901920-02 (3)	7	2	0	3	160.44	27.26	0.13318	↓	↓	↓	↓
☐	1901920-03	6	2	0	1	141.39	27.10	0.11429	↓	↓	↓	↓
☐	1901920-04	5	2	0	1	142.55	26.79	0.11576	↓	↓	↓	↓
☒	1901920-05	7	2*	0	2	148.75	26.71	0.12204	↓	↓	↓	↓
☒	1901920-06	7	2	0	1	153.09	26.70	0.12639	↓	↓	↓	↓
☒	1901920-11	6	2	0	3	148.84	26.84	0.12200	↓	↓	↓	↓
☐	1901920-12	5	2	0	1	138.69	27.14	0.11155	↓	↓	↓	↓
☐	1901920-14	5	2	0	1	143.19	26.76	0.11643	↓	↓	↓	↓
☒	1901920-16	7	2	0	3	156.13	26.73	0.12940	↓	↓	↓	↓
☒	1901920-17 (4)(6)(3)	6	2	0	3	164.60	26.92	0.13768	↓	↓	↓	↓
☐	1901920-20	5	2	0	1	143.24	26.80	0.11644	↓	↓	↓	↓
☐	1901922-01	5	2	0	1	133.70	26.61	0.10709	↓	↓	↓	↓

IS: 19E2201, 10mL, (V4)

IS SUP: N/A

NS: 19E2204, 10mL, (V3)

NS SUP: N/A

RS: 19E2202, 10µL (V4)

SPE Chem: Strata-X-AW 33µm, 200mg/6mL

SPE Lot#: 518-006880

ENVI-Carb Lot#: 111555 01

Ele SOLV: MeOH/0.5%NH4OH in MeOH

Final Volume(s) 1 mL

Notes: * OPV 07/10/19

(4) OPV 07/10/19

(6) OPV 07/10/19

(3) OPV 07/10/19

Comments: Assume 1 g = 1 mL

Cen = Centrifuged

1 = Sample centrifuged twice
2 = Sample deeply colored after centrifuge
3 = Cartridge sorbent discolored after SPE
4 = Sample clogged cartridge, additional cartridge(s) used
5 = Sample recombined at final volume
6 = Sample took longer to SPE, required stronger vacuum
7 = Required Nitrogen line to finish SPE
8 = Required Nitrogen line to finish elution
9 = Sample arrived with low volume
10 = Trizma added to QC (5g/L)

Matrix: Aqueous

Method: 537M PFAS DOD (LOQ as mRL)

PREPARATION BENCH SHEET

B9G0062

Chemist: ONL

Prep Date: 07/10/19

Prep Time: 06:42

Prepared using: ☐ Sonication Shaker ☐ SPE Extraction ☒ Centrifuge ID: C3/C5

Date/Initals: ONL 07/10/19 | BalanceID: HRMS-9

Cen	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	ENVI-Carb	RS CHEM/WIT DATE
☒	1901922-02	6	2	0	2	147.37	26.87	0.12050	ONL HR 07/10/19	OPV 07/10/19	OPV 07/10/19	OPV ONL 07/10/19

IS: 19E2201, 10uL (V4)	SPE Chem: Strata-X-AW 33µm 200mg/6mL	Notes:
IS SUP: N/A	SPE Lot#: 518-006880	
NS: 19E2204, 10uL (V3)	ENVI-Carb Lot#: 111555 01	
NS SUP: N/A	Ele SOLV: MeOH/0.5%NH4OH in MeOH	
RS: 19E2202, 10uL (V4)	Final Volume(s) 1 mL	

Comments: Assume 1 g = 1 mL
Cen = Centrifuged

1 = Sample centrifuged twice
2 = Sample deeply colored after centrifuge
3 = Cartridge sorbent discolored after SPE
4 = Sample clogged cartridge, additional cartridge(s) used
5 = Sample recombined at final volume
6 = Sample took longer to SPE, required stronger vacuum
7 = Required Nitrogen line to finish SPE
8 = Required Nitrogen line to finish elution
9 = Sample arrived with low volume
10 = Trizma added to QC (5g/L)

Matrix: Aqueous

Method: 537M PFAS DOD (LOQ as mRL)

Vista Internal Chain-of-Custody

B9G0062

Vista Analytical Laboratory

	Location		L2	R12	L2	R12	L4				
	Reason		R4	R9	R6	R9	R8				
	Initials		ONL	ONL	HR	OPV	CG61				
	Date/Time	07/10/19	ONL 05:42	07/10/19 15:14	07/11/19 06:20	07/11/19 13:57	07/11/19 1649				
Initial Storage	LabNumber	Cont									
R-13 A-1	1901920-02	A	O	E	E	E	E				
R-13 A-1	1901920-03	A	↓	↓	↓	↓	↓				
R-13 A-1	1901920-04	A									
R-13 A-1	1901920-05	A									
R-13 A-1	1901920-06	A									
R-13 A-1	1901920-11	A									
R-13 A-1	1901920-12	A									
R-13 A-1	1901920-14	A									
R-13 A-1	1901920-16	A									
R-13 A-1	1901920-17	A									
R-13 A-1	1901920-20	A									
R-13 A-1	1901922-01	A									
R-13 A-1	1901922-02	A	↓	↓	↓	↓	↓				

Location Key:
L1 = Prep Lab 1
L2 = Prep Lab 2
L3 = HRMS Diox
L4 = Instrument
Other = _____

Reason Key:
R1 = Percent Solids
R2 = Eluate Preservation
R3 = Sub-Sample
R4 = Extraction
R6 = Concentration
R7 = Filtering
R8 = Analysis
R9 = Storage
Other = _____

Type Key:
O = Original Sample
E = Extract of Sample

Batch: B9G0062

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1901920-02	0.13318	NA	NA	1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-03	0.11429			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-04	0.11576			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-05	0.12204			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-06	0.12639			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-11	0.122			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-12	0.11155			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-14	0.11643			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-16	0.1294			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-17	0.13768			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901920-20	0.11644			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901922-01	0.10709			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
1901922-02	0.1205			1000	10-Jul-19 06:42	ONL			Aqueous	537M PFAS DOD (LOQ as
B9G0062-BLK1	0.125			1000	10-Jul-19 06:42	ONL				QC
B9G0062-BS1	0.125			1000	10-Jul-19 06:42	ONL	19E2204	10		QC
B9G0062-BSD1	0.125			1000	10-Jul-19 06:42	ONL	19E2204	10		QC

All bolded data on report verified against written benchsheet by (initial/date) Uy 07/11/19

Printed: 7/11/2019 8:56:44AM
Page 1 of 1

SAMPLE DATA – VAL - PFAS

Vista Analytical Laboratory L14

Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-25.qld

Last Altered: Monday, July 15, 2019 14:48:20 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:51:04 Pacific Daylight Time

Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		9.54e2	1.00		2.42						
2	7	PFHxA	313.0 > 269.0		6.12e3	1.00		2.93						
3	11	PFHpA	363.0 > 318.9		7.72e3	1.00		3.55						
4	13	L-PFHxS	398.9 > 79.6		1.89e3	1.00		3.71						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	1.89e3	1.00		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	9.54e2	9.65e2	1.00	1.073	2.41	2.42	12.4	11.5160	92.1		
7	52	13C2-PFHxA	315.0 > 270.0	6.12e3	1.63e4	1.00	1.009	2.92	2.93	4.68	4.6408	92.8		
8	53	13C4-PFHpA	367.2 > 321.8	7.72e3	1.63e4	1.00	0.512	3.54	3.55	5.90	11.5228	92.2		
9	54	13C3-PFHxS	401.8 > 79.9	1.89e3	9.65e2	1.00	2.197	3.70	3.71	24.4	11.1227	89.0		
10	54	13C3-PFHxS	401.8 > 79.9	1.89e3	9.65e2	1.00	2.197	3.70	3.71	24.4	11.1227	89.0		
11	-1													
12	16	L-PFOA	412.8 > 368.9		1.21e4	1.00		4.08						
13	81	Total PFOA	412.8 > 368.9	0.00e0	1.21e4	1.00		4.21		0.000				
14	21	PFNA	463.0 > 418.8		1.21e4	1.00		4.52						
15	23	L-PFOS	498.9 > 79.9		2.05e3	1.00		4.61						
16	82	Total PFOS	498.9 > 79.9	0.00e0	2.05e3	1.00		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	1.21e4	1.88e4	1.00	0.789	4.07	4.08	8.03	10.1709	81.4		
18	58	13C2-PFOA	414.9 > 369.7	1.21e4	1.88e4	1.00	0.789	4.07	4.08	8.03	10.1709	81.4		
19	56	13C5-PFNA	468.2 > 422.9	1.21e4	1.50e4	1.00	0.991	4.52	4.52	10.1	10.2317	81.9		
20	59	13C8-PFOS	507.0 > 79.9	2.05e3	2.62e3	1.00	1.017	4.60	4.61	9.76	9.6024	76.8		
21	59	13C8-PFOS	507.0 > 79.9	2.05e3	2.62e3	1.00	1.017	4.60	4.61	9.76	9.6024	76.8		
22	-1													
23	26	PFDA	513 > 468.8		9.37e3	1.00		4.90						
24	29	L-MeFOSAA	570 > 419		1.44e3	1.00		5.05						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.44e3	1.00		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.11e4	1.00		5.23						
27	37	PFDoA	612.9 > 569.0	2.36e1	1.02e4	1.00		5.52	5.53	0.0290	0.0347		24.229	YES
28	60	13C2-PFDA	515.1 > 469.9	9.37e3	1.76e4	1.00	0.808	4.90	4.90	6.65	8.2325	65.9		
29	62	d3-N-MeFOSAA	573.3 > 419	1.44e3	1.87e4	1.00	0.140	5.05	5.05	0.966	6.9238	55.4		
30	62	d3-N-MeFOSAA	573.3 > 419	1.44e3	1.87e4	1.00	0.140	5.05	5.05	0.966	6.9238	55.4		
31	63	13C2-PFUdA	565 > 519.8	1.11e4	1.87e4	1.00	1.051	5.23	5.23	7.46	7.0961	56.8		
32	65	13C2-PFDoA	614.7 > 569.7	1.02e4	1.76e4	1.00	1.041	5.52	5.52	7.21	6.9309	55.4		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.48e3	1.00		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.48e3	1.00		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.02e4	1.00		5.77						

Vista Analytical Laboratory L14

Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-25.qld

Last Altered: Monday, July 15, 2019 14:48:20 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:51:04 Pacific Daylight Time

Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		8.66e3	1.00		6.00						
38	85	TDCA	498.3>106.9			1.00		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.48e3	1.87e4	1.00	0.168	5.21	5.22	0.990	5.9070	47.3		
40	64	d5-N-EtFOSAA	589.3 > 419	1.48e3	1.87e4	1.00	0.168	5.21	5.22	0.990	5.9070	47.3		
41	65	13C2-PFDoA	614.7 > 569.7	1.02e4	1.76e4	1.00	1.041	5.52	5.52	7.21	6.9309	55.4		
42	67	13C2-PFTeDA	715.1 > 669.7	8.66e3	1.87e4	1.00	0.690	5.99	6.00	5.80	8.4071	67.3		
43	59	13C8-PFOS	507.0 > 79.9	2.05e3	2.62e3	1.00	1.017	4.60	4.61	9.76	9.6024	76.8		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.63e4	1.63e4	1.00	1.000	2.92	2.93	12.5	12.5000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.88e4	1.88e4	1.00	1.000	4.07	4.08	12.5	12.5000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	9.65e2	9.65e2	1.00	1.000	3.70	3.71	12.5	12.5000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.50e4	1.50e4	1.00	1.000	4.52	4.52	12.5	12.5000	100.0		
49	77	13C4-PFOS	503 > 79.9	2.62e3	2.62e3	1.00	1.000	4.61	4.61	12.5	12.5000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.76e4	1.76e4	1.00	1.000	4.89	4.90	12.5	12.5000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.87e4	1.87e4	1.00	1.000	5.23	5.23	12.5	12.5000	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/15/2019

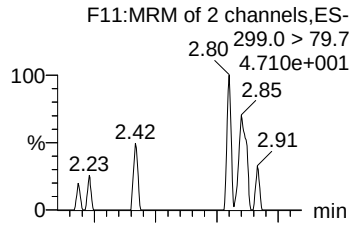
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-25.qld

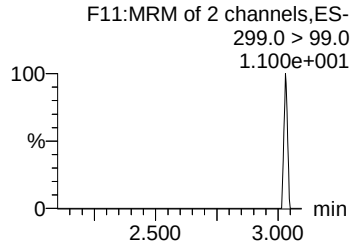
Last Altered: Monday, July 15, 2019 14:48:20 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:51:04 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

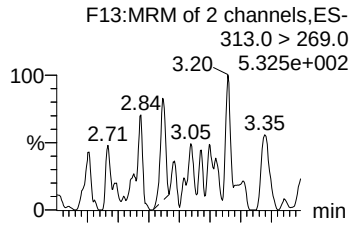
Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

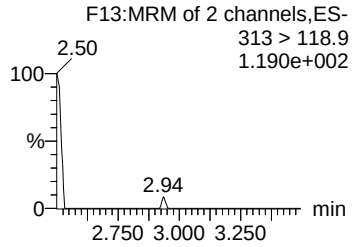
PFBS





PFHxA





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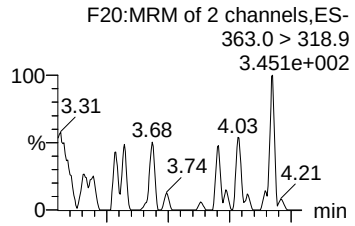

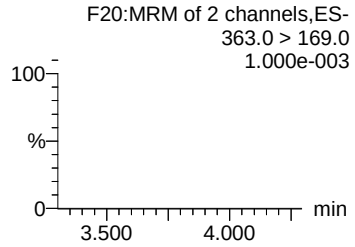

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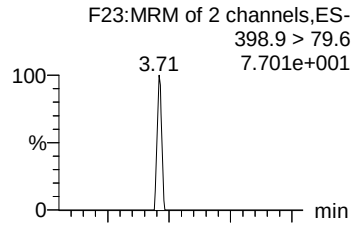
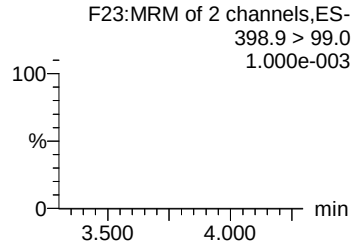
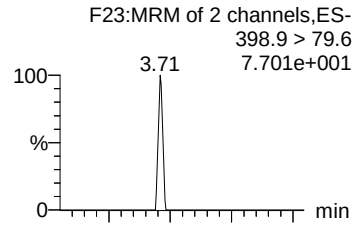
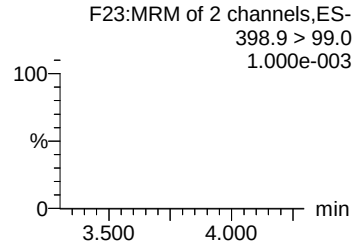




Total PFHxS





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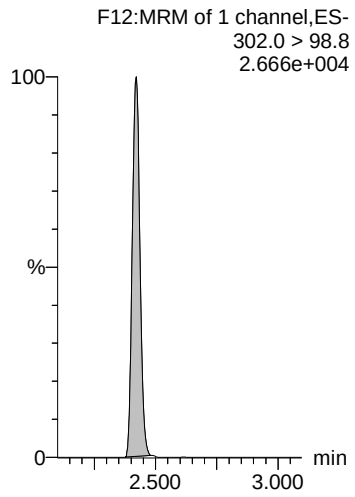

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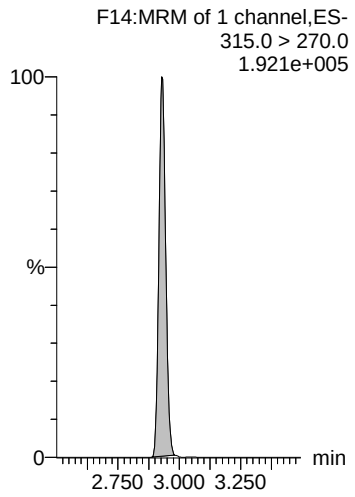
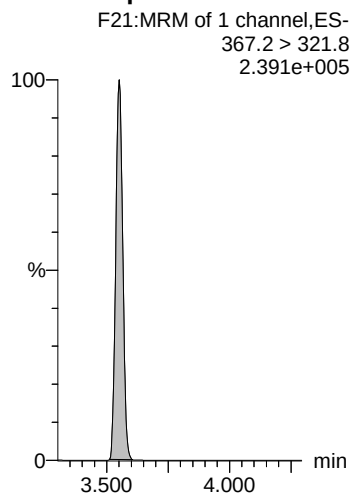
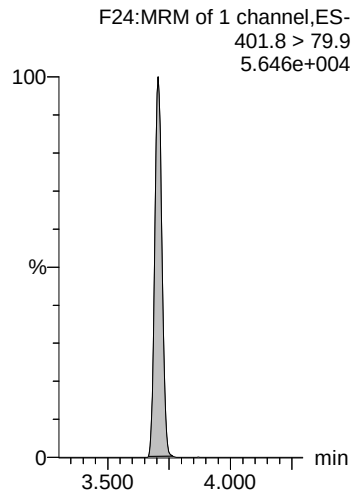


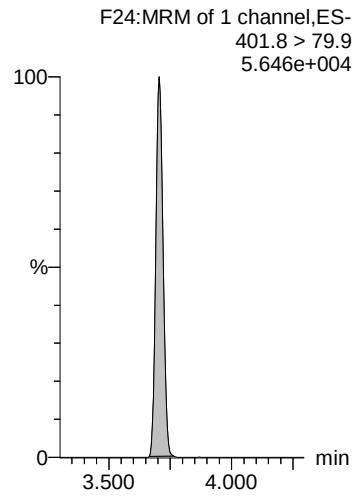
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



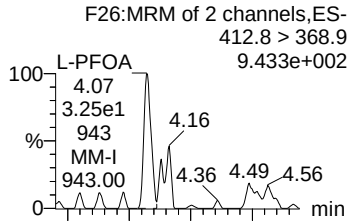
Review: AMR 7/15/2019

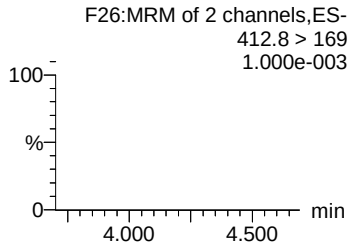
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-25.qld

Last Altered: Monday, July 15, 2019 14:48:20 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:51:04 Pacific Daylight Time

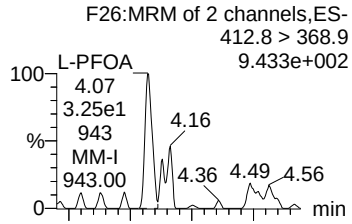
Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

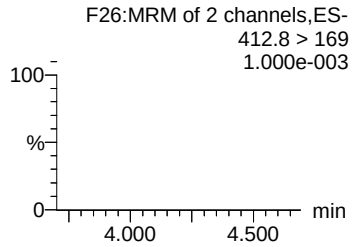
L-PFOA



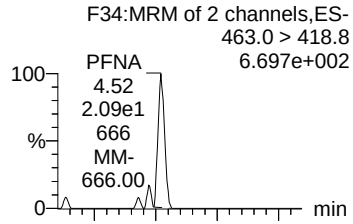


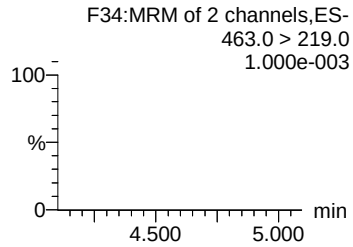
Total PFOA



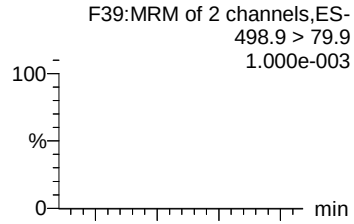


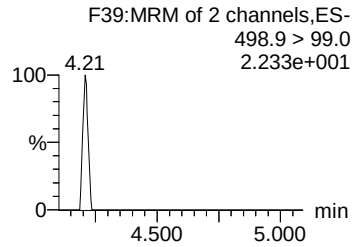
PFNA



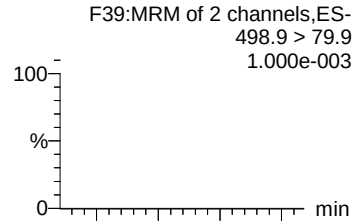


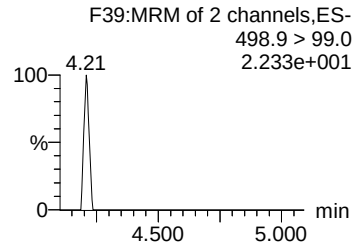
L-PFOS



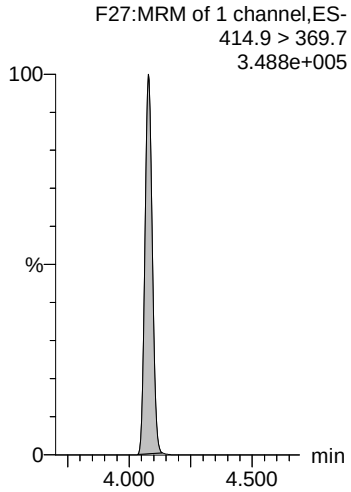


Total PFOS

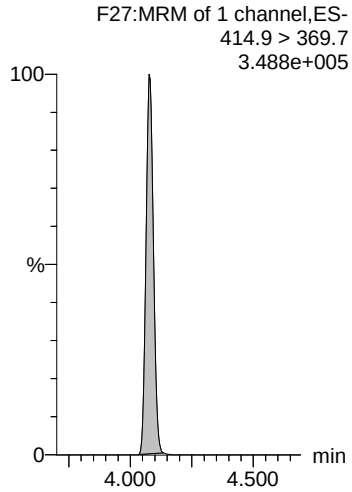




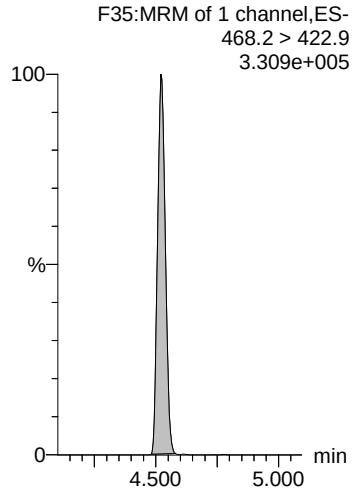
13C2-PFOA



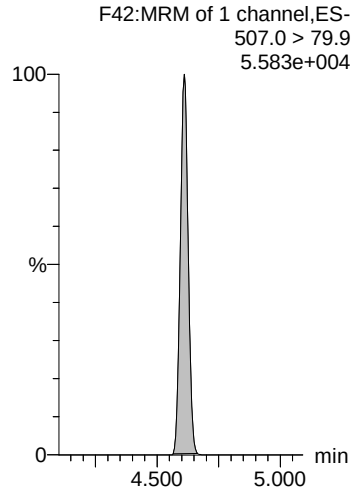
13C2-PFOA



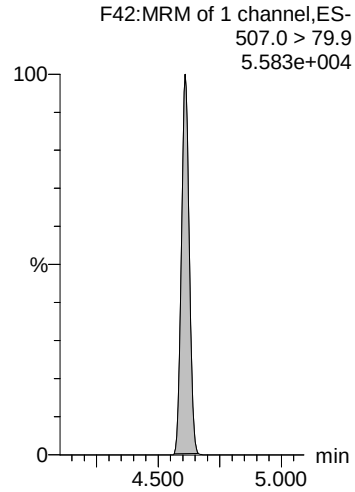
13C5-PFNA



13C8-PFOS



13C8-PFOS



NY 7/15/2019

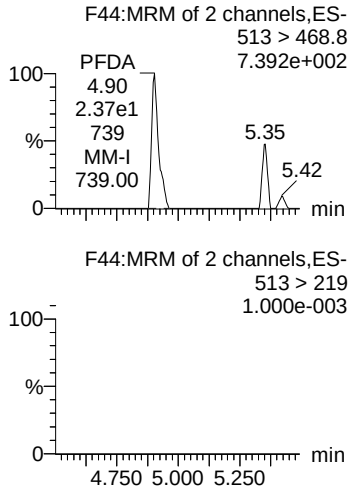
Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-25.qld

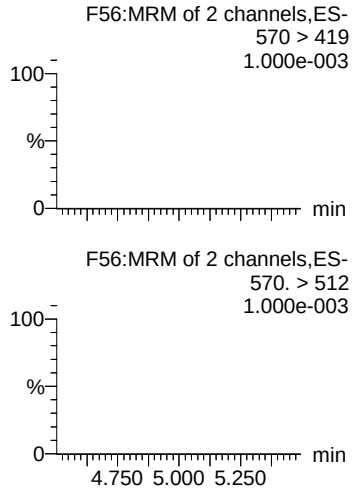
Last Altered: Monday, July 15, 2019 14:48:20 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:51:04 Pacific Daylight Time

Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

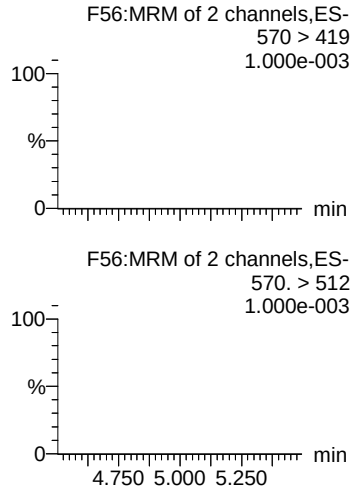
PFDA



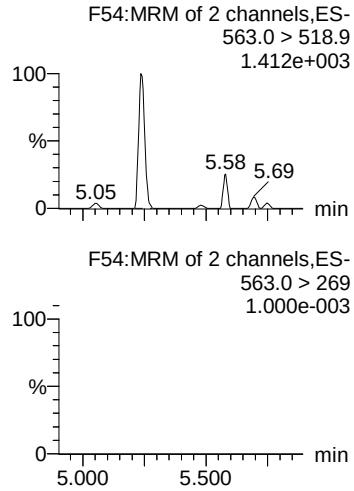
L-MeFOSAA



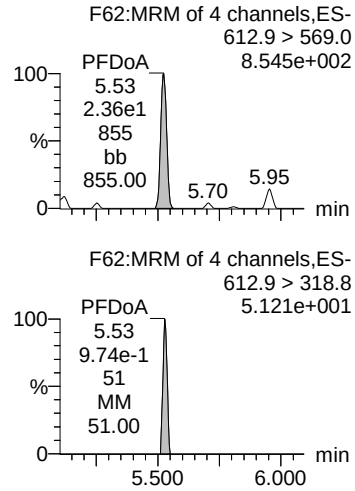
Total N-MeFOSAA



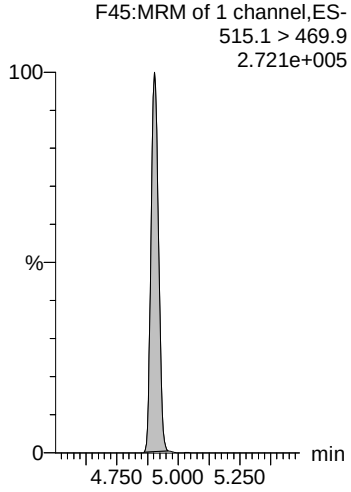
PFUdA



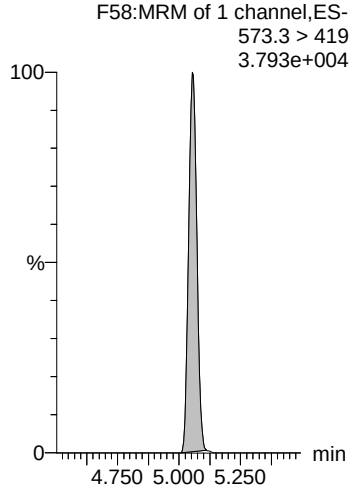
PFDoA



13C2-PFDA



d3-N-MeFOSAA



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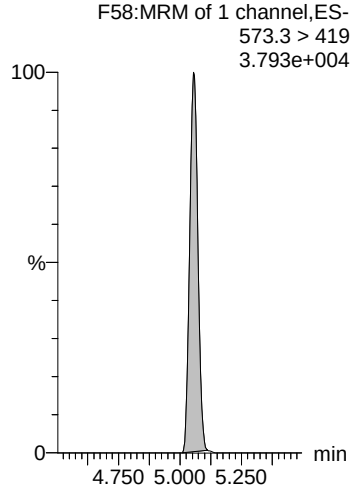
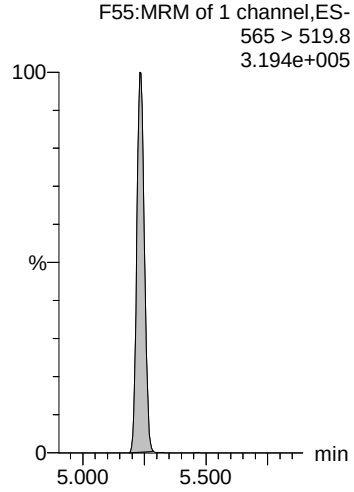
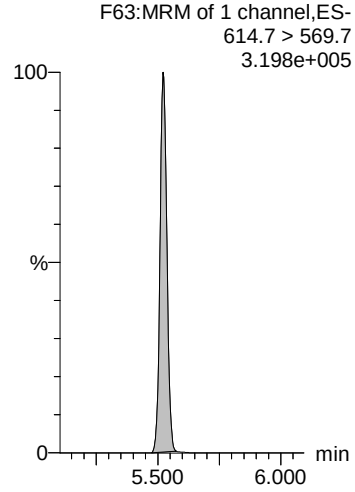


13C2-PFUdA



13C2-PFDoA



NY 7/15/2019

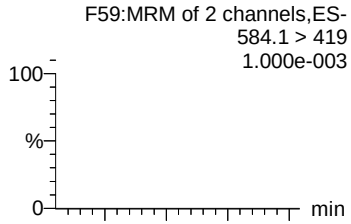
Review: AMR 7/15/2019

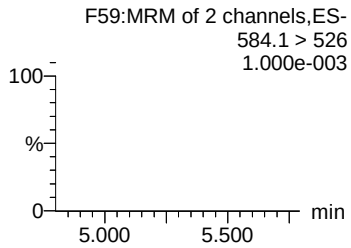
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-25.qld

Last Altered: Monday, July 15, 2019 14:48:20 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:51:04 Pacific Daylight Time

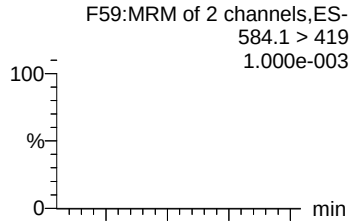
Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

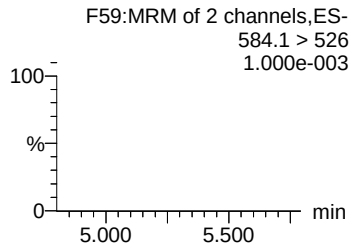
L-EtFOSAA



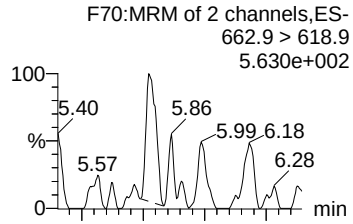


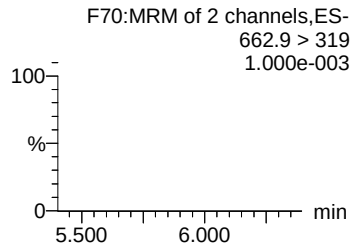
Total N-EtFOSAA



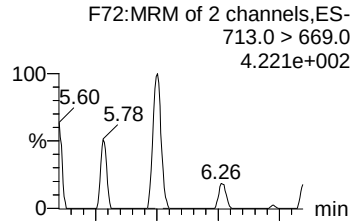


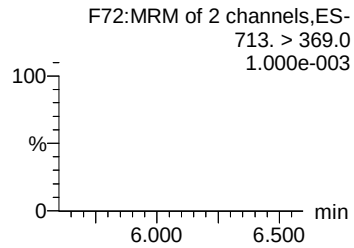
PFTrDA



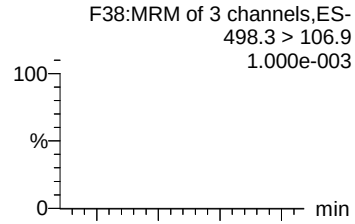


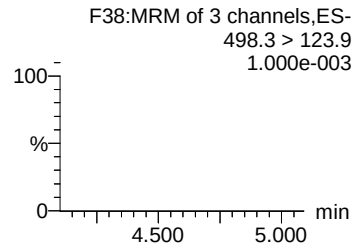
PFTeDA



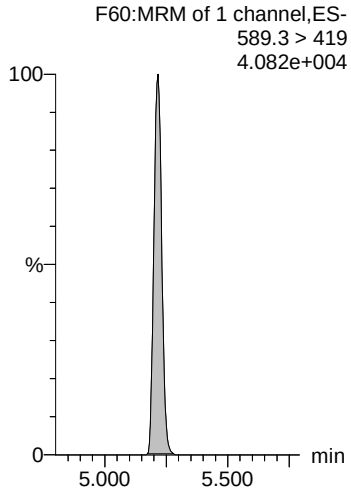


TDCA

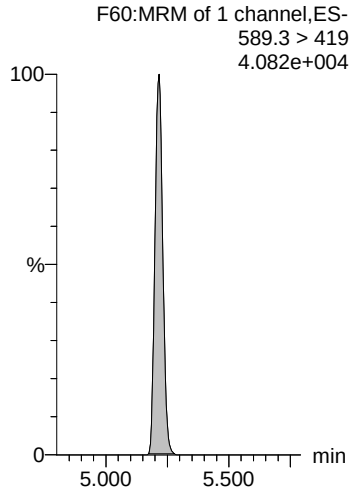




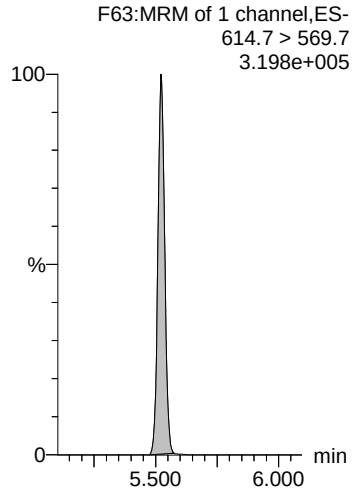
d5-N-EtFOSAA



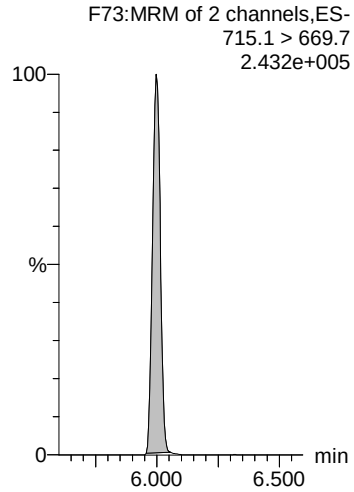
d5-N-EtFOSAA



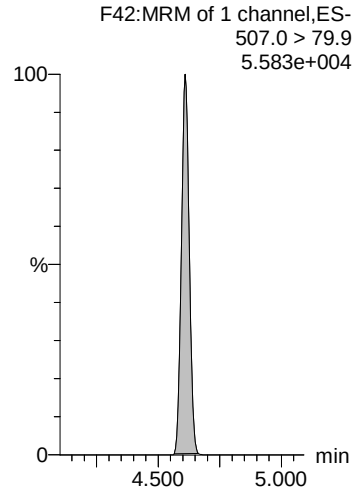
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



NY 7/15/2019

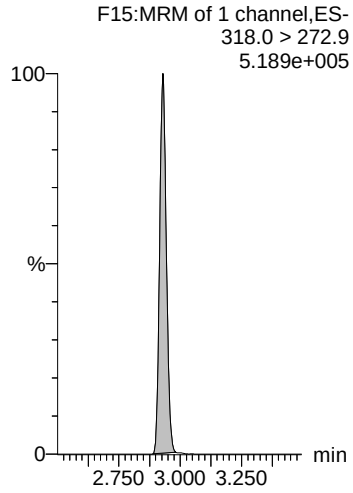
Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-25.qld

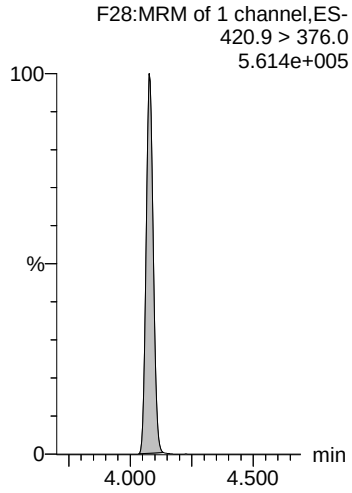
Last Altered: Monday, July 15, 2019 14:48:20 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:51:04 Pacific Daylight Time

Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

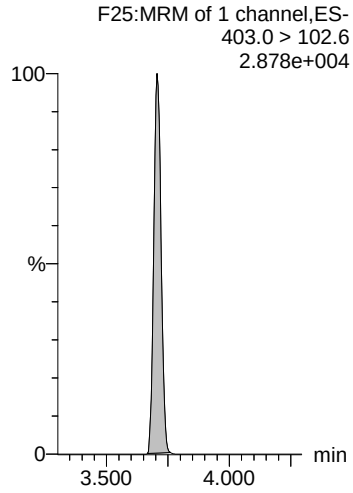
13C5-PFHxA



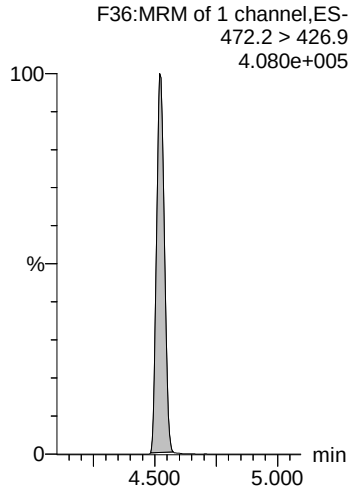
13C8-PFOA



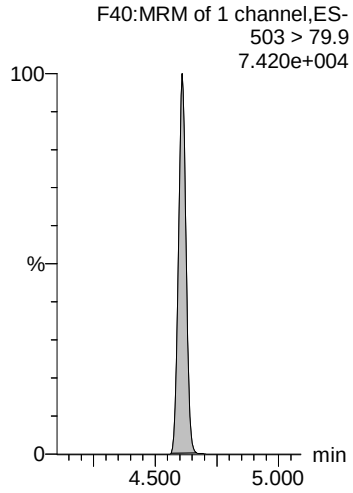
18O2-PFHxS



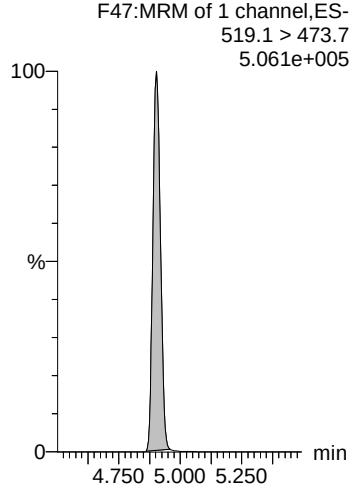
13C9-PFNA



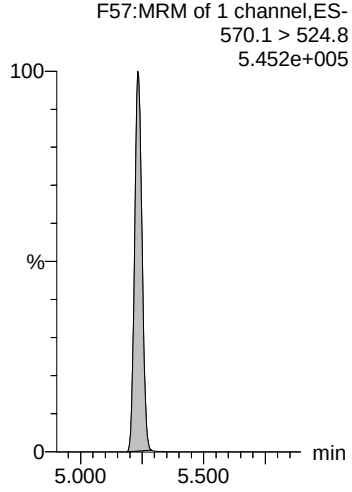
13C4-PFOS



13C6-PFDA



13C7-PFUdA



NY 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-22.qld

Last Altered: Monday, July 15, 2019 12:30:49 Pacific Daylight Time
Printed: Monday, July 15, 2019 12:35:37 Pacific Daylight Time

Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.91e3	9.78e2	1.00		2.42	2.42	24.5	10.3730	103.7	2.793	NO
2	7	PFHxA	313.0 > 269.0	1.18e4	5.94e3	1.00		2.93	2.93	9.95	11.3588	113.6	16.929	NO
3	11	PFHpA	363.0 > 318.9	8.48e3	7.53e3	1.00		3.55	3.55	14.1	10.7744	107.7	13.581	NO
4	13	L-PFHxS	398.9 > 79.6	1.62e3	2.09e3	1.00		3.70	3.70	9.69	10.2663	102.7	1.929	NO
5	80	Total PFHxS	398.9 > 79.6	1.62e3	2.09e3	1.00		3.83		9.69	10.2663			
6	49	13C3-PFBS	302.0 > 98.8	9.78e2	9.56e2	1.00	1.073	2.41	2.42	12.8	11.9226	95.4		
7	52	13C2-PFHxA	315.0 > 270.0	5.94e3	1.63e4	1.00	1.009	2.92	2.93	4.56	4.5164	90.3		
8	53	13C4-PFHpA	367.2 > 321.8	7.53e3	1.63e4	1.00	0.512	3.54	3.55	5.78	11.2841	90.3		
9	54	13C3-PFHxS	401.8 > 79.9	2.09e3	9.56e2	1.00	2.197	3.70	3.70	27.3	12.4361	99.5		
10	54	13C3-PFHxS	401.8 > 79.9	2.09e3	9.56e2	1.00	2.197	3.70	3.70	27.3	12.4361	99.5		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.60e4	1.36e4	1.00		4.08	4.08	14.8	10.7569	107.6	3.466	NO
13	81	Total PFOA	412.8 > 368.9	1.61e4	1.36e4	1.00		4.21		14.8	10.7569			
14	21	PFNA	463.0 > 418.8	1.31e4	1.20e4	1.00		4.52	4.52	13.6	11.1151	111.2	4.752	NO
15	23	L-PFOS	498.9 > 79.9	2.01e3	2.17e3	1.00		4.61	4.61	11.6	10.5026	105.0	1.868	NO
16	82	Total PFOS	498.9 > 79.9	2.01e3	2.17e3	1.00		4.74		11.6	10.5026			
17	58	13C2-PFOA	414.9 > 369.7	1.36e4	1.92e4	1.00	0.789	4.07	4.08	8.86	11.2221	89.8		
18	58	13C2-PFOA	414.9 > 369.7	1.36e4	1.92e4	1.00	0.789	4.07	4.08	8.86	11.2221	89.8		
19	56	13C5-PFNA	468.2 > 422.9	1.20e4	1.50e4	1.00	0.991	4.52	4.52	9.95	10.0387	80.3		
20	59	13C8-PFOS	507.0 > 79.9	2.17e3	2.61e3	1.00	1.017	4.60	4.61	10.4	10.2459	82.0		
21	59	13C8-PFOS	507.0 > 79.9	2.17e3	2.61e3	1.00	1.017	4.60	4.61	10.4	10.2459	82.0		
22	-1													
23	26	PFDA	513 > 468.8	1.26e4	1.01e4	1.00		4.90	4.90	15.7	11.4504	114.5	6.049	NO
24	29	L-MeFOSAA	570 > 419	3.37e3	1.50e3	1.00		5.06	5.06	28.1	9.6623	96.6	2.444	NO
25	83	Total N-MeFOSAA	570. > 419	3.37e3	1.50e3	1.00		5.19		28.1	9.6623			
26	33	PFUdA	563.0 > 518.9	1.01e4	1.17e4	1.00		5.23	5.23	10.8	11.6751	116.8	10.207	NO
27	37	PFDoA	612.9 > 569.0	1.02e4	1.06e4	1.00		5.52	5.52	12.0	11.4735	114.7	7.959	NO
28	60	13C2-PFDA	515.1 > 469.9	1.01e4	1.86e4	1.00	0.808	4.90	4.90	6.76	8.3697	67.0		
29	62	d3-N-MeFOSAA	573.3 > 419	1.50e3	1.97e4	1.00	0.140	5.05	5.06	0.951	6.8131	54.5		
30	62	d3-N-MeFOSAA	573.3 > 419	1.50e3	1.97e4	1.00	0.140	5.05	5.06	0.951	6.8131	54.5		
31	63	13C2-PFUdA	565 > 519.8	1.17e4	1.97e4	1.00	1.051	5.23	5.23	7.40	7.0480	56.4		
32	65	13C2-PFDoA	614.7 > 569.7	1.06e4	1.86e4	1.00	1.041	5.52	5.52	7.13	6.8467	54.8		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	2.63e3	1.50e3	1.00		5.21	5.22	21.9	13.4287	134.3	1.436	NO
35	84	Total N-EtFOSAA	584.1 > 419	2.63e3	1.50e3	1.00		5.33		21.9	13.4287			
36	39	PFTrDA	662.9 > 618.9	1.25e4	1.06e4	1.00		5.77	5.77	14.7	12.2895	122.9	28.151	NO

Vista Analytical Laboratory L14

Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-22.qld

Last Altered: Monday, July 15, 2019 12:30:49 Pacific Daylight Time
Printed: Monday, July 15, 2019 12:35:37 Pacific Daylight Time

Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0	1.14e4	9.23e3	1.00		6.00	6.00	15.5	11.6041	116.0	13.327	NO
38	85	TDCA	498.3>106.9			1.00		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.50e3	1.97e4	1.00	0.168	5.21	5.21	0.953	5.6826	45.5		
40	64	d5-N-EtFOSAA	589.3 > 419	1.50e3	1.97e4	1.00	0.168	5.21	5.21	0.953	5.6826	45.5		
41	65	13C2-PFDoA	614.7 > 569.7	1.06e4	1.86e4	1.00	1.041	5.52	5.52	7.13	6.8467	54.8		
42	67	13C2-PFTeDA	715.1 > 669.7	9.23e3	1.97e4	1.00	0.690	5.99	6.00	5.85	8.4786	67.8		
43	59	13C8-PFOS	507.0 > 79.9	2.17e3	2.61e3	1.00	1.017	4.60	4.61	10.4	10.2459	82.0		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.63e4	1.63e4	1.00	1.000	2.92	2.93	12.5	12.5000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.92e4	1.92e4	1.00	1.000	4.07	4.08	12.5	12.5000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	9.56e2	9.56e2	1.00	1.000	3.70	3.70	12.5	12.5000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.50e4	1.50e4	1.00	1.000	4.52	4.52	12.5	12.5000	100.0		
49	77	13C4-PFOS	503 > 79.9	2.61e3	2.61e3	1.00	1.000	4.61	4.61	12.5	12.5000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.86e4	1.86e4	1.00	1.000	4.89	4.90	12.5	12.5000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.97e4	1.97e4	1.00	1.000	5.23	5.23	12.5	12.5000	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/15/2019

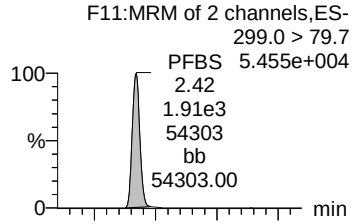
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-22.qld

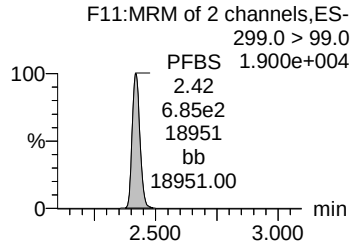
Last Altered: Monday, July 15, 2019 12:30:49 Pacific Daylight Time
Printed: Monday, July 15, 2019 12:35:37 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

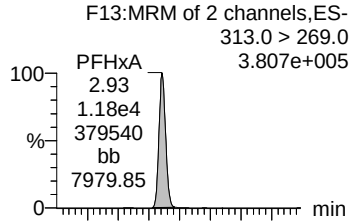
Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

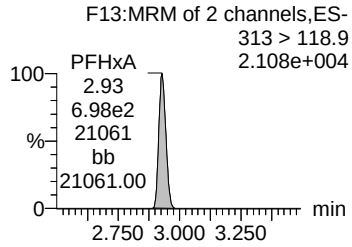
PFBS





PFHxA





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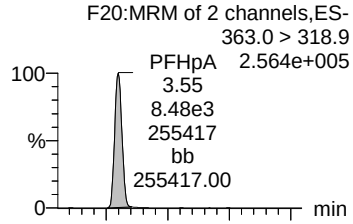
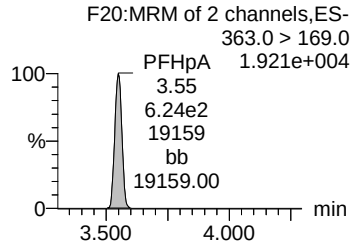
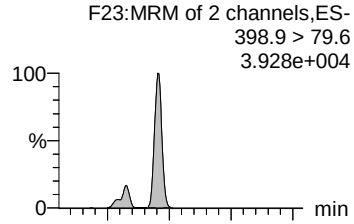
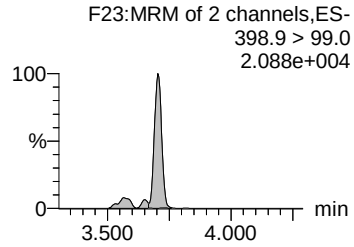




L-PFHxS





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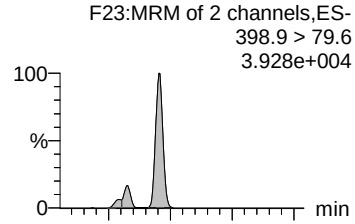

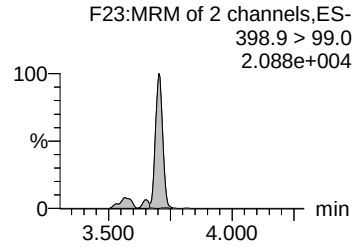

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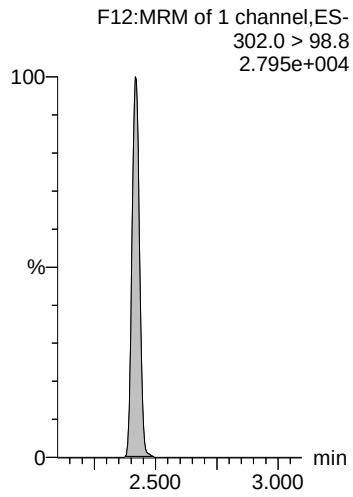

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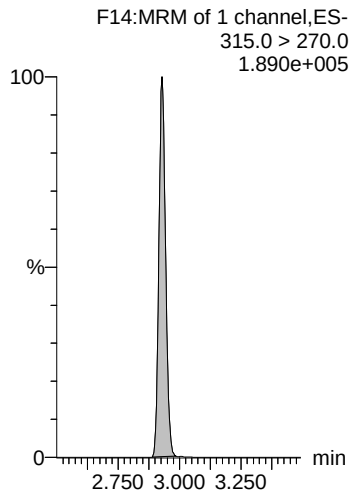

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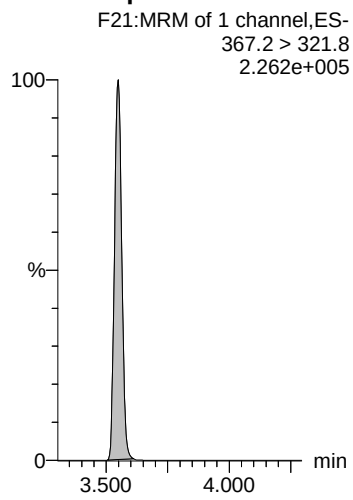

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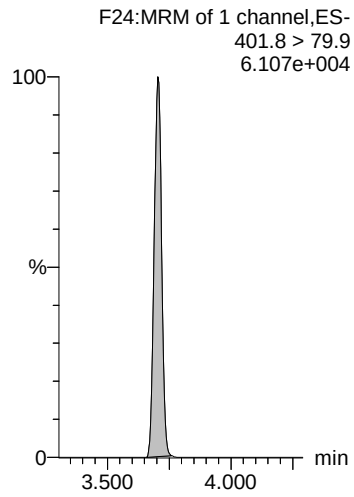

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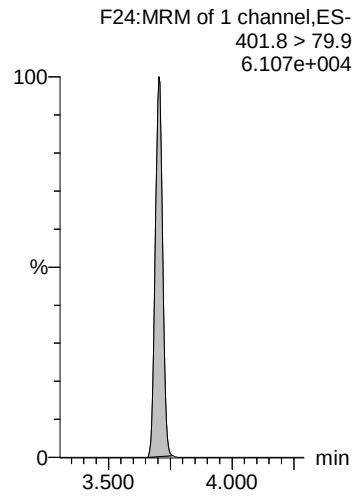
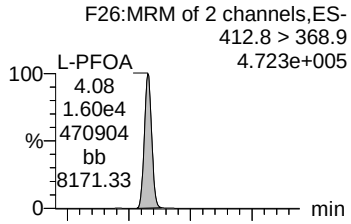


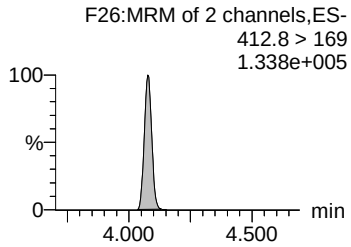
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-22.qld

Last Altered: Monday, July 15, 2019 12:30:49 Pacific Daylight Time
Printed: Monday, July 15, 2019 12:35:37 Pacific Daylight Time

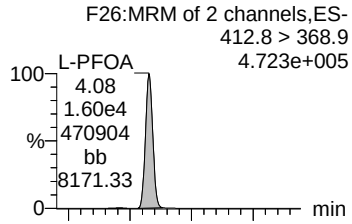
Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

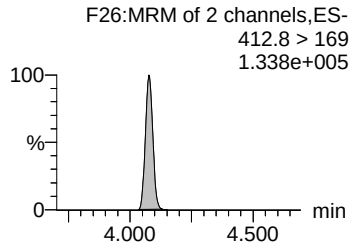
L-PFOA





Total PFOA





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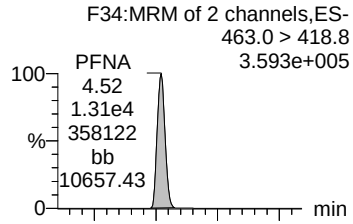
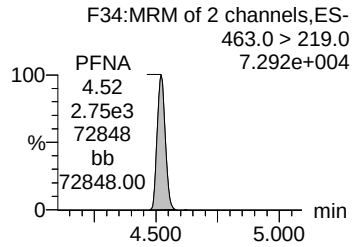
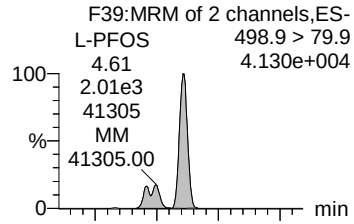
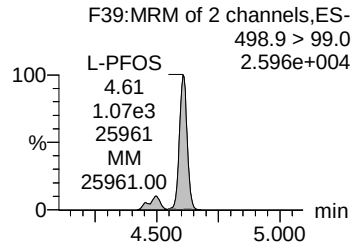


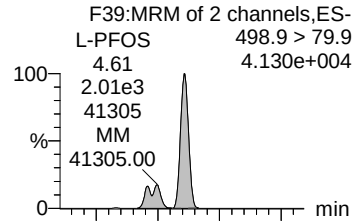


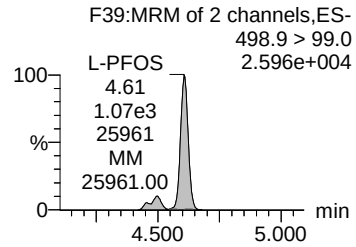
L-PFOS





Total PFOS





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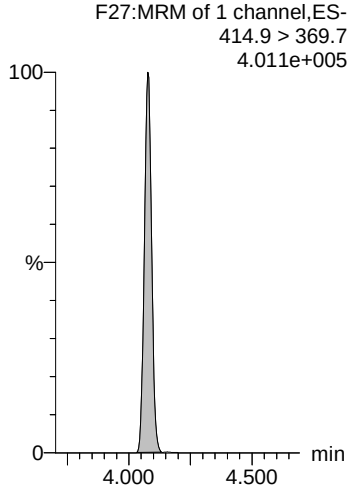

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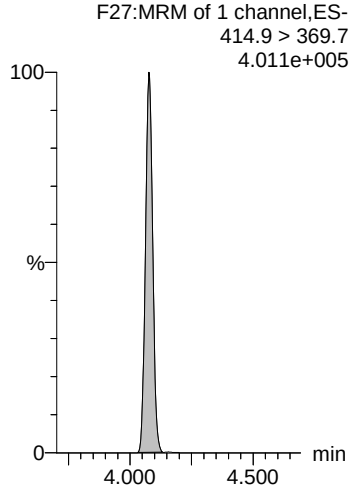

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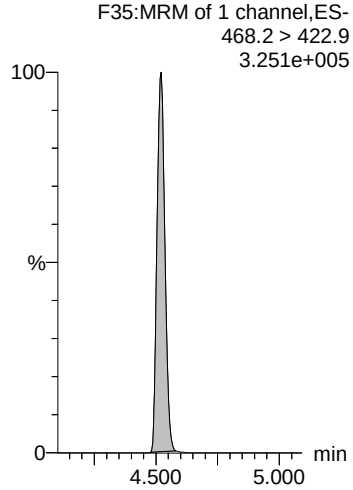

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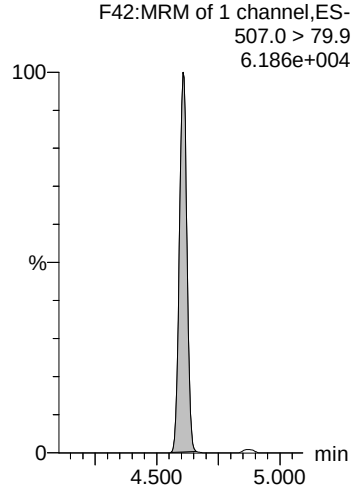

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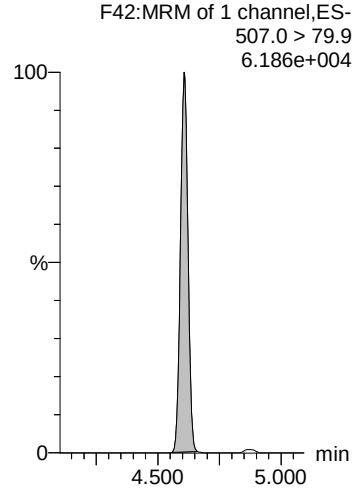


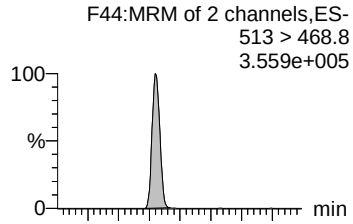
Review: AMR 7/15/2019

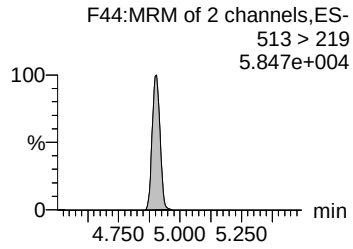
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-22.qld

Last Altered: Monday, July 15, 2019 12:30:49 Pacific Daylight Time
Printed: Monday, July 15, 2019 12:35:37 Pacific Daylight Time

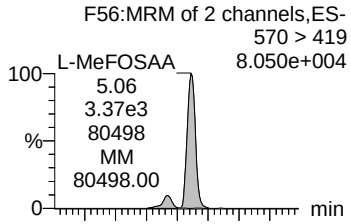
Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

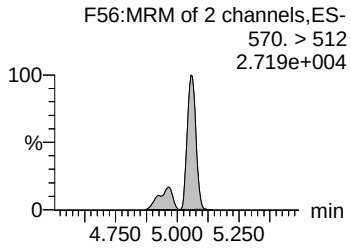
PFDA



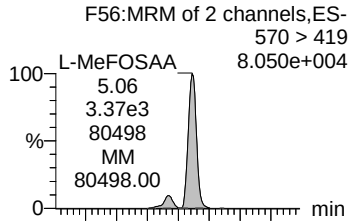


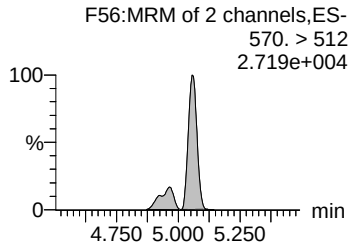
L-MeFOSAA



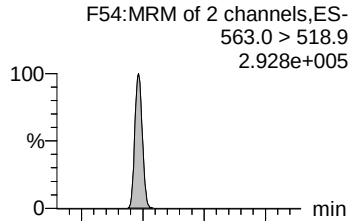


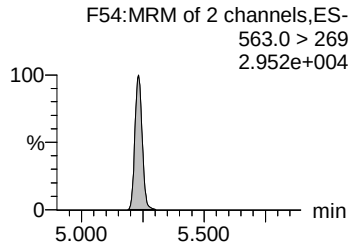
Total N-MeFOSAA



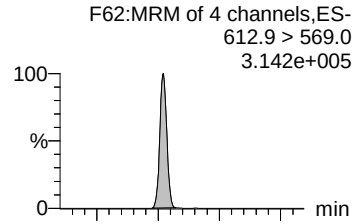


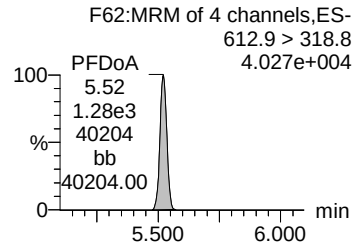
PFUdA



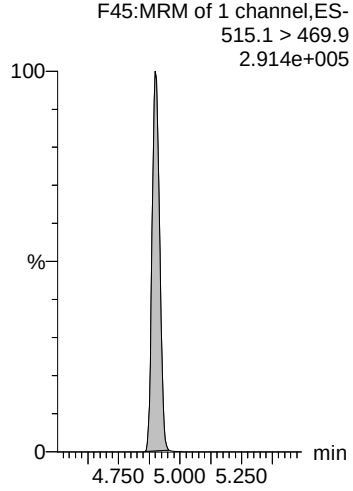


PFDoA

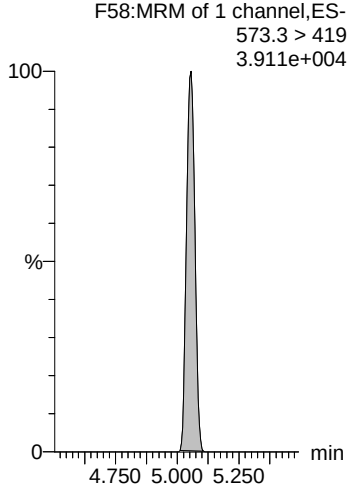




13C2-PFDA



d3-N-MeFOSAA



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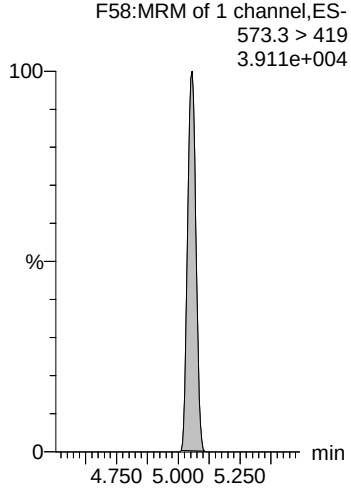
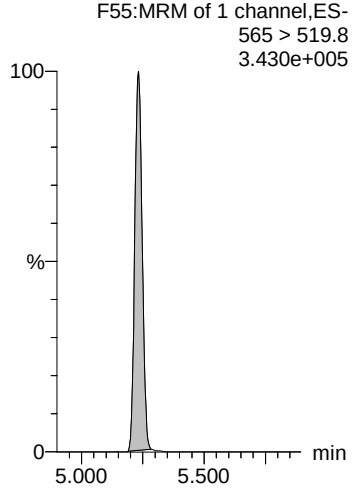


13C2-PFUdA



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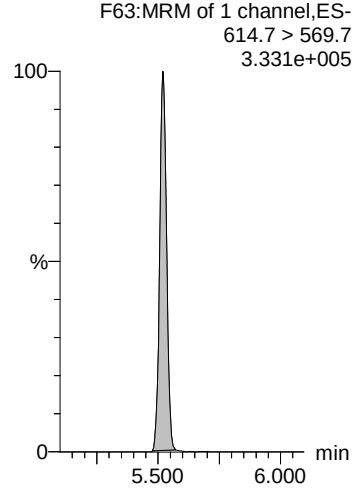


NY 7/15/2019

Vista Analytical Laboratory L14

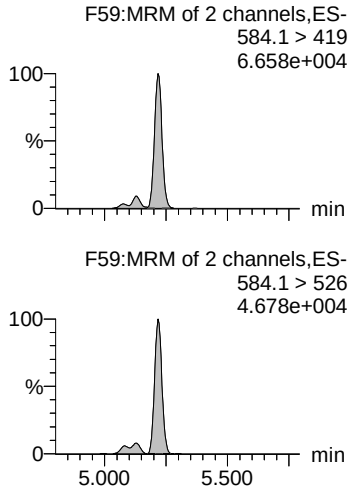
Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-22.qld

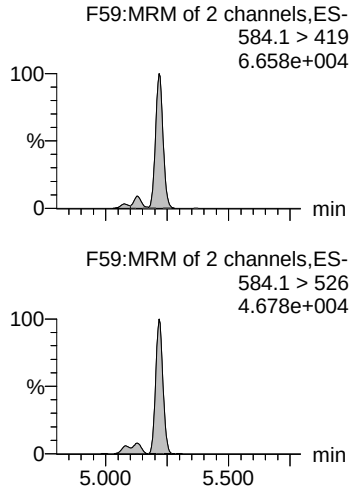
Last Altered: Monday, July 15, 2019 12:30:49 Pacific Daylight Time
Printed: Monday, July 15, 2019 12:35:37 Pacific Daylight Time

Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

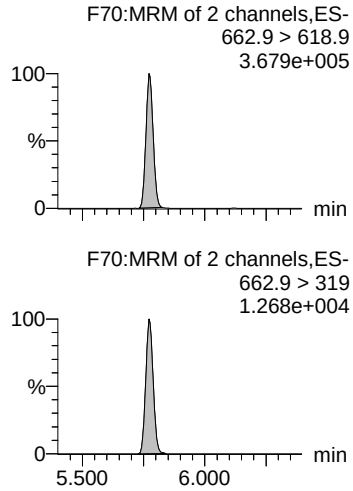
L-EtFOSAA



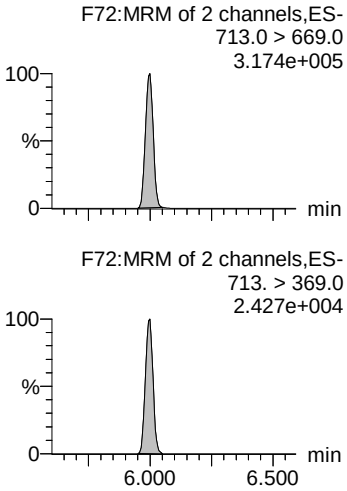
Total N-EtFOSAA



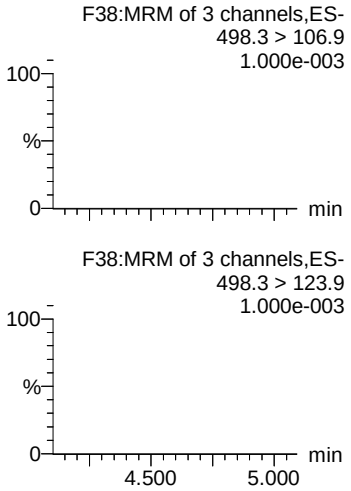
PFTrDA



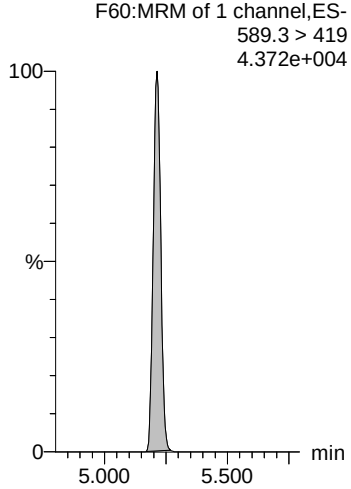
PFTeDA



TDCA



d5-N-EtFOSAA



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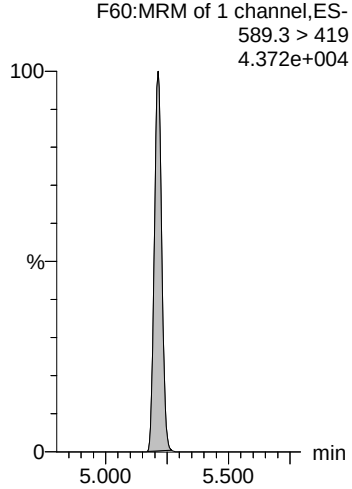
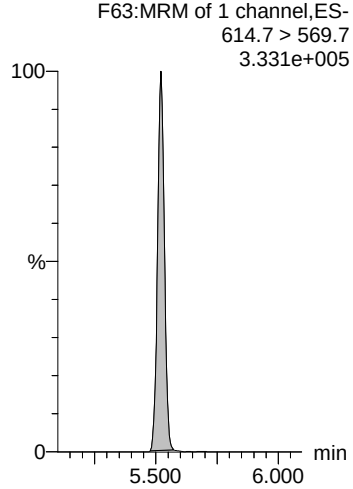
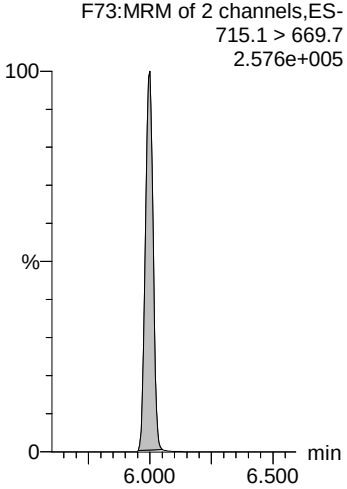


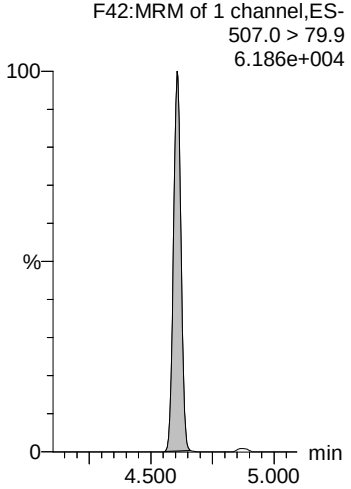
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



Vista Analytical Laboratory L14

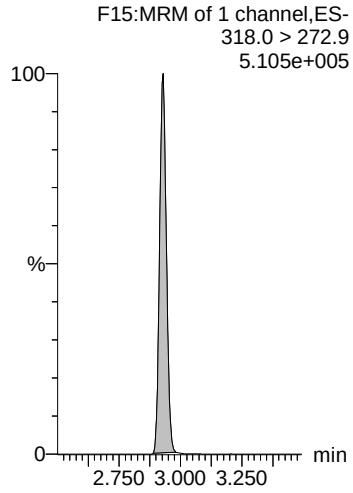
Review: AMR 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-22.qld

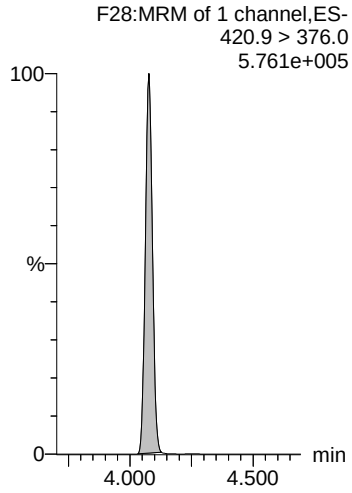
Last Altered: Monday, July 15, 2019 12:30:49 Pacific Daylight Time
Printed: Monday, July 15, 2019 12:35:37 Pacific Daylight Time

Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

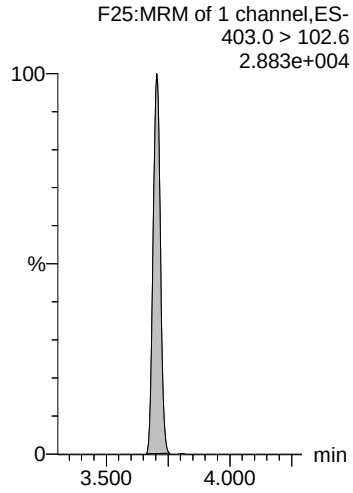
13C5-PFHxA



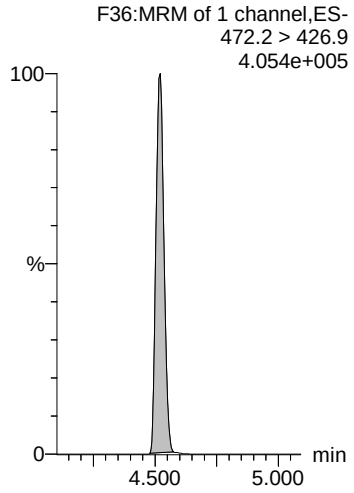
13C8-PFOA



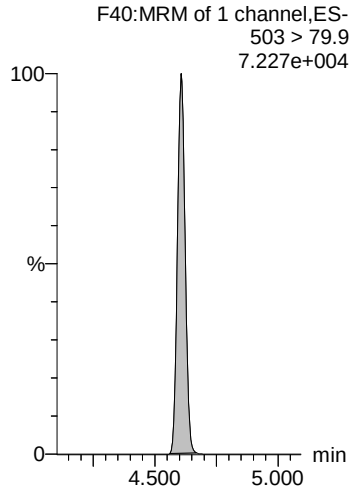
18O2-PFHxS



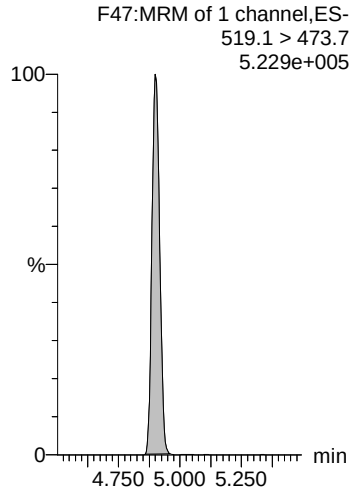
13C9-PFNA



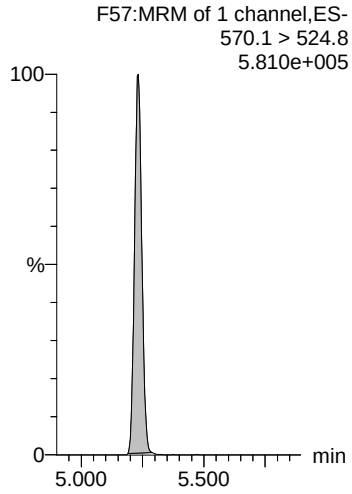
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-31.qld

Last Altered: Monday, July 15, 2019 15:14:42 Pacific Daylight Time
Printed: Monday, July 15, 2019 15:16:45 Pacific Daylight Time

Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		1.25e3	1.00		2.42						
2	7	PFHxA	313.0 > 269.0		8.18e3	1.00		2.93						
3	11	PFHpA	363.0 > 318.9		1.00e4	1.00		3.55						
4	13	L-PFHxS	398.9 > 79.6		2.65e3	1.00		3.71						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	2.65e3	1.00		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	1.25e3	1.30e3	1.00	1.073	2.41	2.42	12.0	11.2186	89.8		
7	52	13C2-PFHxA	315.0 > 270.0	8.18e3	2.19e4	1.00	1.009	2.92	2.93	4.68	4.6309	92.7		
8	53	13C4-PFHpA	367.2 > 321.8	1.00e4	2.19e4	1.00	0.512	3.54	3.55	5.73	11.1914	89.6		
9	54	13C3-PFHxS	401.8 > 79.9	2.65e3	1.30e3	1.00	2.197	3.70	3.71	25.5	11.5888	92.8		
10	54	13C3-PFHxS	401.8 > 79.9	2.65e3	1.30e3	1.00	2.197	3.70	3.71	25.5	11.5888	92.8		
11	-1													
12	16	L-PFOA	412.8 > 368.9	3.96e1	1.69e4	1.00		4.08	4.09	0.0293			4.173	NO
13	81	Total PFOA	412.8 > 368.9	3.96e1	1.69e4	1.00		4.21		0.000				
14	21	PFNA	463.0 > 418.8		1.51e4	1.00		4.52						
15	23	L-PFOS	498.9 > 79.9		2.80e3	1.00		4.61						
16	82	Total PFOS	498.9 > 79.9	0.00e0	2.80e3	1.00		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	1.69e4	2.50e4	1.00	0.789	4.07	4.08	8.46	10.7087	85.7		
18	58	13C2-PFOA	414.9 > 369.7	1.69e4	2.50e4	1.00	0.789	4.07	4.08	8.46	10.7087	85.7		
19	56	13C5-PFNA	468.2 > 422.9	1.51e4	1.90e4	1.00	0.991	4.52	4.52	9.95	10.0349	80.3		
20	59	13C8-PFOS	507.0 > 79.9	2.80e3	3.27e3	1.00	1.017	4.60	4.61	10.7	10.4998	84.0		
21	59	13C8-PFOS	507.0 > 79.9	2.80e3	3.27e3	1.00	1.017	4.60	4.61	10.7	10.4998	84.0		
22	-1													
23	26	PFDA	513 > 468.8		1.30e4	1.00		4.90						
24	29	L-MeFOSAA	570 > 419		1.95e3	1.00		5.06						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.95e3	1.00		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.55e4	1.00		5.24						
27	37	PFDoA	612.9 > 569.0		1.39e4	1.00		5.52						
28	60	13C2-PFDA	515.1 > 469.9	1.30e4	2.31e4	1.00	0.808	4.90	4.90	7.03	8.7014	69.6		
29	62	d3-N-MeFOSAA	573.3 > 419	1.95e3	2.49e4	1.00	0.140	5.05	5.06	0.979	7.0083	56.1		
30	62	d3-N-MeFOSAA	573.3 > 419	1.95e3	2.49e4	1.00	0.140	5.05	5.06	0.979	7.0083	56.1		
31	63	13C2-PFUdA	565 > 519.8	1.55e4	2.49e4	1.00	1.051	5.23	5.24	7.78	7.4040	59.3		
32	65	13C2-PFDoA	614.7 > 569.7	1.39e4	2.31e4	1.00	1.041	5.52	5.52	7.53	7.2358	57.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.15e3	1.00		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.15e3	1.00		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.39e4	1.00		5.77						

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-31.qld

Last Altered: Monday, July 15, 2019 15:14:42 Pacific Daylight Time
Printed: Monday, July 15, 2019 15:16:45 Pacific Daylight Time

Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0	3.01e1	1.16e4	1.00		6.00	6.00	0.0325	0.0165		51.333	YES
38	85	TDCA	498.3>106.9			1.00		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.15e3	2.49e4	1.00	0.168	5.21	5.22	1.08	6.4452	51.6		
40	64	d5-N-EtFOSAA	589.3 > 419	2.15e3	2.49e4	1.00	0.168	5.21	5.22	1.08	6.4452	51.6		
41	65	13C2-PFDoA	614.7 > 569.7	1.39e4	2.31e4	1.00	1.041	5.52	5.52	7.53	7.2358	57.9		
42	67	13C2-PFTeDA	715.1 > 669.7	1.16e4	2.49e4	1.00	0.690	5.99	6.00	5.83	8.4395	67.5		
43	59	13C8-PFOS	507.0 > 79.9	2.80e3	3.27e3	1.00	1.017	4.60	4.61	10.7	10.4998	84.0		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.19e4	2.19e4	1.00	1.000	2.92	2.93	12.5	12.4944	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.50e4	2.50e4	1.00	1.000	4.07	4.08	12.5	12.4944	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.30e3	1.30e3	1.00	1.000	3.70	3.71	12.5	12.4944	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.90e4	1.90e4	1.00	1.000	4.52	4.52	12.5	12.4944	100.0		
49	77	13C4-PFOS	503 > 79.9	3.27e3	3.27e3	1.00	1.000	4.61	4.61	12.5	12.4944	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.31e4	2.31e4	1.00	1.000	4.89	4.90	12.5	12.4944	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.49e4	2.49e4	1.00	1.000	5.23	5.23	12.5	12.4944	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

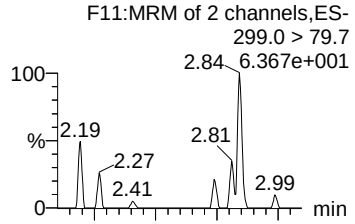
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-31.qld

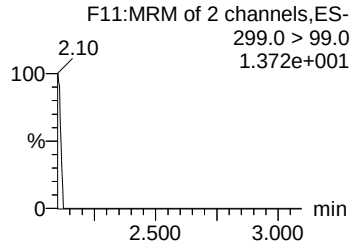
Last Altered: Monday, July 15, 2019 15:14:42 Pacific Daylight Time
Printed: Monday, July 15, 2019 15:16:45 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

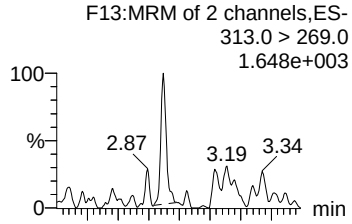
Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

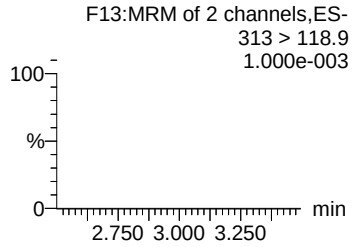
PFBS





PFHxA





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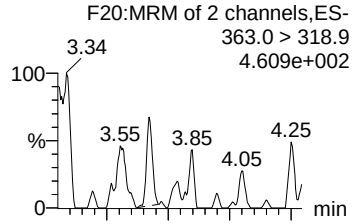

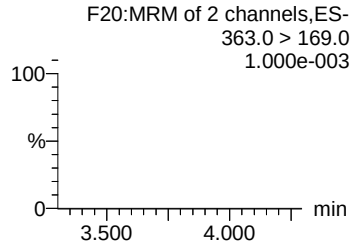

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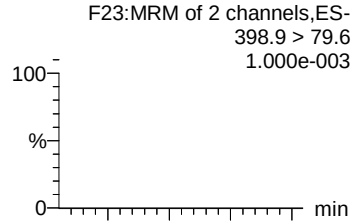
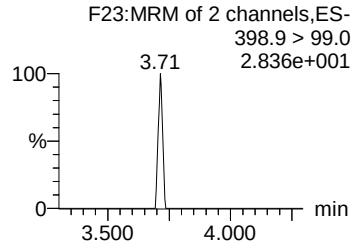
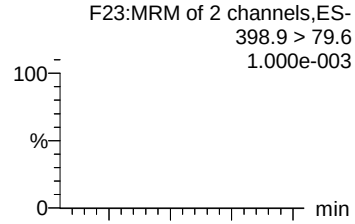
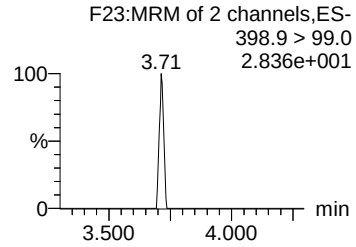


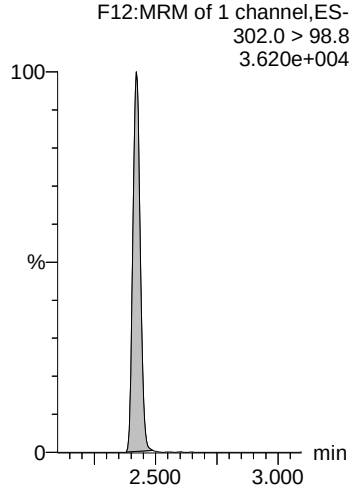


Total PFHxS

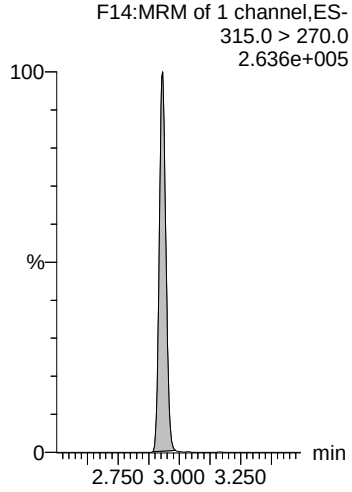




13C3-PFBS



13C2-PFHxA



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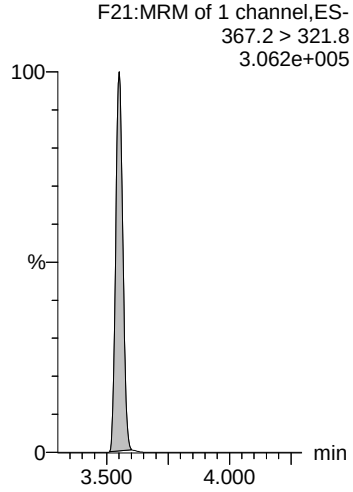
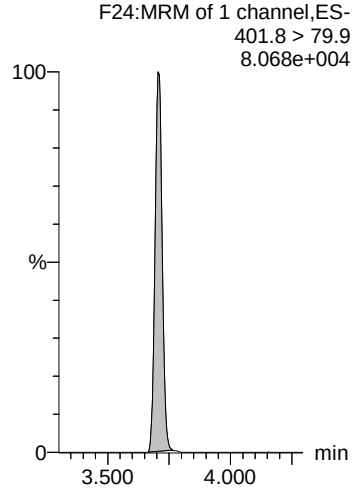


13C3-PFHxS



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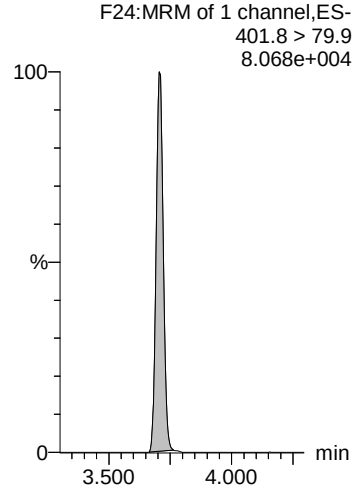


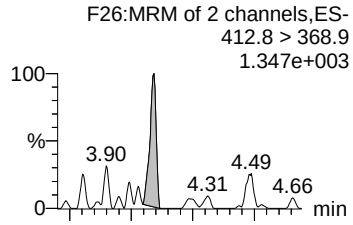
Review: AMR 7/16/2019

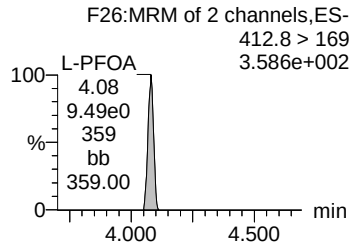
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-31.qld

Last Altered: Monday, July 15, 2019 15:14:42 Pacific Daylight Time
Printed: Monday, July 15, 2019 15:16:45 Pacific Daylight Time

Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

L-PFOA





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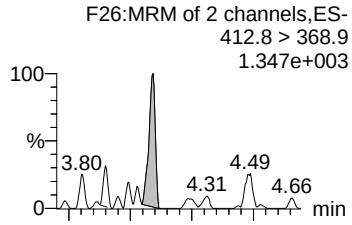

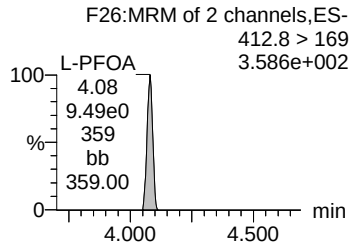

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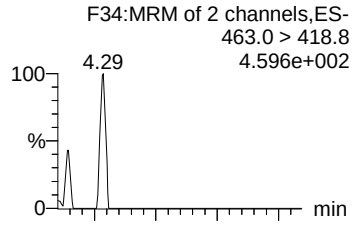
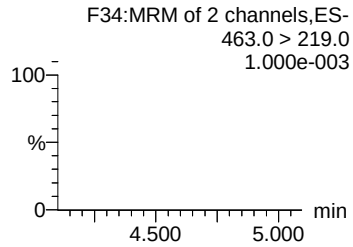
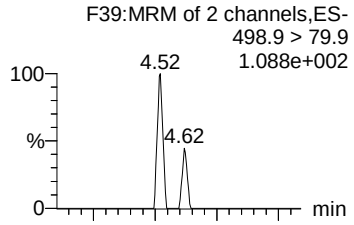
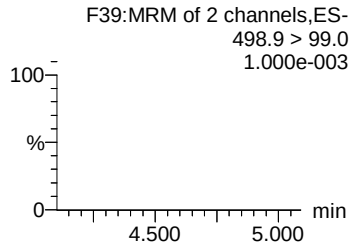




L-PFOS





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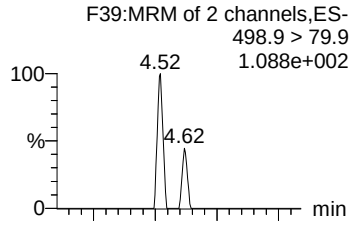
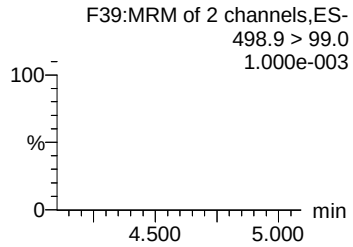
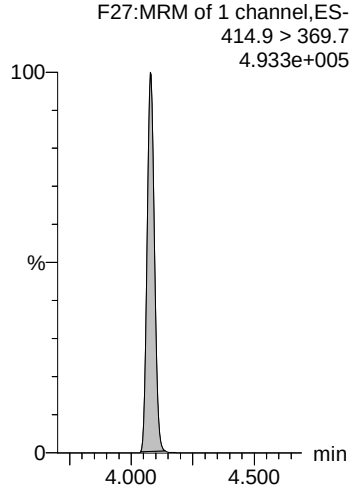




13C2-PFOA



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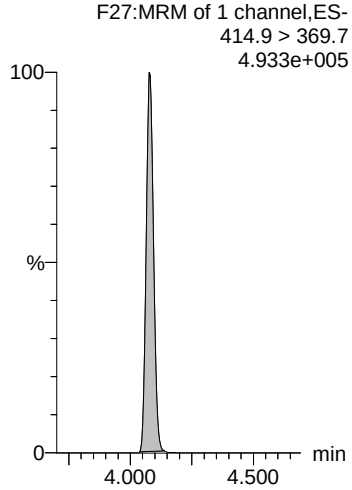
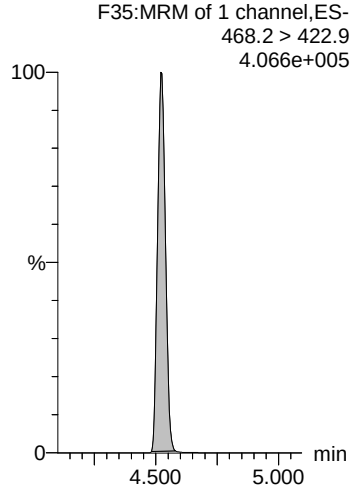
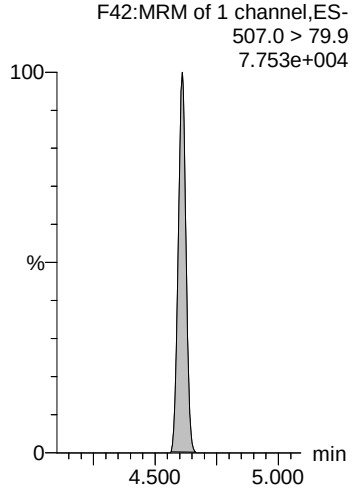


13C5-PFNA



13C8-PFOS



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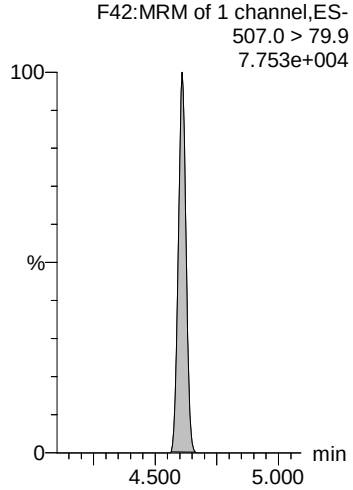

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-31.qld

Last Altered: Monday, July 15, 2019 15:14:42 Pacific Daylight Time
Printed: Monday, July 15, 2019 15:16:45 Pacific Daylight Time

Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

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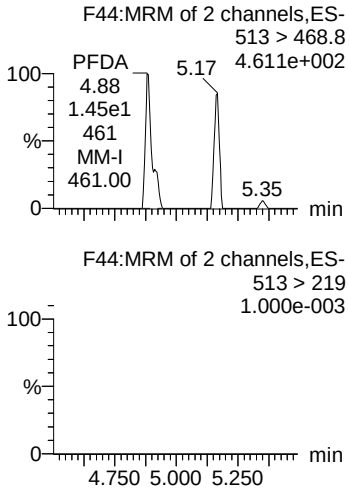
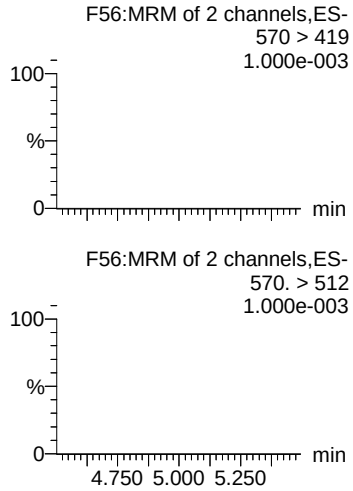


L-MeFOSAA



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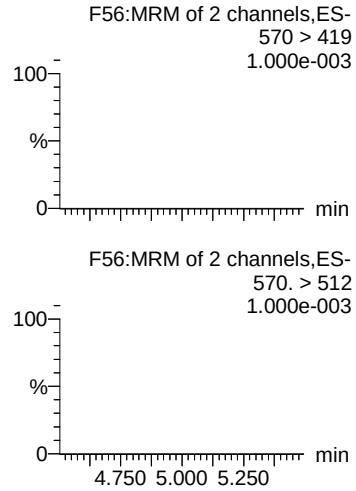

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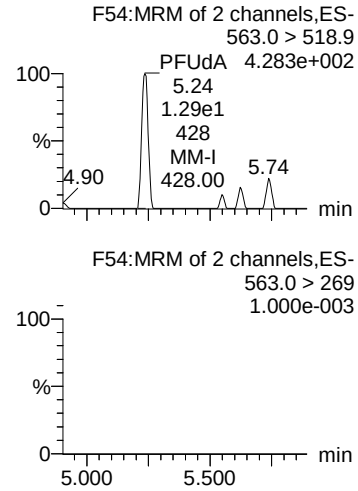
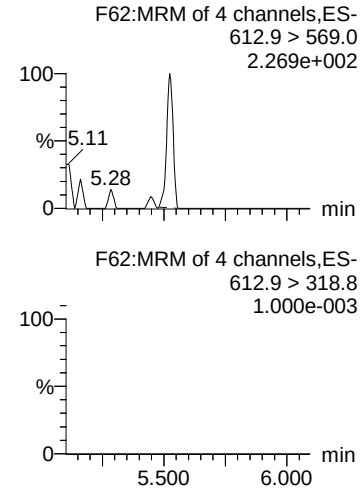


PFDoA



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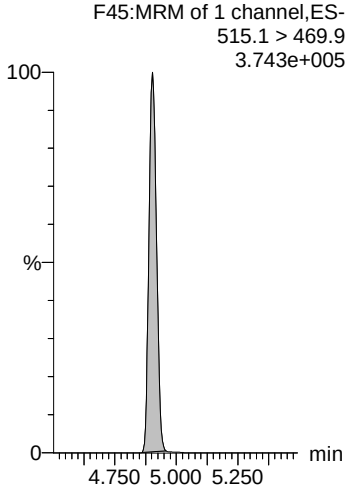
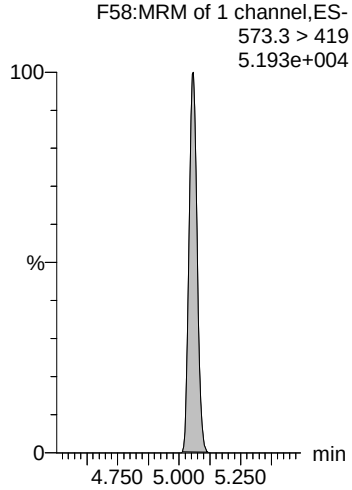


d3-N-MeFOSAA



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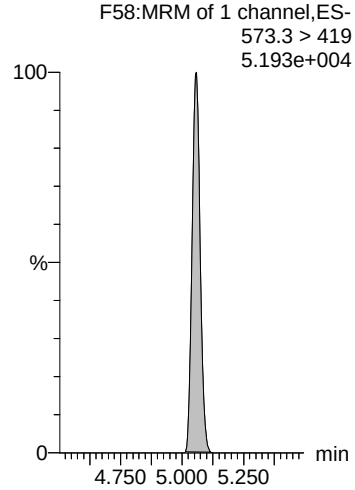

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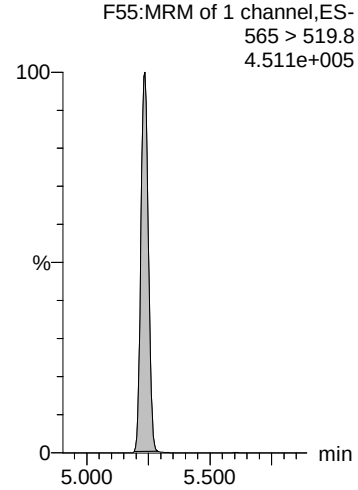

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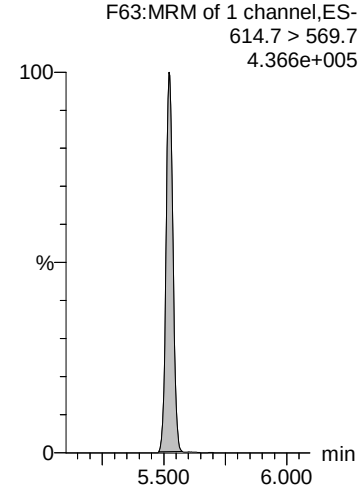


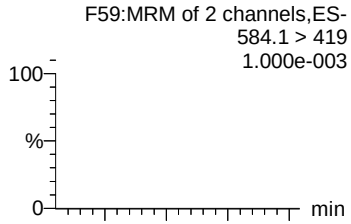
Review: AMR 7/16/2019

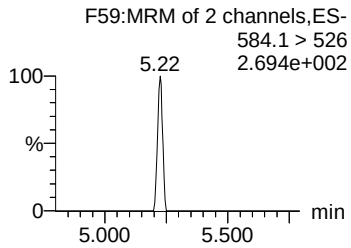
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-31.qld

Last Altered: Monday, July 15, 2019 15:14:42 Pacific Daylight Time
Printed: Monday, July 15, 2019 15:16:45 Pacific Daylight Time

Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

L-EtFOSAA





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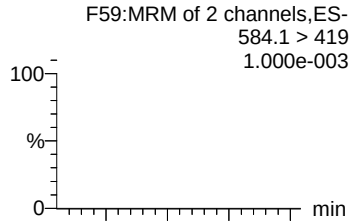

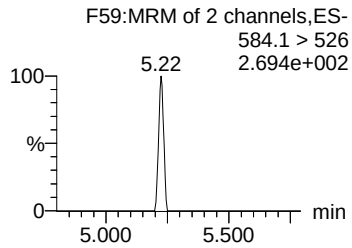

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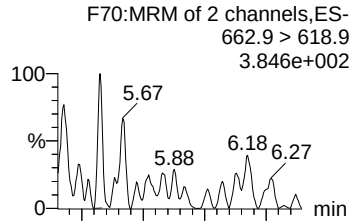
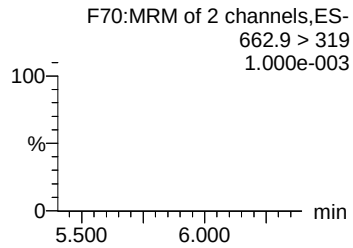
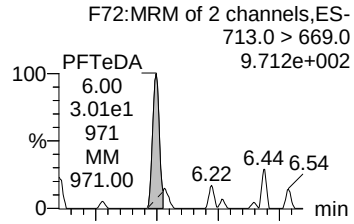
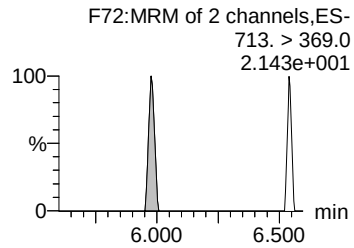




PFTeDA





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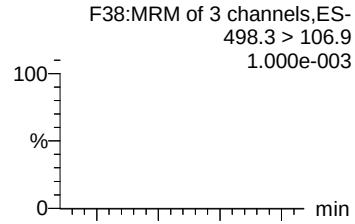
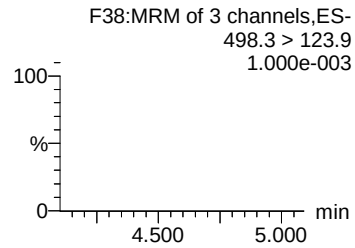
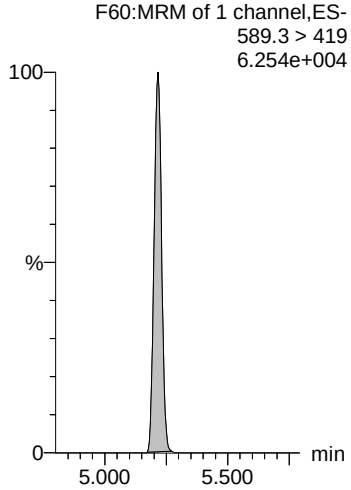
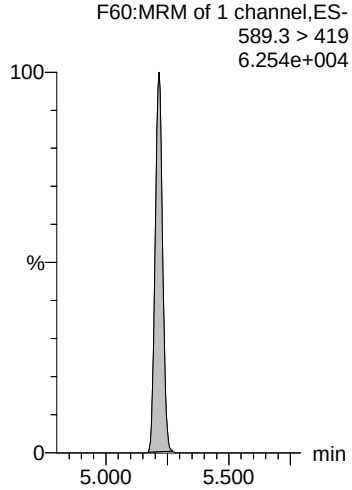




d5-N-EtFOSAA



d5-N-EtFOSAA



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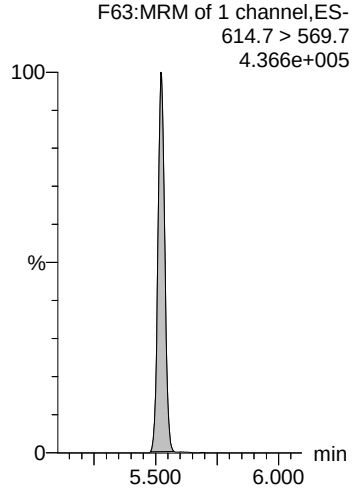
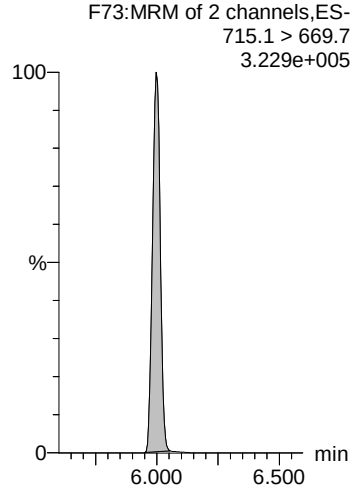
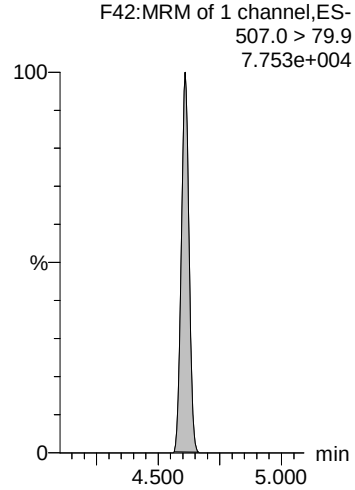


13C2-PFTeDA



13C8-PFOS



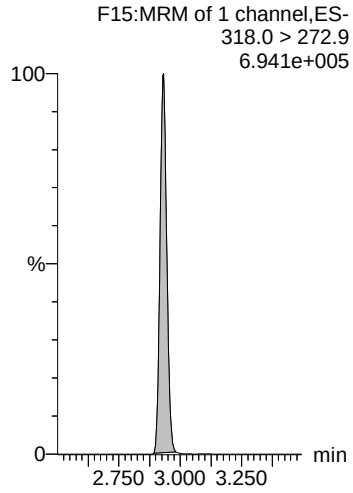
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-31.qld

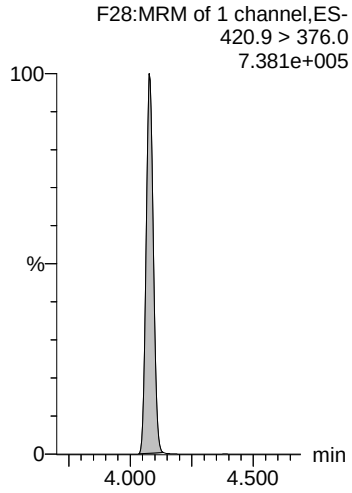
Last Altered: Monday, July 15, 2019 15:14:42 Pacific Daylight Time
Printed: Monday, July 15, 2019 15:16:45 Pacific Daylight Time

Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

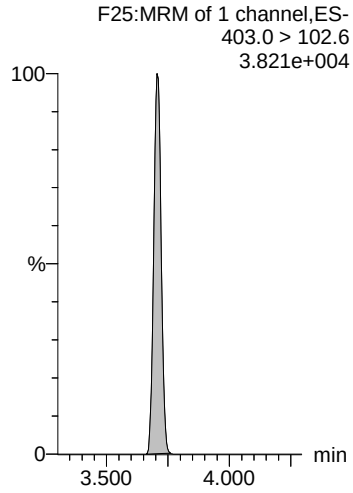
13C5-PFHxA



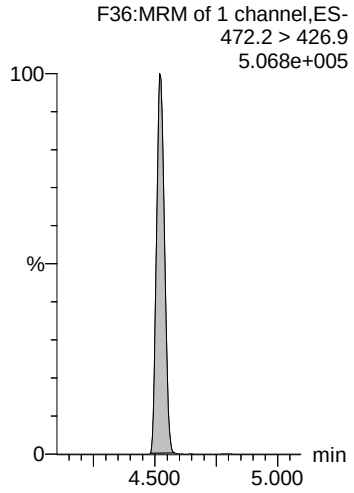
13C8-PFOA



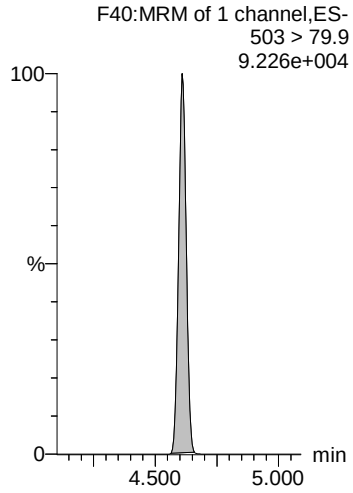
18O2-PFHxS



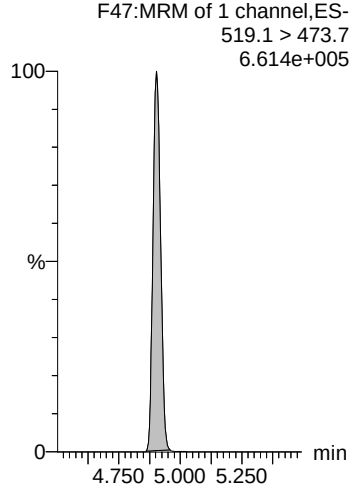
13C9-PFNA



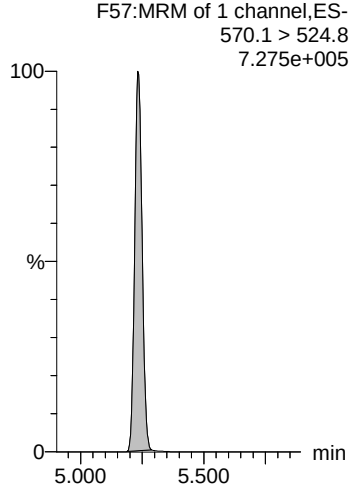
13C4-PFOS



13C6-PFDA



13C7-PFUdA



NY 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-32.qld

Last Altered: Tuesday, July 16, 2019 08:29:23 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:33:05 Pacific Daylight Time

Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	5.01e1	1.18e3	1.01		2.42	2.42	0.529	0.2847		3.730	NO
2	7	PFHxA	313.0 > 269.0	4.37e3	7.19e3	1.01		2.93	2.93	3.04	3.3968		15.719	NO
3	11	PFHpA	363.0 > 318.9	2.46e3	9.64e3	1.01		3.55	3.55	3.19	2.4335		14.216	NO
4	13	L-PFHxS	398.9 > 79.6	1.37e3	2.22e3	1.01		3.71	3.71	7.71	8.0691		2.045	NO
5	80	Total PFHxS	398.9 > 79.6	1.37e3	2.22e3	1.01		3.83		7.71	8.0691			
6	49	13C3-PFBS	302.0 > 98.8	1.18e3	1.11e3	1.01	1.073	2.41	2.42	13.4	12.2923	99.8		
7	52	13C2-PFHxA	315.0 > 270.0	7.19e3	1.86e4	1.01	1.009	2.92	2.93	4.84	4.7297	96.0		
8	53	13C4-PFHpA	367.2 > 321.8	9.64e3	1.86e4	1.01	0.512	3.54	3.55	6.49	12.4978	101.5		
9	54	13C3-PFHxS	401.8 > 79.9	2.22e3	1.11e3	1.01	2.197	3.70	3.71	25.1	11.2767	91.5		
10	54	13C3-PFHxS	401.8 > 79.9	2.22e3	1.11e3	1.01	2.197	3.70	3.71	25.1	11.2767	91.5		
11	-1													
12	16	L-PFOA	412.8 > 368.9	8.27e3	1.61e4	1.01		4.08	4.08	6.43	4.5898		3.606	NO
13	81	Total PFOA	412.8 > 368.9	8.27e3	1.61e4	1.01		4.21		6.43	4.5898			
14	21	PFNA	463.0 > 418.8	3.82e2	1.57e4	1.01		4.52	4.52	0.303	0.2572		3.890	NO
15	23	L-PFOS	498.9 > 79.9	6.78e3	2.77e3	1.01		4.61	4.61	30.6	27.1597		1.808	NO
16	82	Total PFOS	498.9 > 79.9	6.78e3	2.77e3	1.01		4.74		30.6	27.1597			
17	58	13C2-PFOA	414.9 > 369.7	1.61e4	2.21e4	1.01	0.789	4.07	4.08	9.11	11.3680	92.3		
18	58	13C2-PFOA	414.9 > 369.7	1.61e4	2.21e4	1.01	0.789	4.07	4.08	9.11	11.3680	92.3		
19	56	13C5-PFNA	468.2 > 422.9	1.57e4	1.74e4	1.01	0.991	4.52	4.52	11.3	11.2527	91.3		
20	59	13C8-PFOS	507.0 > 79.9	2.77e3	2.82e3	1.01	1.017	4.60	4.61	12.3	11.9107	96.7		
21	59	13C8-PFOS	507.0 > 79.9	2.77e3	2.82e3	1.01	1.017	4.60	4.61	12.3	11.9107	96.7		
22	-1													
23	26	PFDA	513 > 468.8	9.52e1	1.32e4	1.01		4.90	4.91	0.0901	0.0237		11.069	YES
24	29	L-MeFOSAA	570 > 419		1.83e3	1.01		5.05						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.83e3	1.01		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.58e4	1.01		5.23						
27	37	PFDoA	612.9 > 569.0		1.46e4	1.01		5.52						
28	60	13C2-PFDA	515.1 > 469.9	1.32e4	2.10e4	1.01	0.808	4.90	4.90	7.85	9.5722	77.7		
29	62	d3-N-MeFOSAA	573.3 > 419	1.83e3	2.21e4	1.01	0.140	5.05	5.05	1.04	7.3321	59.5		
30	62	d3-N-MeFOSAA	573.3 > 419	1.83e3	2.21e4	1.01	0.140	5.05	5.05	1.04	7.3321	59.5		
31	63	13C2-PFUdA	565 > 519.8	1.58e4	2.21e4	1.01	1.051	5.23	5.23	8.97	8.4107	68.3		
32	65	13C2-PFDoA	614.7 > 569.7	1.46e4	2.10e4	1.01	1.041	5.52	5.52	8.66	8.1997	66.6		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.34e3	1.01		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.34e3	1.01		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.46e4	1.01		5.77						

NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-32.qld

Last Altered: Tuesday, July 16, 2019 08:29:23 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:33:05 Pacific Daylight Time

Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		1.12e4	1.01		6.00						
38	85	TDCA	498.3>106.9			1.01		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.34e3	2.21e4	1.01	0.168	5.21	5.22	1.32	7.7871	63.2		
40	64	d5-N-EtFOSAA	589.3 > 419	2.34e3	2.21e4	1.01	0.168	5.21	5.22	1.32	7.7871	63.2		
41	65	13C2-PFDoA	614.7 > 569.7	1.46e4	2.10e4	1.01	1.041	5.52	5.52	8.66	8.1997	66.6		
42	67	13C2-PFTeDA	715.1 > 669.7	1.12e4	2.21e4	1.01	0.690	5.99	6.00	6.31	9.0181	73.2		
43	59	13C8-PFOS	507.0 > 79.9	2.77e3	2.82e3	1.01	1.017	4.60	4.61	12.3	11.9107	96.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.86e4	1.86e4	1.01	1.000	2.92	2.93	12.5	12.3184	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.21e4	2.21e4	1.01	1.000	4.07	4.08	12.5	12.3184	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.11e3	1.11e3	1.01	1.000	3.70	3.71	12.5	12.3184	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.74e4	1.74e4	1.01	1.000	4.52	4.52	12.5	12.3184	100.0		
49	77	13C4-PFOS	503 > 79.9	2.82e3	2.82e3	1.01	1.000	4.61	4.61	12.5	12.3184	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.10e4	2.10e4	1.01	1.000	4.89	4.90	12.5	12.3184	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.21e4	2.21e4	1.01	1.000	5.23	5.23	12.5	12.3184	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

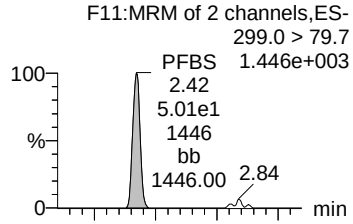
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-32.qld

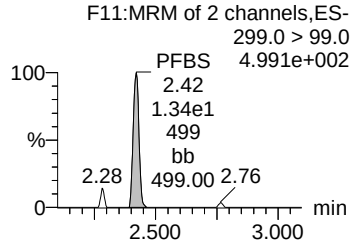
Last Altered: Tuesday, July 16, 2019 08:29:23 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:33:05 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

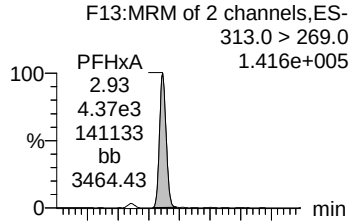
Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

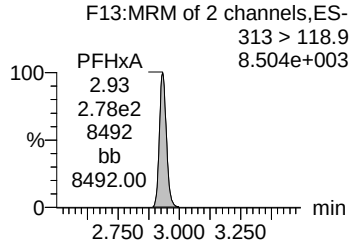
PFBS



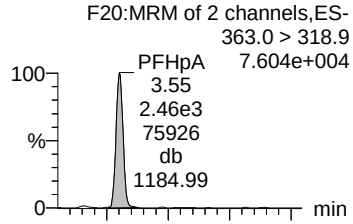


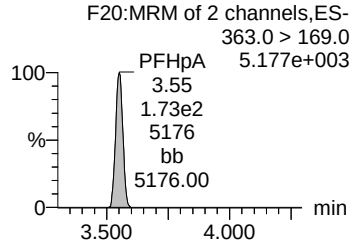
PFHxA



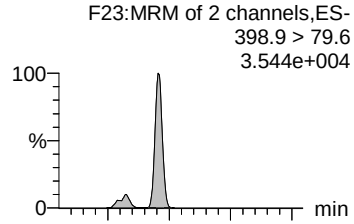


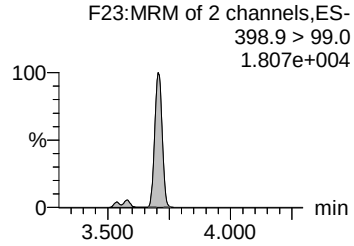
PFHpA



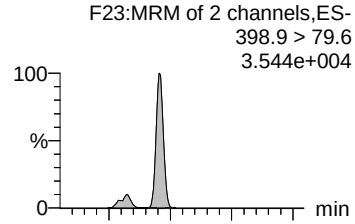


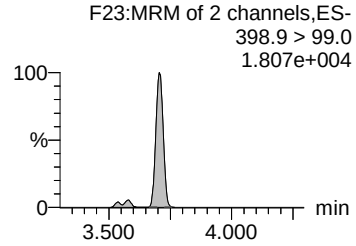
L-PFHxS



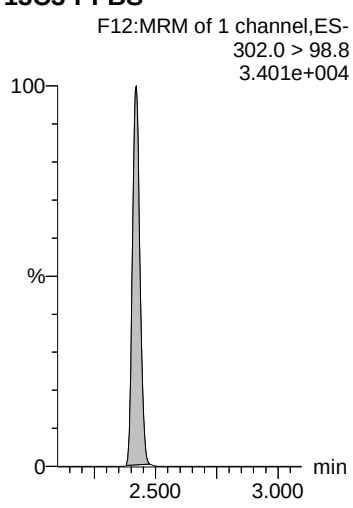


Total PFHxS

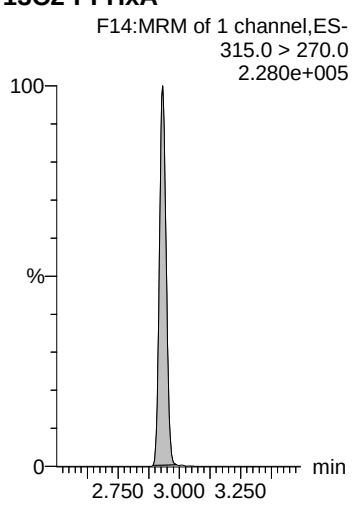




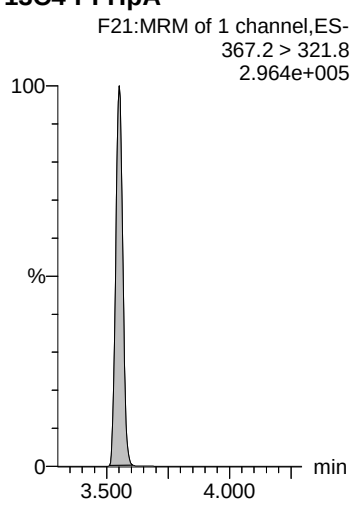
13C3-PFBS



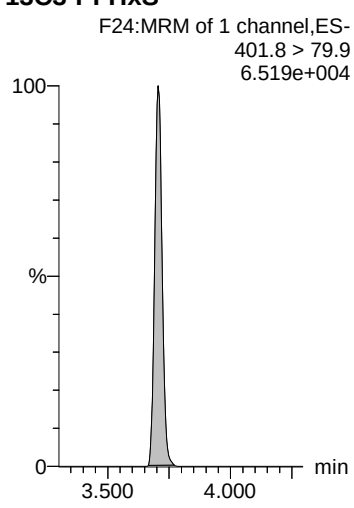
13C2-PFHxA



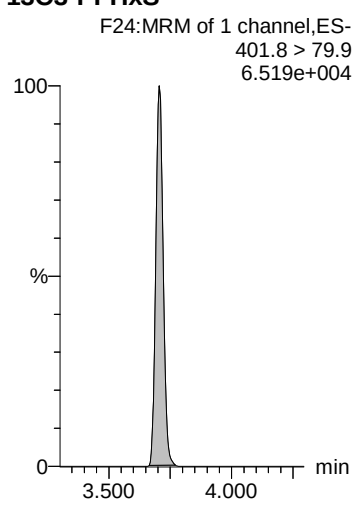
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



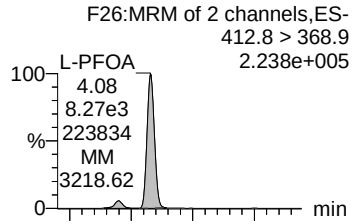
Review: AMR 7/16/2019

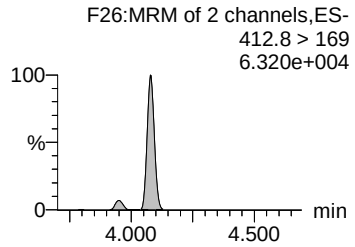
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-32.qld

Last Altered: Tuesday, July 16, 2019 08:29:23 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:33:05 Pacific Daylight Time

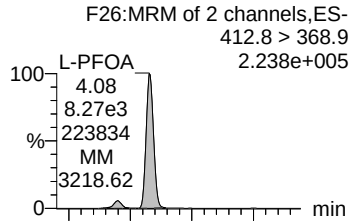
Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

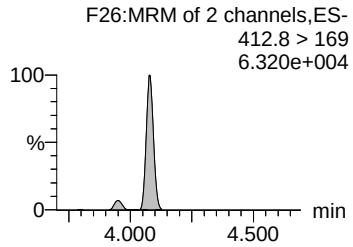
L-PFOA



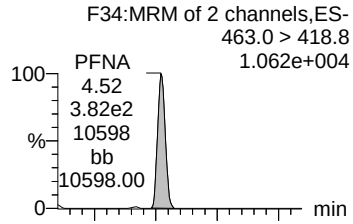


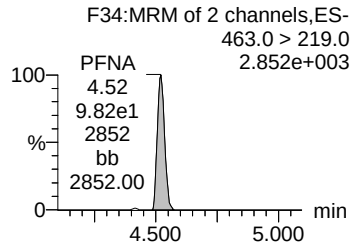
Total PFOA



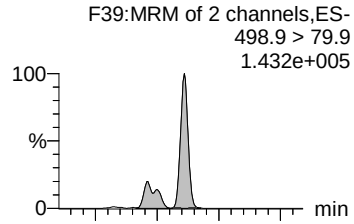


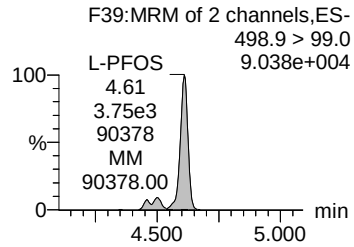
PFNA



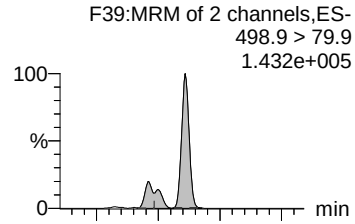


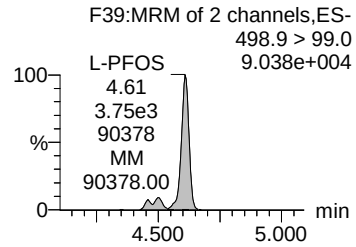
L-PFOS



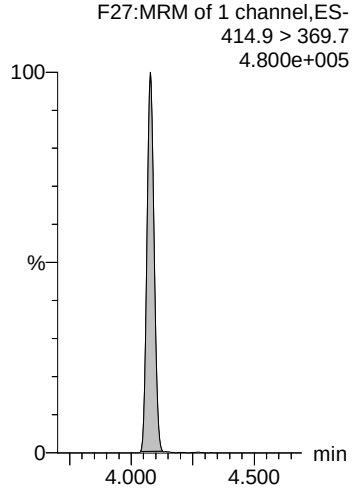


Total PFOS





13C2-PFOA



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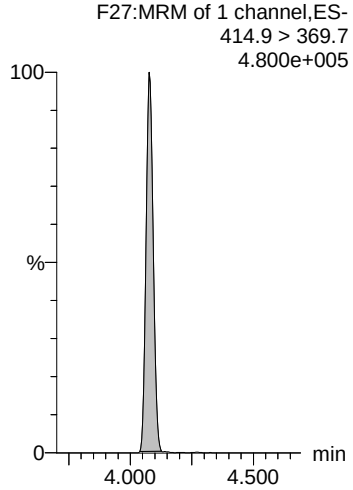

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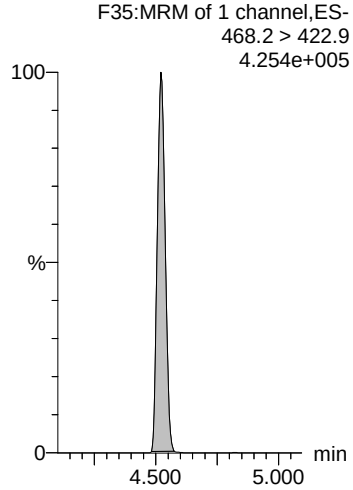
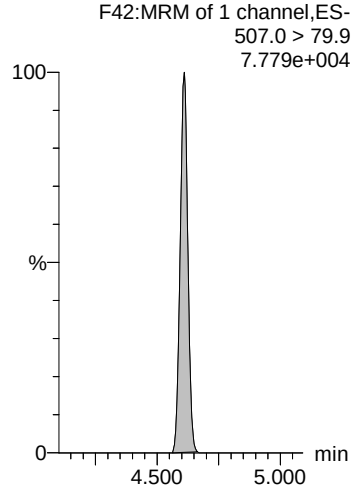


13C8-PFOS



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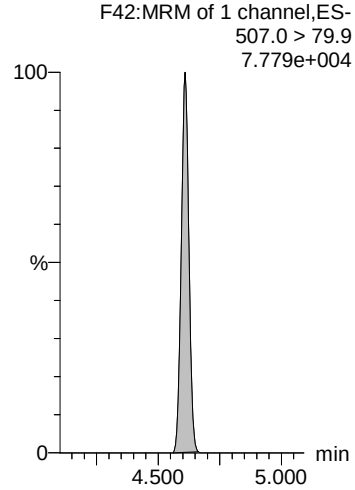


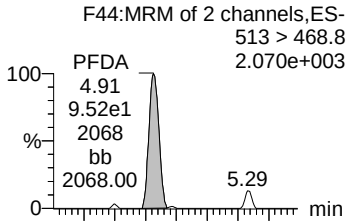
NY 7/16/2019

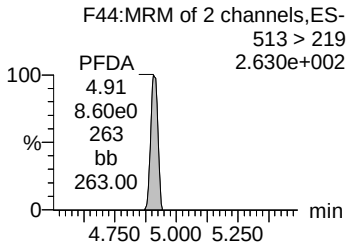
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-32.qld

Last Altered: Tuesday, July 16, 2019 08:29:23 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:33:05 Pacific Daylight Time

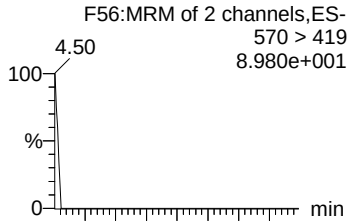
Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

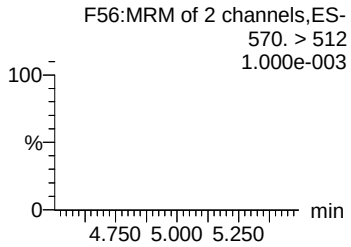
PFDA



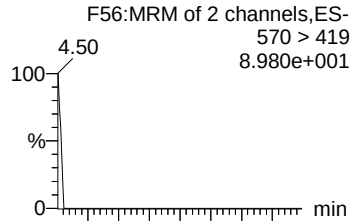


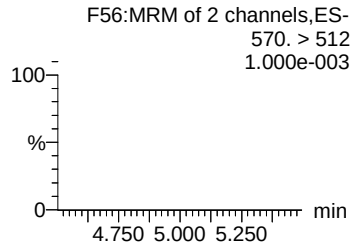
L-MeFOSAA



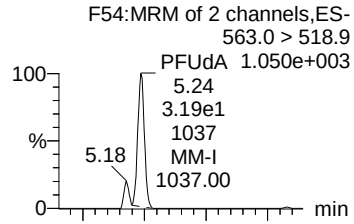


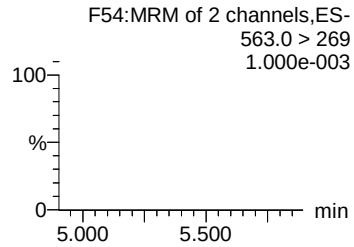
Total N-MeFOSAA



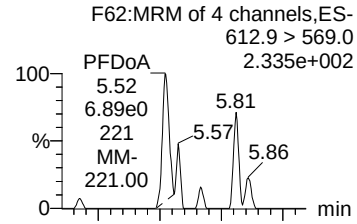


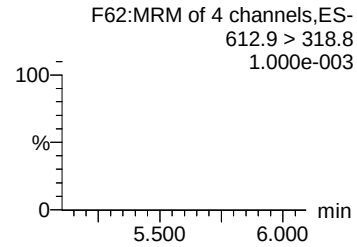
PFUdA



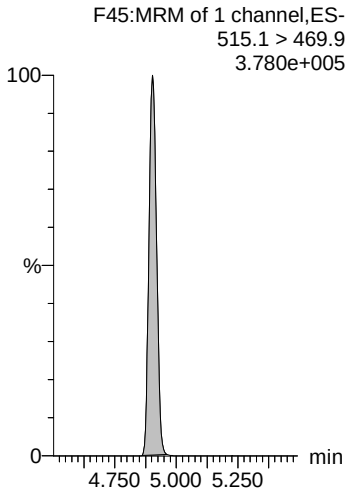


PFDoA

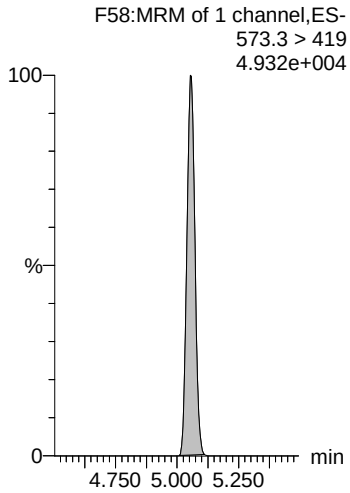




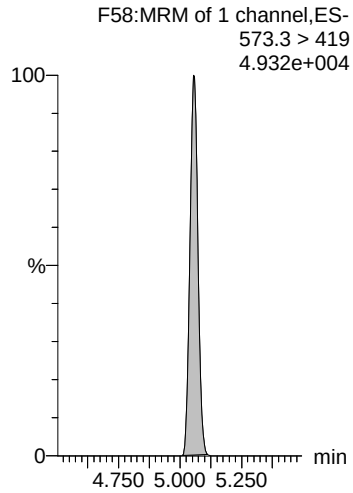
13C2-PFDA



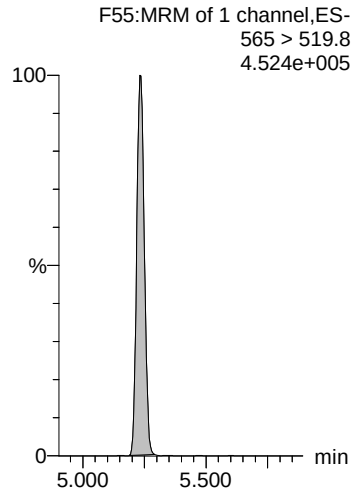
d3-N-MeFOSAA



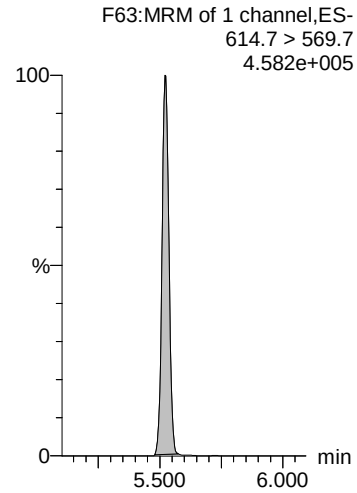
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



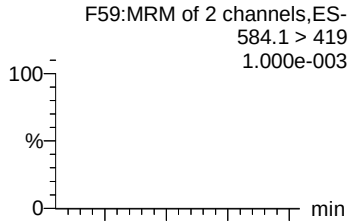
Review: AMR 7/16/2019

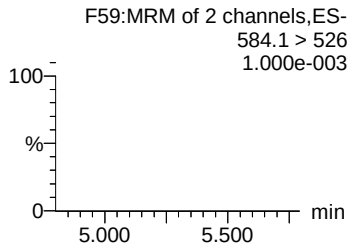
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-32.qld

Last Altered: Tuesday, July 16, 2019 08:29:23 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:33:05 Pacific Daylight Time

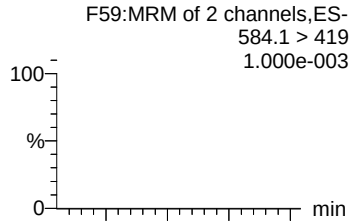
Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

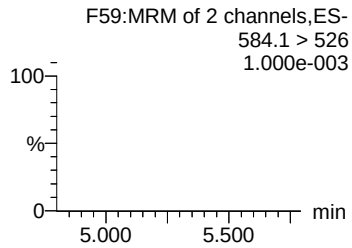
L-EtFOSAA





Total N-EtFOSAA





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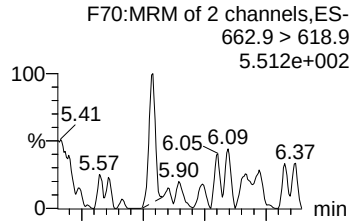
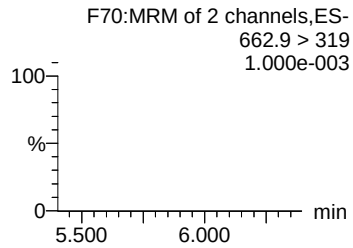
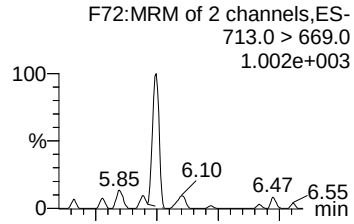
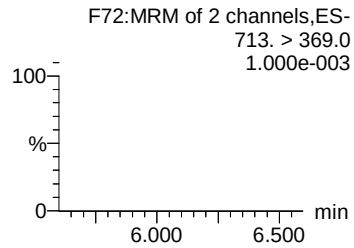


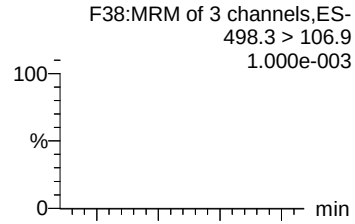


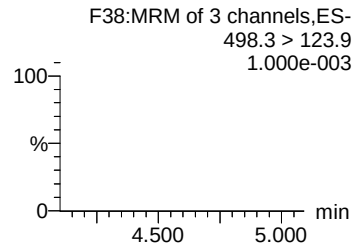
PFTeDA



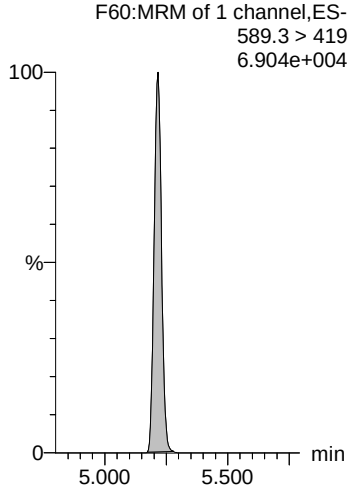


TDCA

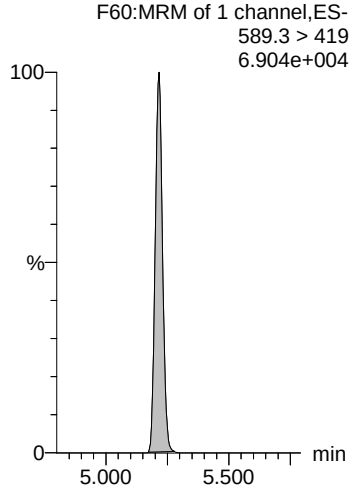




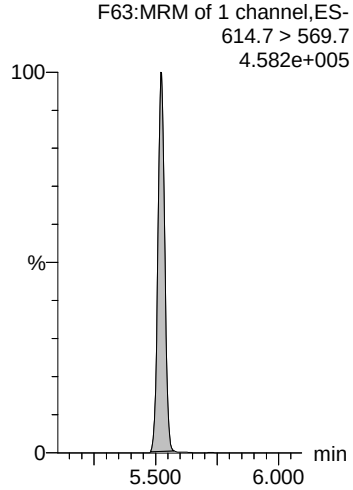
d5-N-EtFOSAA



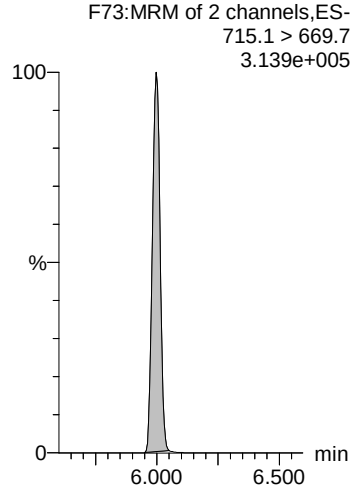
d5-N-EtFOSAA



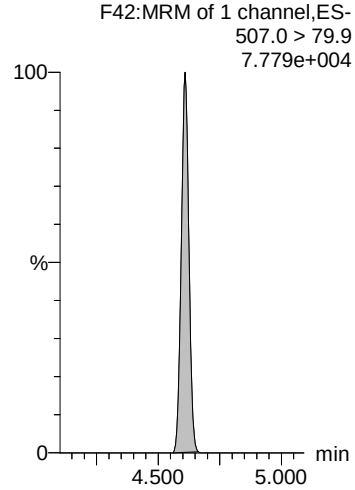
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



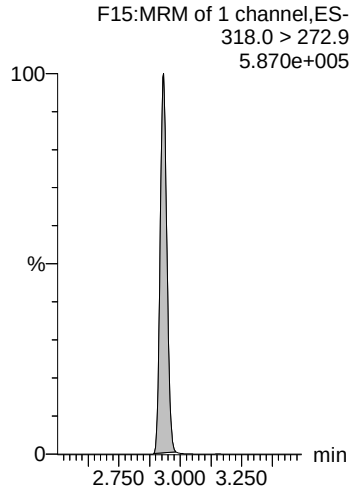
NY 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-32.qld

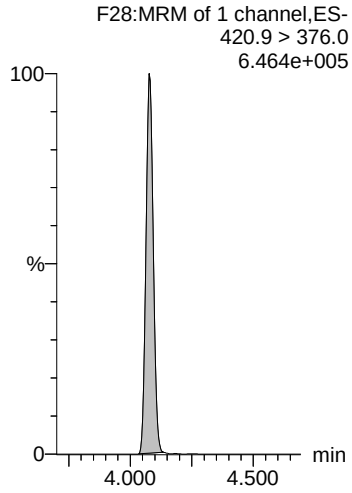
Last Altered: Tuesday, July 16, 2019 08:29:23 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:33:05 Pacific Daylight Time

Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

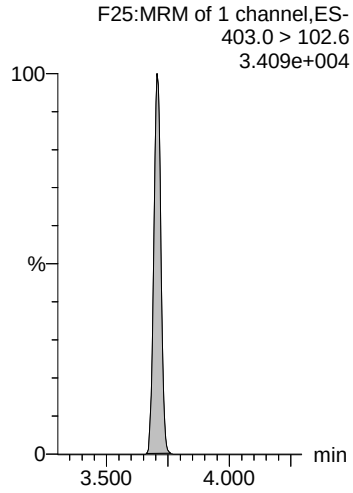
13C5-PFHxA



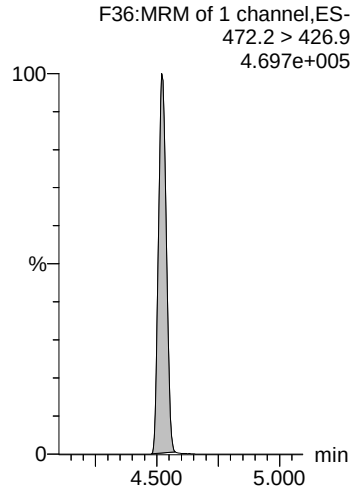
13C8-PFOA



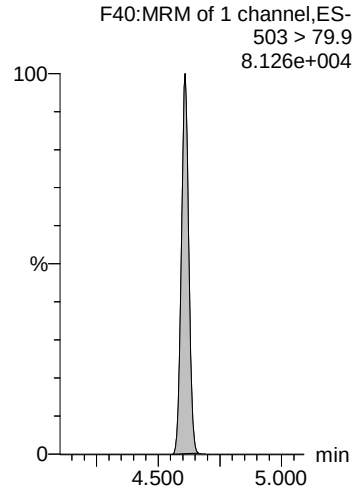
18O2-PFHxS



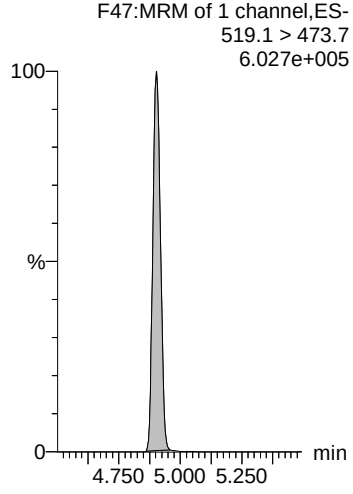
13C9-PFNA



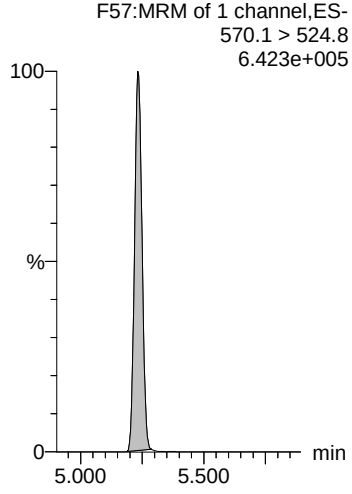
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-33.qld

Last Altered: Tuesday, July 16, 2019 08:43:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:46:50 Pacific Daylight Time

Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		1.18e3	0.998		2.42						
2	7	PFHxA	313.0 > 269.0		7.36e3	0.998		2.93						
3	11	PFHpA	363.0 > 318.9		9.64e3	0.998		3.55						
4	13	L-PFHxS	398.9 > 79.6	4.79e0	2.46e3	0.998		3.71	3.70	0.0243	0.0983		2.462	NO
5	80	Total PFHxS	398.9 > 79.6	4.79e0	2.46e3	0.998		3.83		0.0243	0.0983			
6	49	13C3-PFBS	302.0 > 98.8	1.18e3	1.12e3	0.998	1.073	2.41	2.42	13.2	12.2934	98.1		
7	52	13C2-PFHxA	315.0 > 270.0	7.36e3	2.00e4	0.998	1.009	2.92	2.93	4.59	4.5568	90.9		
8	53	13C4-PFHpA	367.2 > 321.8	9.64e3	2.00e4	0.998	0.512	3.54	3.55	6.01	11.7717	93.9		
9	54	13C3-PFHxS	401.8 > 79.9	2.46e3	1.12e3	0.998	2.197	3.70	3.71	27.5	12.5638	100.3		
10	54	13C3-PFHxS	401.8 > 79.9	2.46e3	1.12e3	0.998	2.197	3.70	3.71	27.5	12.5638	100.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	5.06e1	1.60e4	0.998		4.08	4.08	0.0396			7.498	YES
13	81	Total PFOA	412.8 > 368.9	5.06e1	1.60e4	0.998		4.21		0.000				
14	21	PFNA	463.0 > 418.8		1.48e4	0.998		4.52						
15	23	L-PFOS	498.9 > 79.9		2.57e3	0.998		4.61						
16	82	Total PFOS	498.9 > 79.9	0.00e0	2.57e3	0.998		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	1.60e4	2.32e4	0.998	0.789	4.07	4.08	8.59	10.9124	87.1		
18	58	13C2-PFOA	414.9 > 369.7	1.60e4	2.32e4	0.998	0.789	4.07	4.08	8.59	10.9124	87.1		
19	56	13C5-PFNA	468.2 > 422.9	1.48e4	1.81e4	0.998	0.991	4.52	4.52	10.2	10.3293	82.4		
20	59	13C8-PFOS	507.0 > 79.9	2.57e3	3.11e3	0.998	1.017	4.60	4.61	10.3	10.1876	81.3		
21	59	13C8-PFOS	507.0 > 79.9	2.57e3	3.11e3	0.998	1.017	4.60	4.61	10.3	10.1876	81.3		
22	-1													
23	26	PFDA	513 > 468.8		1.23e4	0.998		4.90						
24	29	L-MeFOSAA	570 > 419		2.03e3	0.998		5.06						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.03e3	0.998		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.57e4	0.998		5.23						
27	37	PFDoA	612.9 > 569.0		1.43e4	0.998		5.52						
28	60	13C2-PFDA	515.1 > 469.9	1.23e4	2.13e4	0.998	0.808	4.90	4.90	7.21	8.9384	71.3		
29	62	d3-N-MeFOSAA	573.3 > 419	2.03e3	2.31e4	0.998	0.140	5.05	5.06	1.09	7.8558	62.7		
30	62	d3-N-MeFOSAA	573.3 > 419	2.03e3	2.31e4	0.998	0.140	5.05	5.06	1.09	7.8558	62.7		
31	63	13C2-PFUdA	565 > 519.8	1.57e4	2.31e4	0.998	1.051	5.23	5.23	8.45	8.0661	64.4		
32	65	13C2-PFDoA	614.7 > 569.7	1.43e4	2.13e4	0.998	1.041	5.52	5.52	8.38	8.0667	64.4		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.28e3	0.998		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.28e3	0.998		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.43e4	0.998		5.78						

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-33.qld

Last Altered: Tuesday, July 16, 2019 08:43:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:46:50 Pacific Daylight Time

Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		1.14e4	0.998		6.00						
38	85	TDCA	498.3>106.9			0.998		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.28e3	2.31e4	0.998	0.168	5.21	5.22	1.23	7.3748	58.9		
40	64	d5-N-EtFOSAA	589.3 > 419	2.28e3	2.31e4	0.998	0.168	5.21	5.22	1.23	7.3748	58.9		
41	65	13C2-PFDoA	614.7 > 569.7	1.43e4	2.13e4	0.998	1.041	5.52	5.52	8.38	8.0667	64.4		
42	67	13C2-PFTeDA	715.1 > 669.7	1.14e4	2.31e4	0.998	0.690	5.99	6.00	6.15	8.9336	71.3		
43	59	13C8-PFOS	507.0 > 79.9	2.57e3	3.11e3	0.998	1.017	4.60	4.61	10.3	10.1876	81.3		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.00e4	2.00e4	0.998	1.000	2.92	2.93	12.5	12.5298	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.32e4	2.32e4	0.998	1.000	4.07	4.08	12.5	12.5298	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.12e3	1.12e3	0.998	1.000	3.70	3.71	12.5	12.5298	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.81e4	1.81e4	0.998	1.000	4.52	4.52	12.5	12.5298	100.0		
49	77	13C4-PFOS	503 > 79.9	3.11e3	3.11e3	0.998	1.000	4.61	4.61	12.5	12.5298	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.13e4	2.13e4	0.998	1.000	4.89	4.90	12.5	12.5298	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.31e4	2.31e4	0.998	1.000	5.23	5.23	12.5	12.5298	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

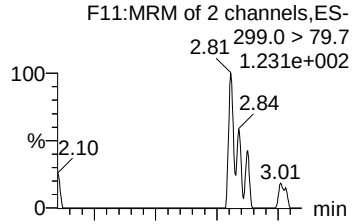
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-33.qld

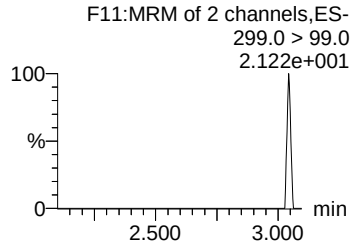
Last Altered: Tuesday, July 16, 2019 08:43:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:46:50 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

PFBS





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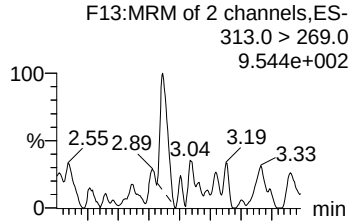

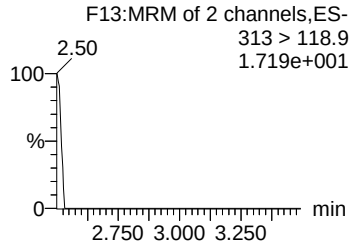

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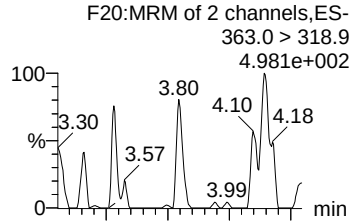

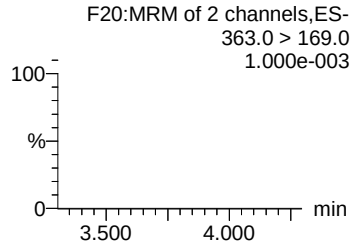

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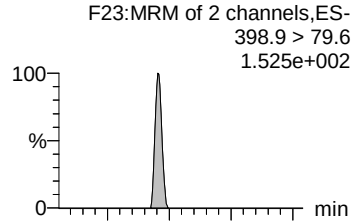

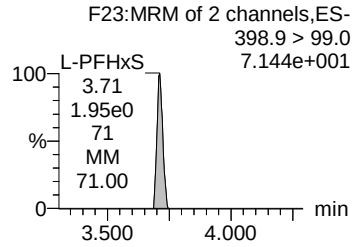

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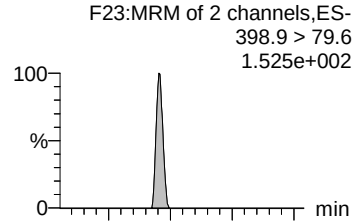

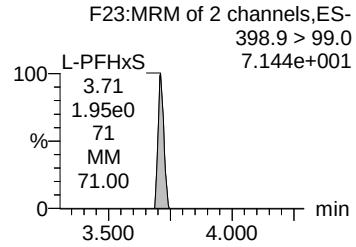

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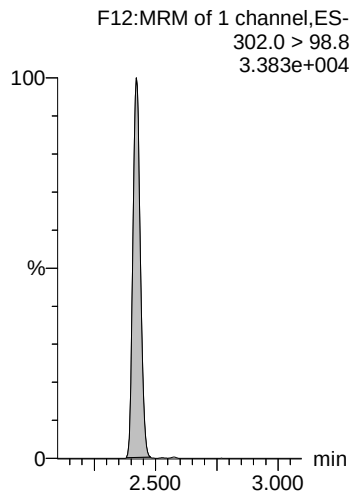

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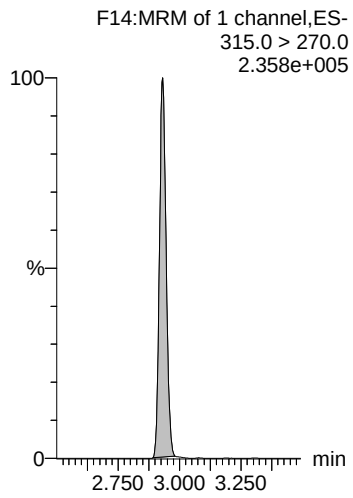

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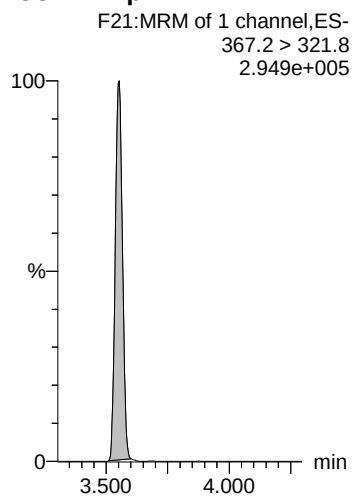

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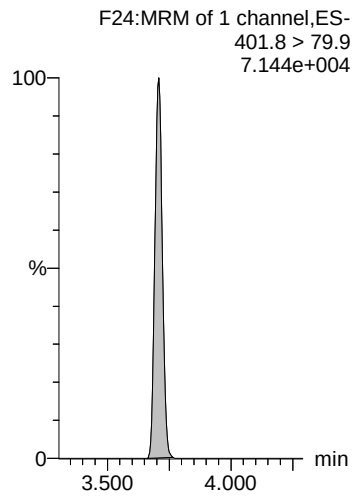

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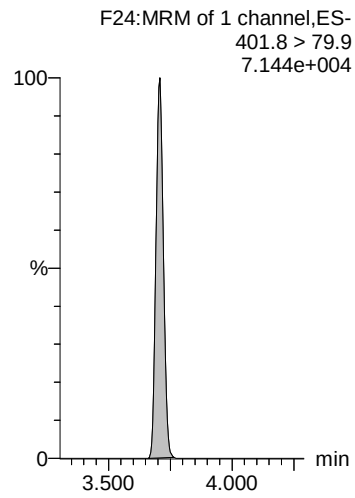


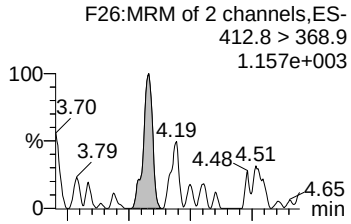
NY 7/16/2019

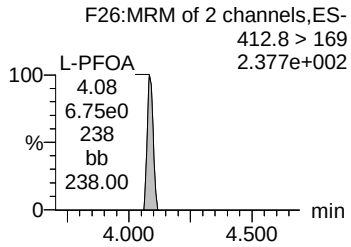
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-33.qld

Last Altered: Tuesday, July 16, 2019 08:43:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:46:50 Pacific Daylight Time

Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

L-PFOA





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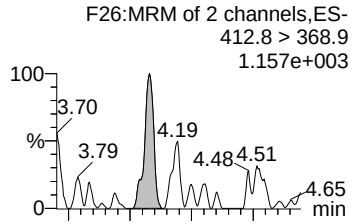

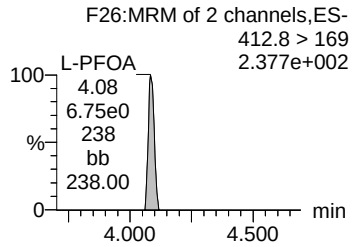

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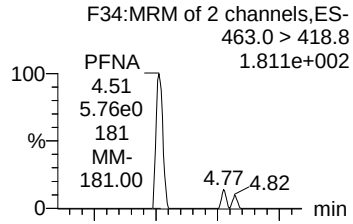
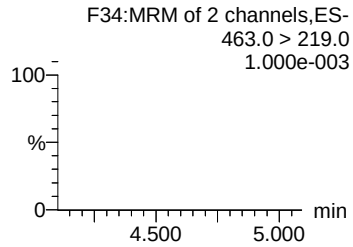
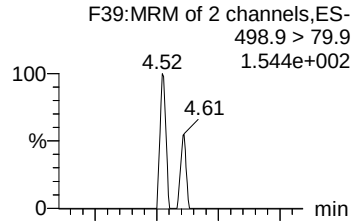
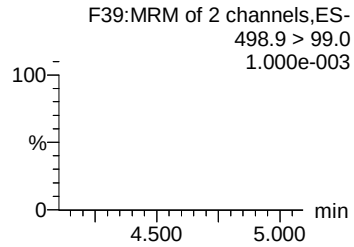


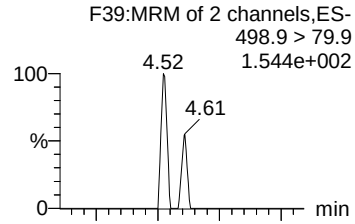


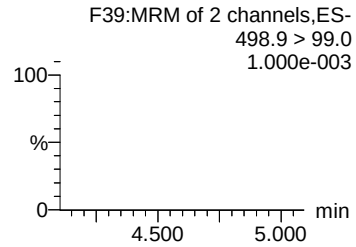
L-PFOS





Total PFOS





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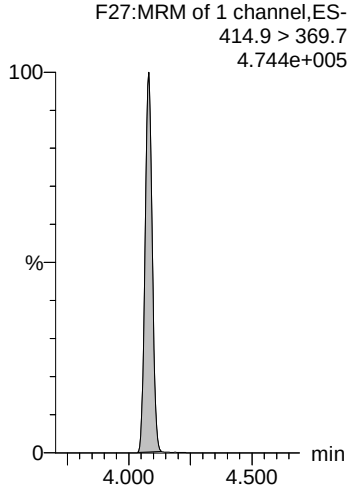

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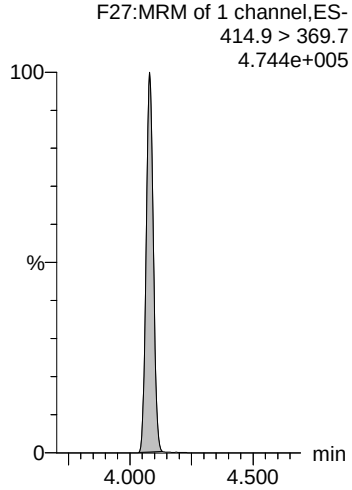

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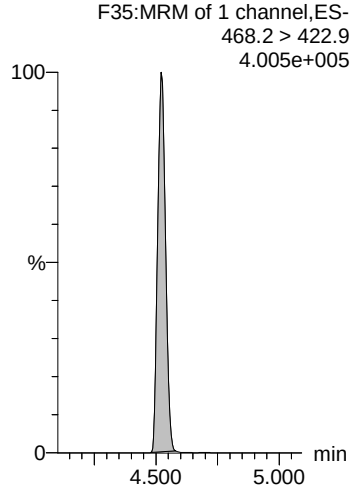

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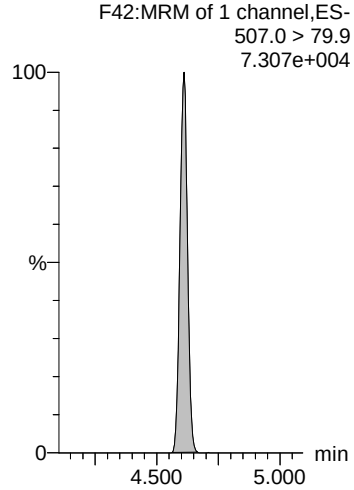

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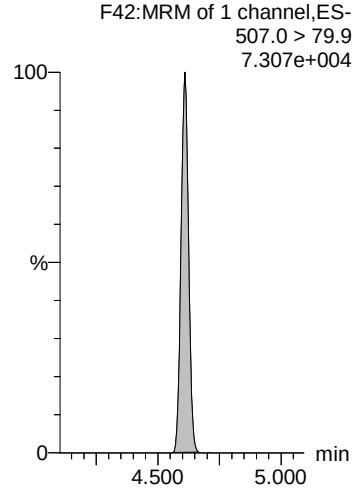
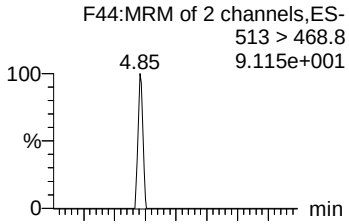


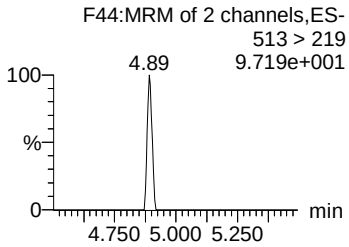
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-33.qld

Last Altered: Tuesday, July 16, 2019 08:43:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:46:50 Pacific Daylight Time

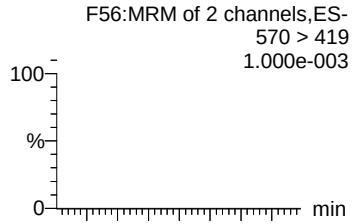
Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

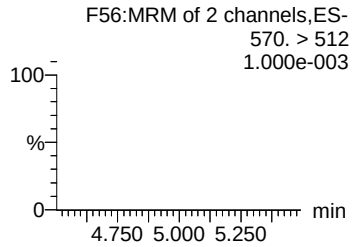
PFDA



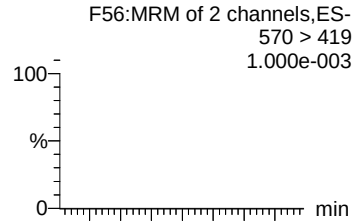


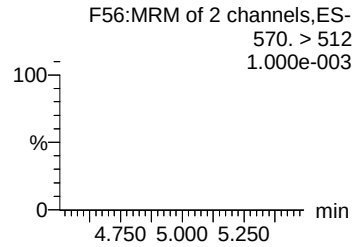
L-MeFOSAA





Total N-MeFOSAA





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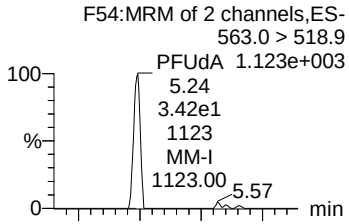
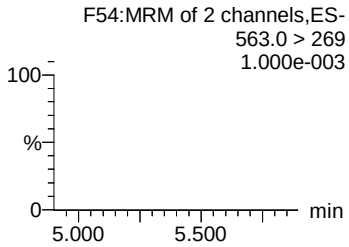
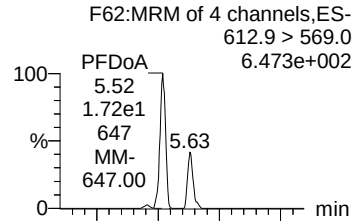
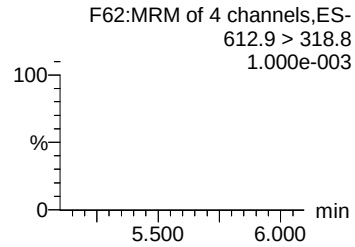


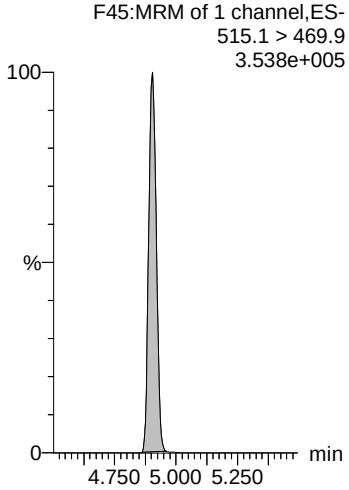


PFDoA

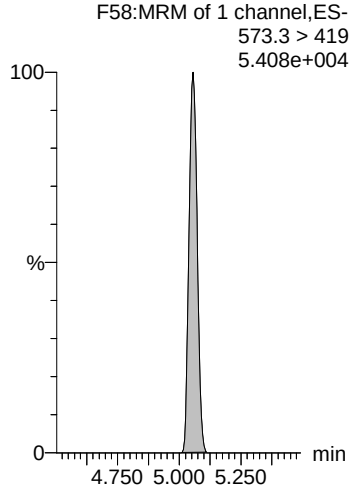




13C2-PFDA



d3-N-MeFOSAA



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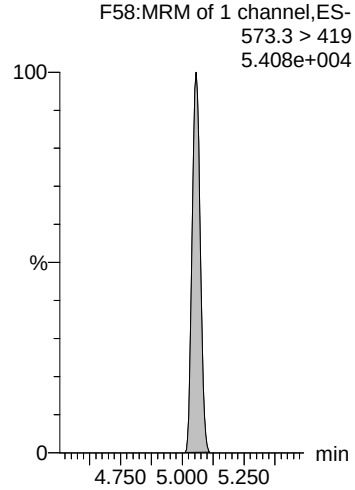
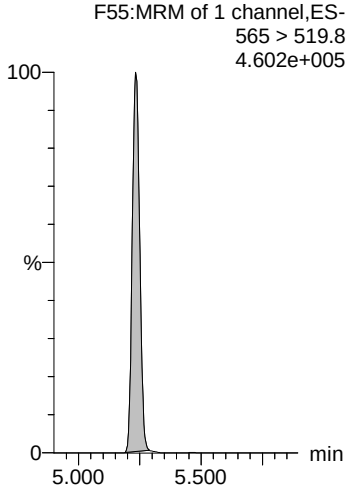


13C2-PFUdA



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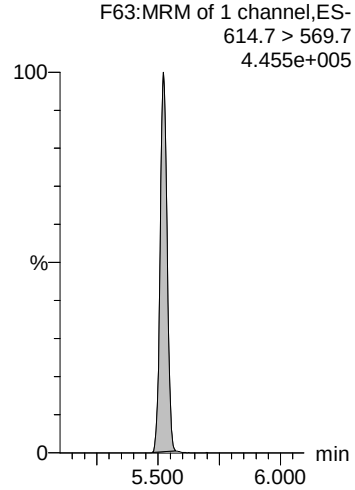


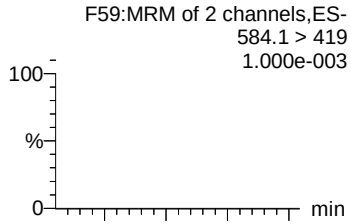
Review: AMR 7/16/2019

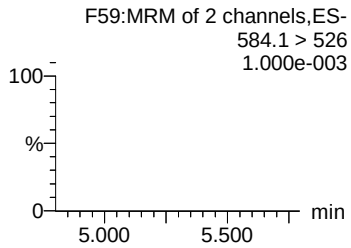
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-33.qld

Last Altered: Tuesday, July 16, 2019 08:43:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:46:50 Pacific Daylight Time

Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

L-EtFOSAA





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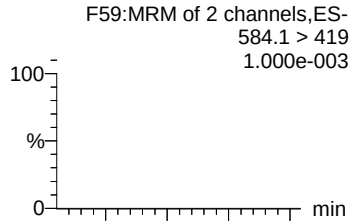
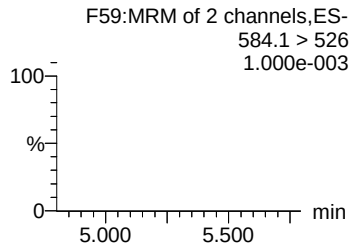
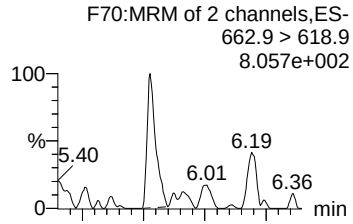
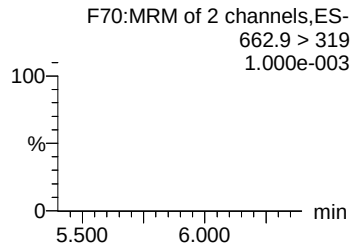


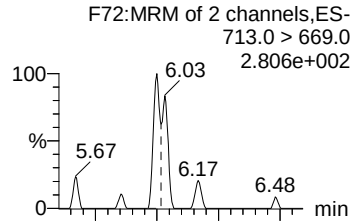


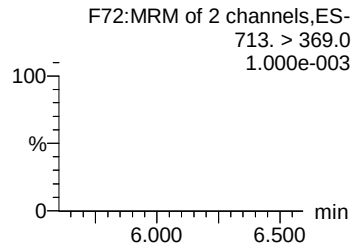
PFTrDA



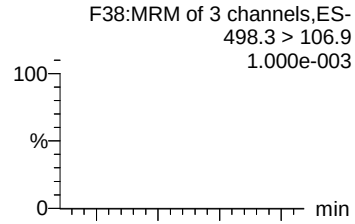


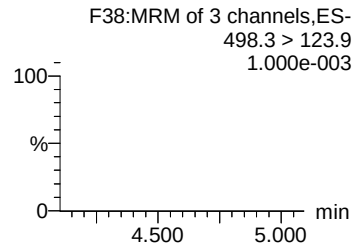
PFTeDA



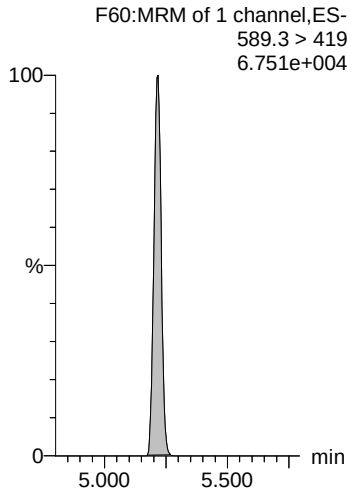


TDCA





d5-N-EtFOSAA



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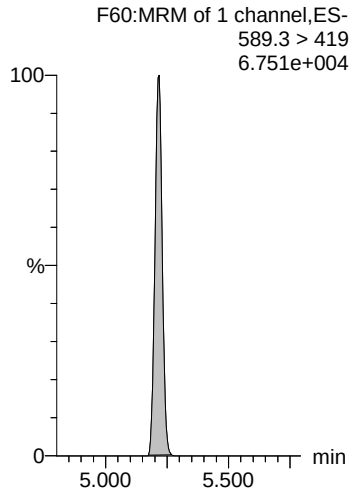
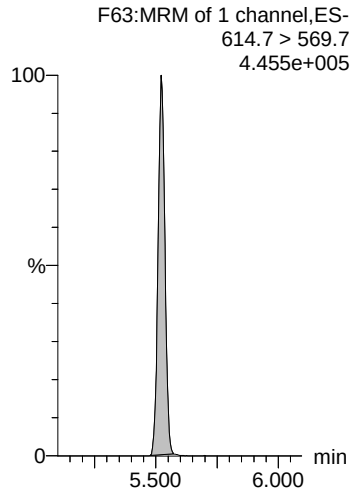
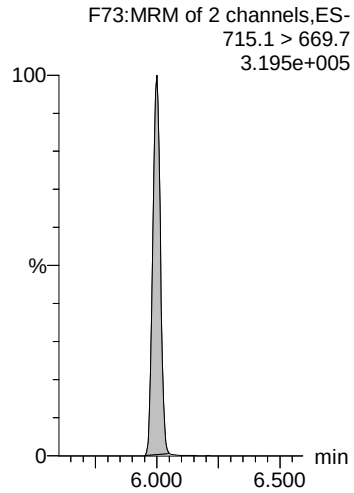


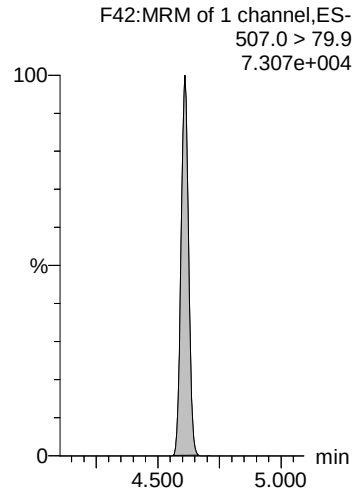
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



NY 7/16/2019

Vista Analytical Laboratory L14

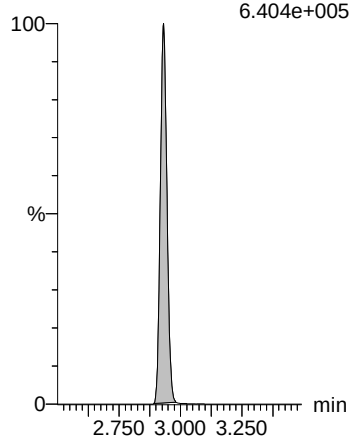
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-33.qld

Last Altered: Tuesday, July 16, 2019 08:43:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:46:50 Pacific Daylight Time

Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

13C5-PFHxA



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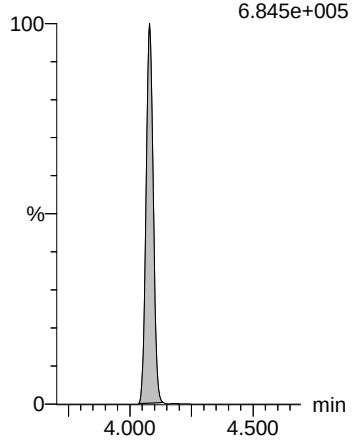

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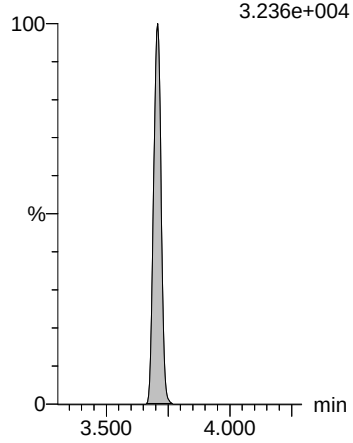
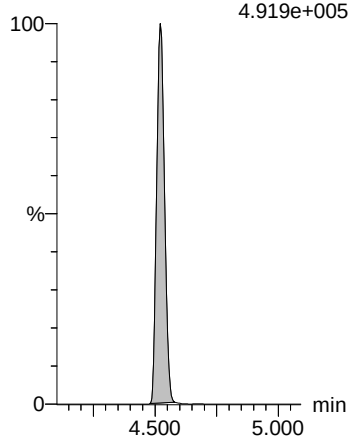
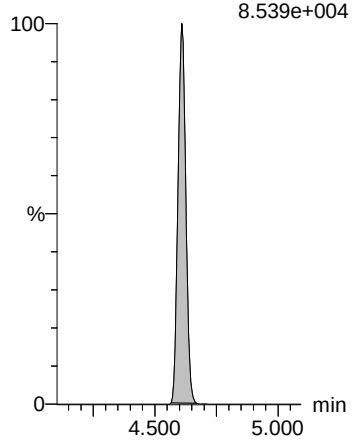


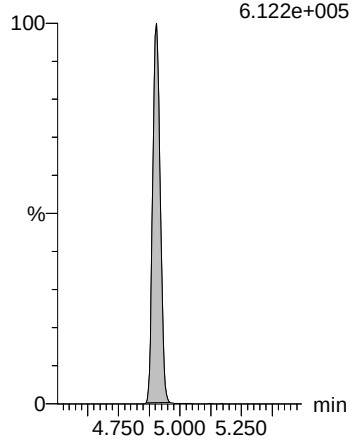
13C9-PFNA



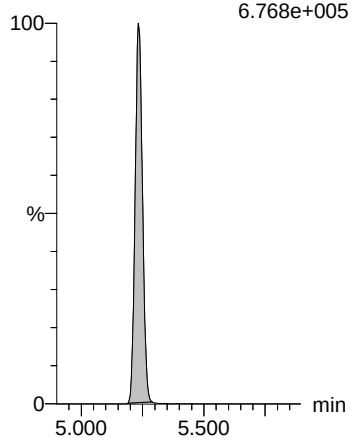
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-37.qld

Last Altered: Tuesday, July 16, 2019 08:56:44 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:59:24 Pacific Daylight Time

Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.54e2	9.77e2	1.05		2.42	2.42	1.97	0.8530		2.874	NO
2	7	PFHxA	313.0 > 269.0	1.27e4	6.27e3	1.05		2.93	2.93	10.1	10.9600		16.366	NO
3	11	PFHpA	363.0 > 318.9	1.02e3	8.20e3	1.05		3.55	3.55	1.56	1.1602		13.084	NO
4	13	L-PFHxS	398.9 > 79.6	1.23e3	2.06e3	1.05		3.71	3.71	7.47	7.5362		1.717	NO
5	80	Total PFHxS	398.9 > 79.6	1.23e3	2.06e3	1.05		3.83		7.47	7.5362			
6	49	13C3-PFBS	302.0 > 98.8	9.77e2	9.74e2	1.05	1.073	2.41	2.42	12.5	11.1062	93.5		
7	52	13C2-PFHxA	315.0 > 270.0	6.27e3	1.60e4	1.05	1.009	2.92	2.93	4.91	4.6233	97.3		
8	53	13C4-PFHpA	367.2 > 321.8	8.20e3	1.60e4	1.05	0.512	3.54	3.55	6.42	11.9203	100.4		
9	54	13C3-PFHxS	401.8 > 79.9	2.06e3	9.74e2	1.05	2.197	3.70	3.71	26.5	11.4623	96.5		
10	54	13C3-PFHxS	401.8 > 79.9	2.06e3	9.74e2	1.05	2.197	3.70	3.71	26.5	11.4623	96.5		
11	-1													
12	16	L-PFOA	412.8 > 368.9	4.19e3	1.36e4	1.05		4.08	4.08	3.86	2.6369		3.349	NO
13	81	Total PFOA	412.8 > 368.9	4.19e3	1.36e4	1.05		4.21		3.86	2.6369			
14	21	PFNA	463.0 > 418.8	1.10e2	1.23e4	1.05		4.52	4.53	0.112	0.1002		19.525	YES
15	23	L-PFOS	498.9 > 79.9	2.95e3	2.21e3	1.05		4.61	4.61	16.7	14.3481		2.006	NO
16	82	Total PFOS	498.9 > 79.9	2.95e3	2.21e3	1.05		4.74		16.7	14.3481			
17	58	13C2-PFOA	414.9 > 369.7	1.36e4	1.76e4	1.05	0.789	4.07	4.08	9.64	11.6031	97.7		
18	58	13C2-PFOA	414.9 > 369.7	1.36e4	1.76e4	1.05	0.789	4.07	4.08	9.64	11.6031	97.7		
19	56	13C5-PFNA	468.2 > 422.9	1.23e4	1.41e4	1.05	0.991	4.52	4.52	10.9	10.4124	87.7		
20	59	13C8-PFOS	507.0 > 79.9	2.21e3	2.44e3	1.05	1.017	4.60	4.61	11.3	10.5628	88.9		
21	59	13C8-PFOS	507.0 > 79.9	2.21e3	2.44e3	1.05	1.017	4.60	4.61	11.3	10.5628	88.9		
22	-1													
23	26	PFDA	513 > 468.8		1.05e4	1.05		4.90						
24	29	L-MeFOSAA	570 > 419		1.57e3	1.05		5.06						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.57e3	1.05		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.19e4	1.05		5.23						
27	37	PFDoA	612.9 > 569.0		1.07e4	1.05		5.52						
28	60	13C2-PFDA	515.1 > 469.9	1.05e4	1.75e4	1.05	0.808	4.90	4.90	7.51	8.8364	74.4		
29	62	d3-N-MeFOSAA	573.3 > 419	1.57e3	1.88e4	1.05	0.140	5.05	5.06	1.05	7.1253	60.0		
30	62	d3-N-MeFOSAA	573.3 > 419	1.57e3	1.88e4	1.05	0.140	5.05	5.06	1.05	7.1253	60.0		
31	63	13C2-PFUdA	565 > 519.8	1.19e4	1.88e4	1.05	1.051	5.23	5.23	7.95	7.1885	60.5		
32	65	13C2-PFDoA	614.7 > 569.7	1.07e4	1.75e4	1.05	1.041	5.52	5.52	7.67	7.0012	58.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.98e3	1.05		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.98e3	1.05		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.07e4	1.05		5.78						

NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-37.qld

Last Altered: Tuesday, July 16, 2019 08:56:44 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:59:24 Pacific Daylight Time

Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		9.02e3	1.05		6.00						
38	85	TDCA	498.3>106.9			1.05		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.98e3	1.88e4	1.05	0.168	5.21	5.22	1.32	7.4756	62.9		
40	64	d5-N-EtFOSAA	589.3 > 419	1.98e3	1.88e4	1.05	0.168	5.21	5.22	1.32	7.4756	62.9		
41	65	13C2-PFDoA	614.7 > 569.7	1.07e4	1.75e4	1.05	1.041	5.52	5.52	7.67	7.0012	58.9		
42	67	13C2-PFTeDA	715.1 > 669.7	9.02e3	1.88e4	1.05	0.690	5.99	6.00	6.01	8.2792	69.7		
43	59	13C8-PFOS	507.0 > 79.9	2.21e3	2.44e3	1.05	1.017	4.60	4.61	11.3	10.5628	88.9		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.60e4	1.60e4	1.05	1.000	2.92	2.93	12.5	11.8769	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.76e4	1.76e4	1.05	1.000	4.07	4.08	12.5	11.8769	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	9.74e2	9.74e2	1.05	1.000	3.70	3.71	12.5	11.8769	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.41e4	1.41e4	1.05	1.000	4.52	4.52	12.5	11.8769	100.0		
49	77	13C4-PFOS	503 > 79.9	2.44e3	2.44e3	1.05	1.000	4.61	4.61	12.5	11.8769	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.75e4	1.75e4	1.05	1.000	4.89	4.90	12.5	11.8769	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.88e4	1.88e4	1.05	1.000	5.23	5.23	12.5	11.8769	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

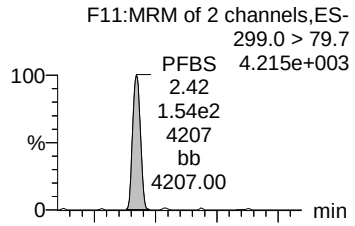
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-37.qld

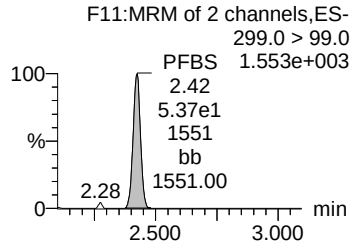
Last Altered: Tuesday, July 16, 2019 08:56:44 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:59:24 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

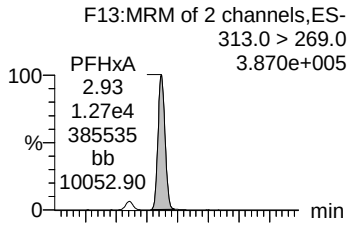
Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

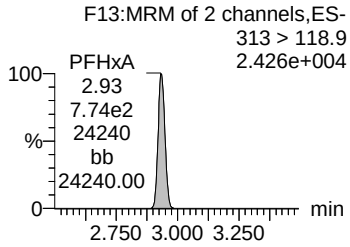
PFBS





PFHxA





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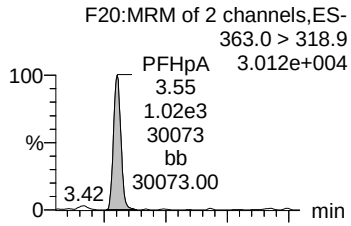
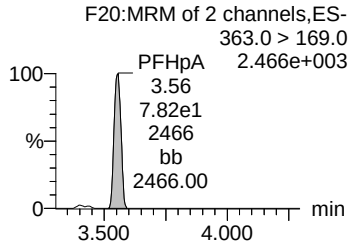
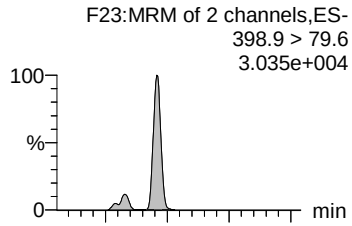
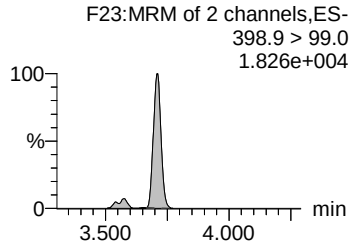


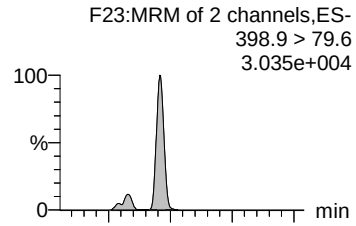


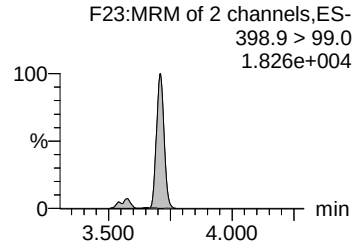
L-PFHxS



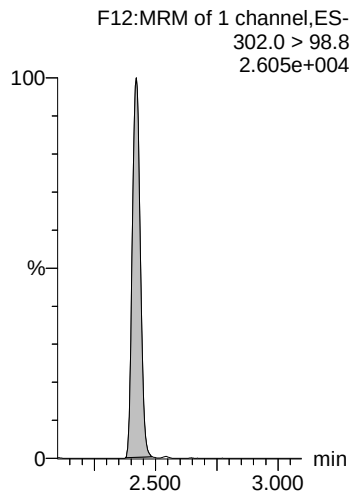


Total PFHxS





13C3-PFBS



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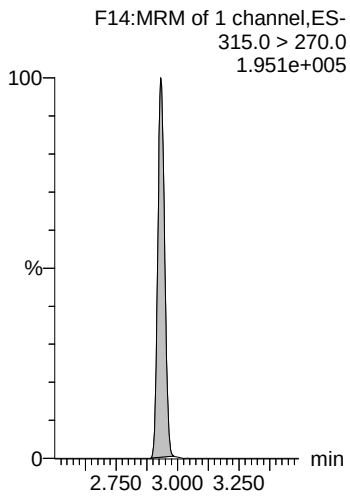

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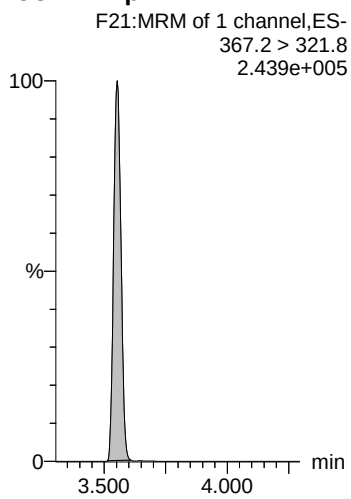

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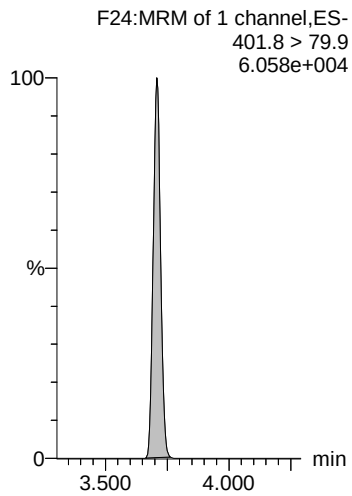

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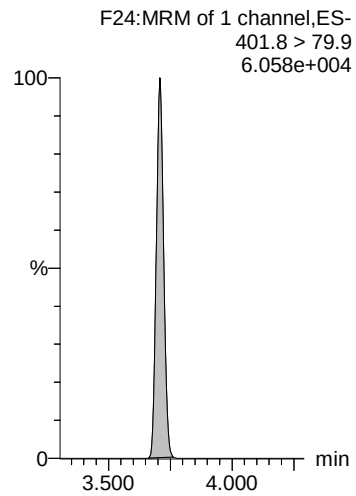


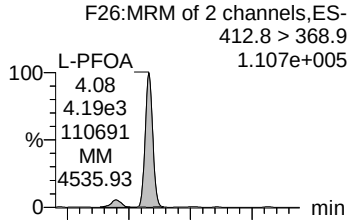
Review: AMR 7/16/2019

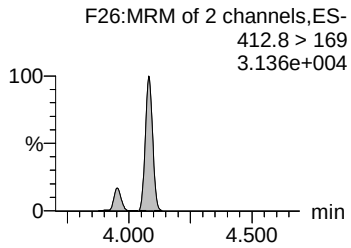
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-37.qld

Last Altered: Tuesday, July 16, 2019 08:56:44 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:59:24 Pacific Daylight Time

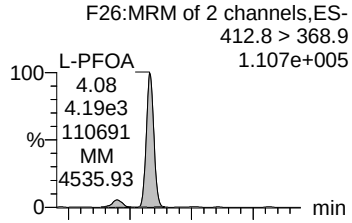
Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

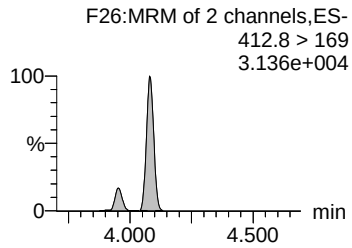
L-PFOA





Total PFOA





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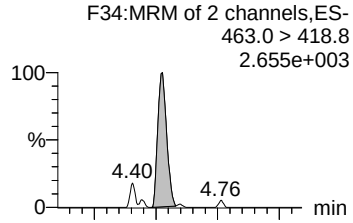
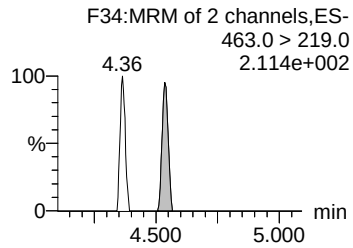
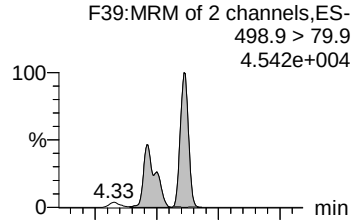
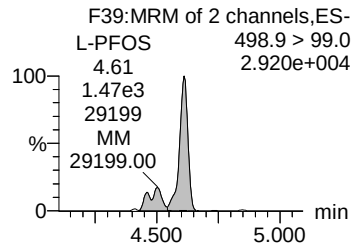


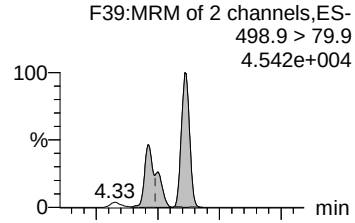


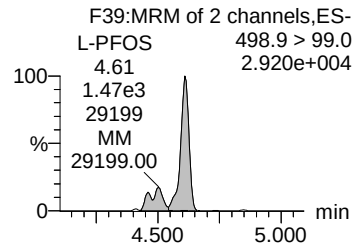
L-PFOS





Total PFOS





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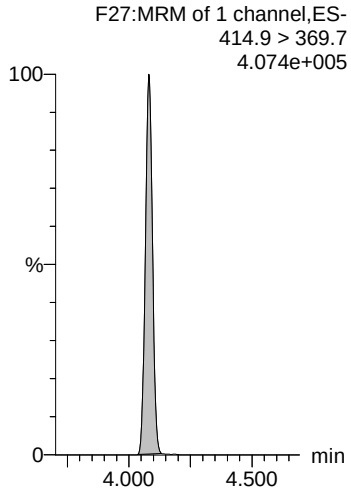

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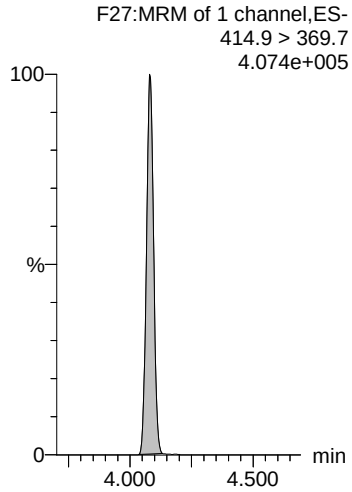
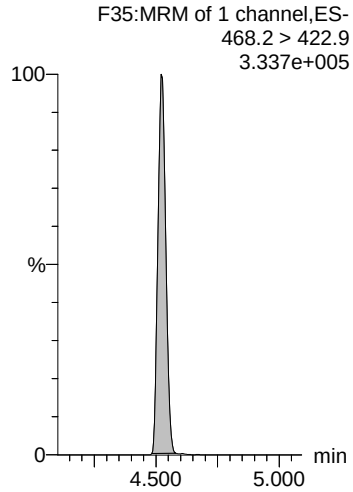
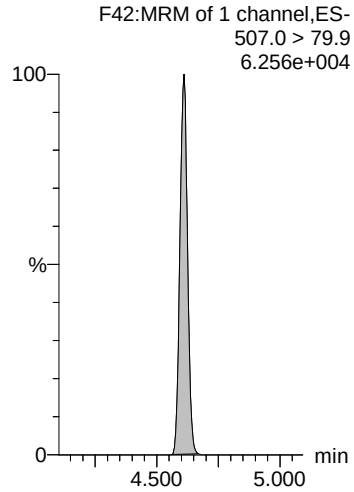


13C5-PFNA



13C8-PFOS



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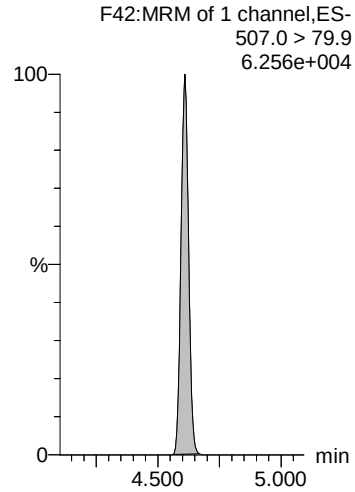


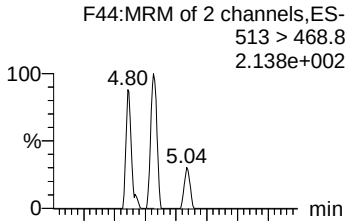
NY 7/16/2019

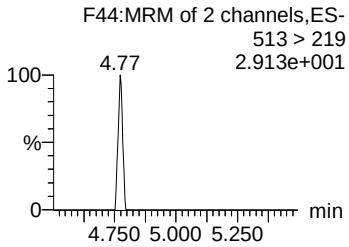
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-37.qld

Last Altered: Tuesday, July 16, 2019 08:56:44 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:59:24 Pacific Daylight Time

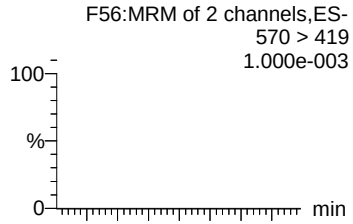
Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

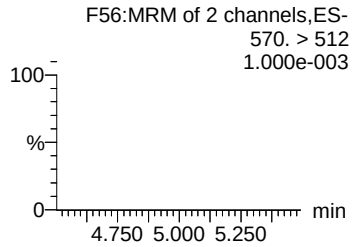
PFDA



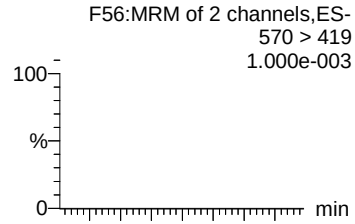


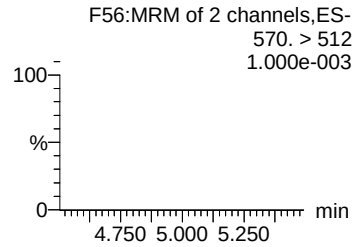
L-MeFOSAA





Total N-MeFOSAA





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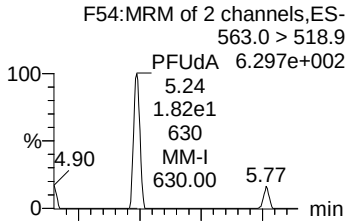
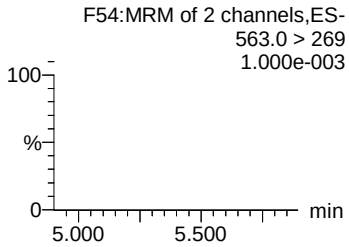
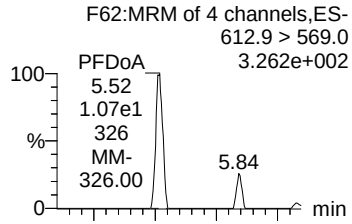
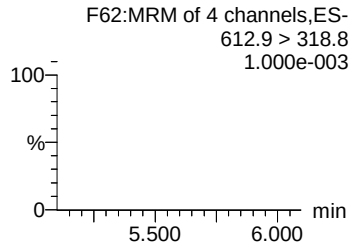


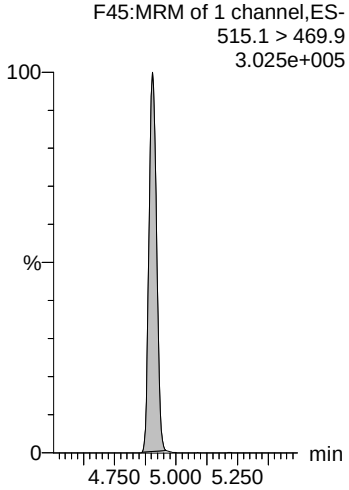


PFDoA

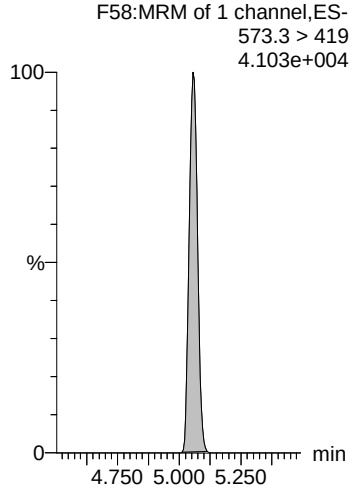




13C2-PFDA



d3-N-MeFOSAA



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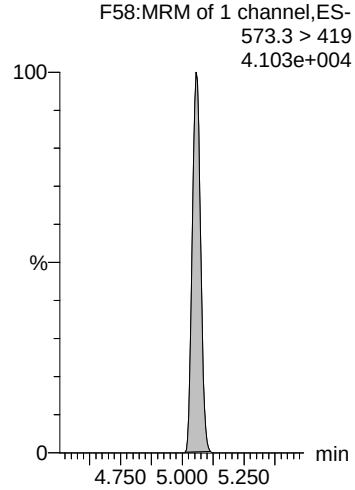

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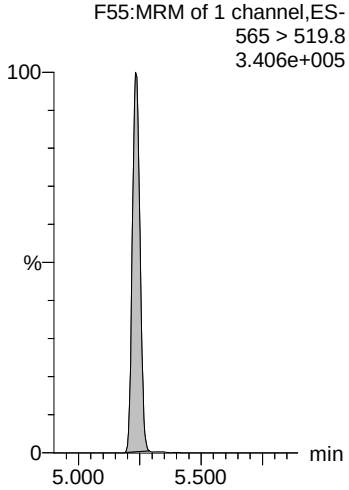
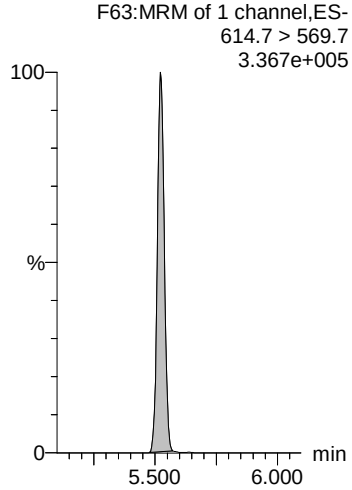


13C2-PFDoA

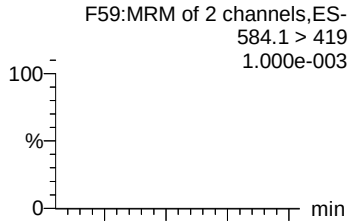


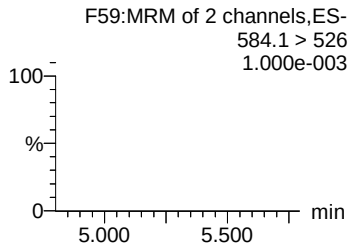
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-37.qld

Last Altered: Tuesday, July 16, 2019 08:56:44 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:59:24 Pacific Daylight Time

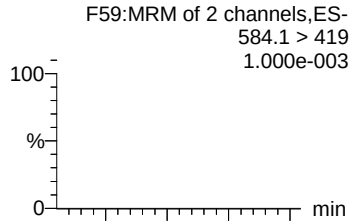
Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

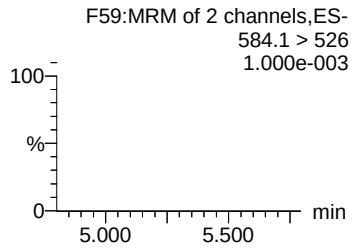
L-EtFOSAA





Total N-EtFOSAA





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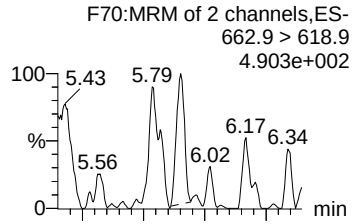

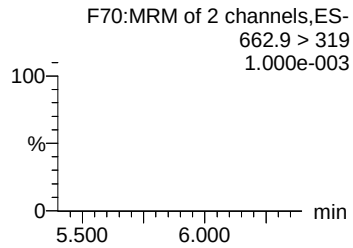

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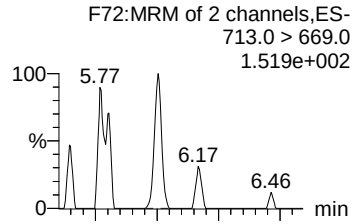

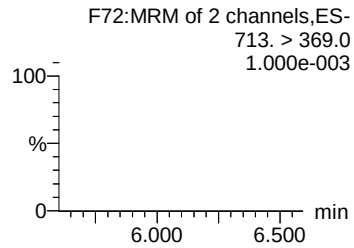

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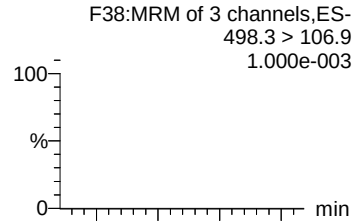
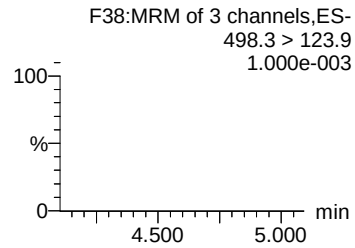
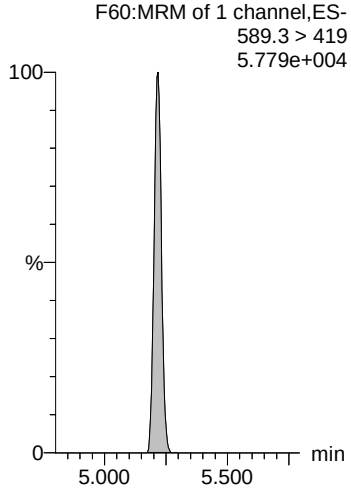
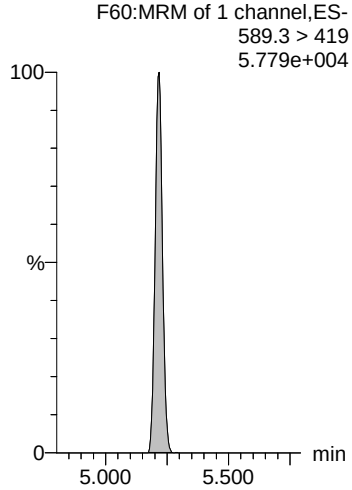




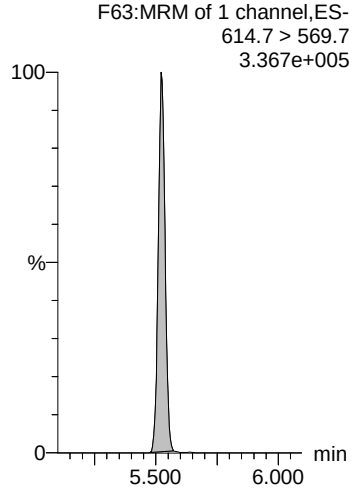
d5-N-EtFOSAA



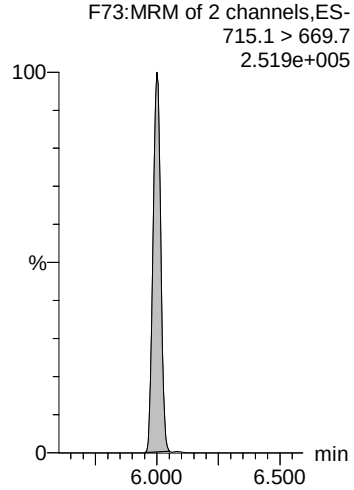
d5-N-EtFOSAA



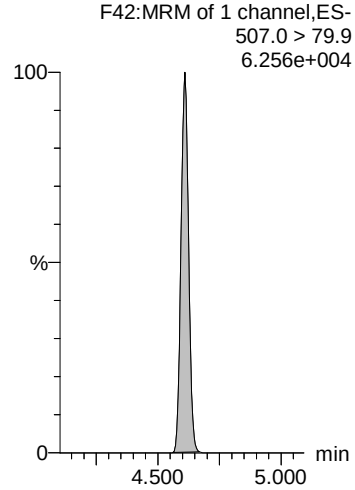
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



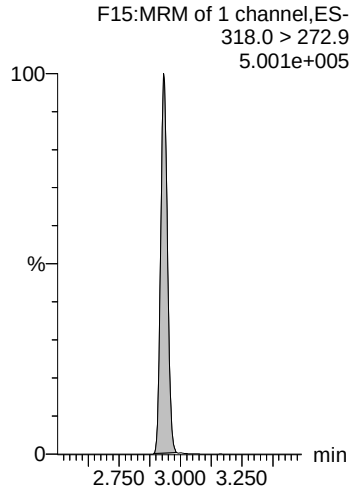
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-37.qld

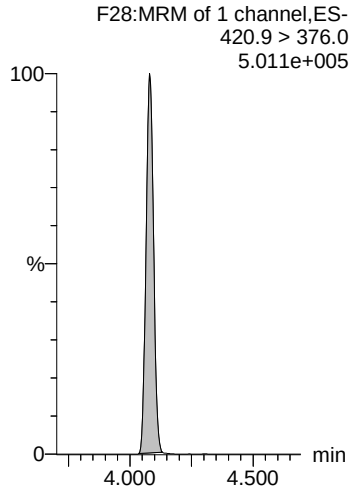
Last Altered: Tuesday, July 16, 2019 08:56:44 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:59:24 Pacific Daylight Time

Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

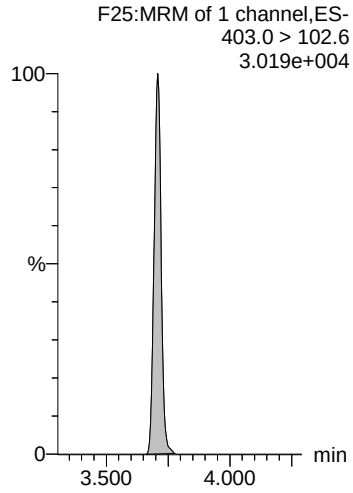
13C5-PFHxA



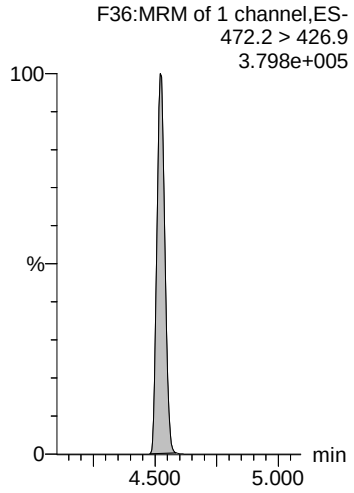
13C8-PFOA



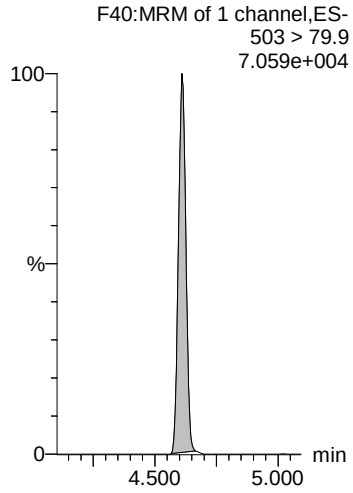
18O2-PFHxS



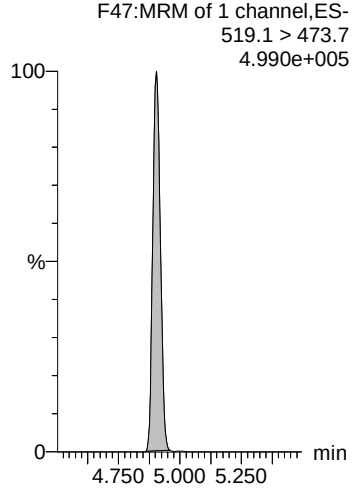
13C9-PFNA



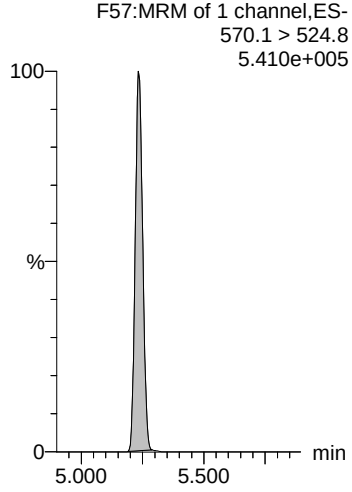
13C4-PFOS



13C6-PFDA



13C7-PFUdA



NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-38.qld

Last Altered: Tuesday, July 16, 2019 09:20:08 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:22:38 Pacific Daylight Time

Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		9.98e2	1.05		2.42						
2	7	PFHxA	313.0 > 269.0	1.63e2	6.34e3	1.05		2.93	2.93	0.128	0.1104		47.460	YES
3	11	PFHpA	363.0 > 318.9	4.01e1	7.83e3	1.05		3.55	3.55	0.0641	0.0768		39.701	YES
4	13	L-PFHxS	398.9 > 79.6	3.59e1	2.02e3	1.05		3.71	3.71	0.222	0.2924		9.591	YES
5	80	Total PFHxS	398.9 > 79.6	3.59e1	2.02e3	1.05		3.83		0.222	0.2924			
6	49	13C3-PFBS	302.0 > 98.8	9.98e2	1.02e3	1.05	1.073	2.41	2.42	12.2	10.8927	91.3		
7	52	13C2-PFHxA	315.0 > 270.0	6.34e3	1.76e4	1.05	1.009	2.92	2.93	4.50	4.2593	89.3		
8	53	13C4-PFHpA	367.2 > 321.8	7.83e3	1.76e4	1.05	0.512	3.54	3.55	5.56	10.3637	86.9		
9	54	13C3-PFHxS	401.8 > 79.9	2.02e3	1.02e3	1.05	2.197	3.70	3.71	24.8	10.7864	90.4		
10	54	13C3-PFHxS	401.8 > 79.9	2.02e3	1.02e3	1.05	2.197	3.70	3.71	24.8	10.7864	90.4		
11	-1													
12	16	L-PFOA	412.8 > 368.9	9.45e1	1.36e4	1.05		4.08	4.08	0.0867	0.0090		3.593	NO
13	81	Total PFOA	412.8 > 368.9	9.45e1	1.36e4	1.05		4.21		0.0867	0.0090			
14	21	PFNA	463.0 > 418.8		1.22e4	1.05		4.52						
15	23	L-PFOS	498.9 > 79.9	4.56e1	2.23e3	1.05		4.61	4.61	0.256	0.3565		1.126	NO
16	82	Total PFOS	498.9 > 79.9	4.56e1	2.23e3	1.05		4.74		0.256	0.3565			
17	58	13C2-PFOA	414.9 > 369.7	1.36e4	2.00e4	1.05	0.789	4.07	4.08	8.51	10.2902	86.3		
18	58	13C2-PFOA	414.9 > 369.7	1.36e4	2.00e4	1.05	0.789	4.07	4.08	8.51	10.2902	86.3		
19	56	13C5-PFNA	468.2 > 422.9	1.22e4	1.59e4	1.05	0.991	4.52	4.52	9.65	9.2970	77.9		
20	59	13C8-PFOS	507.0 > 79.9	2.23e3	2.82e3	1.05	1.017	4.60	4.61	9.87	9.2617	77.6		
21	59	13C8-PFOS	507.0 > 79.9	2.23e3	2.82e3	1.05	1.017	4.60	4.61	9.87	9.2617	77.6		
22	-1													
23	26	PFDA	513 > 468.8		1.03e4	1.05		4.90						
24	29	L-MeFOSAA	570 > 419		1.81e3	1.05		5.05						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.81e3	1.05		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.28e4	1.05		5.23						
27	37	PFDoA	612.9 > 569.0		1.20e4	1.05		5.52						
28	60	13C2-PFDA	515.1 > 469.9	1.03e4	1.93e4	1.05	0.808	4.90	4.90	6.71	7.9264	66.4		
29	62	d3-N-MeFOSAA	573.3 > 419	1.81e3	2.08e4	1.05	0.140	5.05	5.05	1.09	7.4366	62.3		
30	62	d3-N-MeFOSAA	573.3 > 419	1.81e3	2.08e4	1.05	0.140	5.05	5.05	1.09	7.4366	62.3		
31	63	13C2-PFUdA	565 > 519.8	1.28e4	2.08e4	1.05	1.051	5.23	5.23	7.71	7.0027	58.7		
32	65	13C2-PFDoA	614.7 > 569.7	1.20e4	1.93e4	1.05	1.041	5.52	5.52	7.79	7.1403	59.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.21e3	1.05		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.21e3	1.05		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.20e4	1.05		5.77						

NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-38.qld

Last Altered: Tuesday, July 16, 2019 09:20:08 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:22:38 Pacific Daylight Time

Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		1.08e4	1.05		6.00						
38	85	TDCA	498.3>106.9			1.05		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.21e3	2.08e4	1.05	0.168	5.21	5.22	1.33	7.5563	63.3		
40	64	d5-N-EtFOSAA	589.3 > 419	2.21e3	2.08e4	1.05	0.168	5.21	5.22	1.33	7.5563	63.3		
41	65	13C2-PFDoA	614.7 > 569.7	1.20e4	1.93e4	1.05	1.041	5.52	5.52	7.79	7.1403	59.9		
42	67	13C2-PFTeDA	715.1 > 669.7	1.08e4	2.08e4	1.05	0.690	5.99	6.00	6.47	8.9524	75.0		
43	59	13C8-PFOS	507.0 > 79.9	2.23e3	2.82e3	1.05	1.017	4.60	4.61	9.87	9.2617	77.6		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.76e4	1.76e4	1.05	1.000	2.92	2.93	12.5	11.9289	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.00e4	2.00e4	1.05	1.000	4.07	4.08	12.5	11.9289	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.02e3	1.02e3	1.05	1.000	3.70	3.71	12.5	11.9289	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.59e4	1.59e4	1.05	1.000	4.52	4.52	12.5	11.9289	100.0		
49	77	13C4-PFOS	503 > 79.9	2.82e3	2.82e3	1.05	1.000	4.61	4.61	12.5	11.9289	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.93e4	1.93e4	1.05	1.000	4.89	4.90	12.5	11.9289	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.08e4	2.08e4	1.05	1.000	5.23	5.23	12.5	11.9289	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

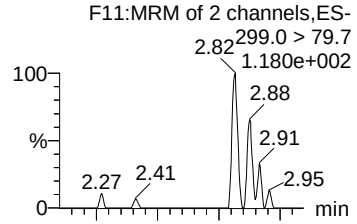
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-38.qld

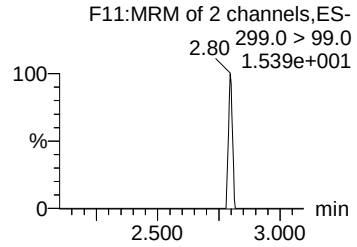
Last Altered: Tuesday, July 16, 2019 09:20:08 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:22:38 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

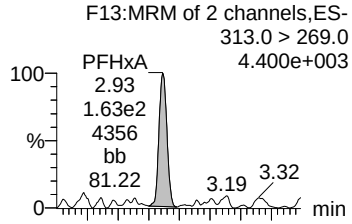
Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

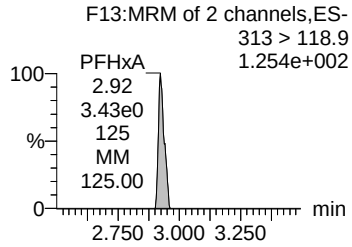
PFBS



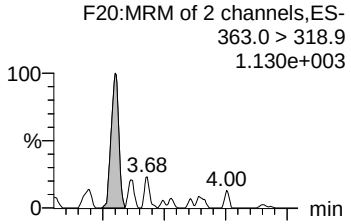


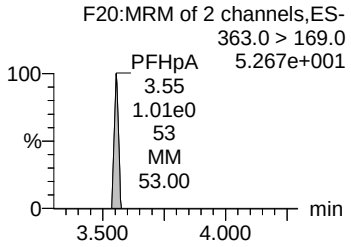
PFHxA



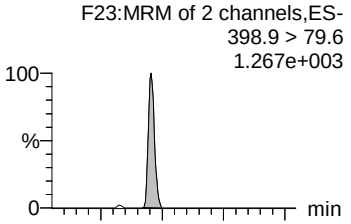


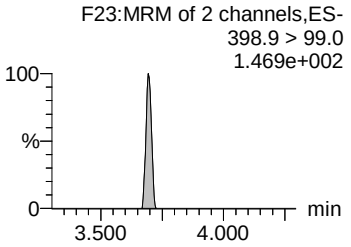
PFHpA



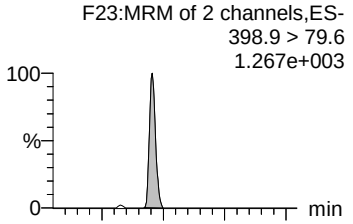


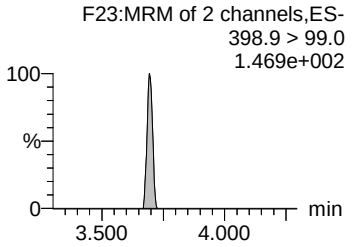
L-PFHxS



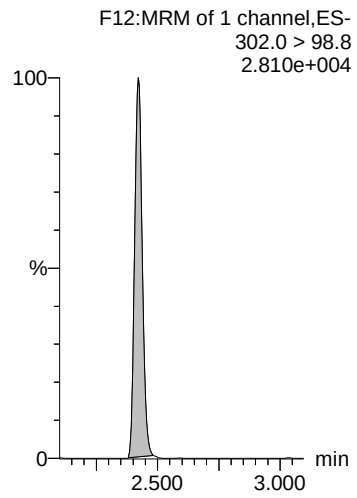


Total PFHxS

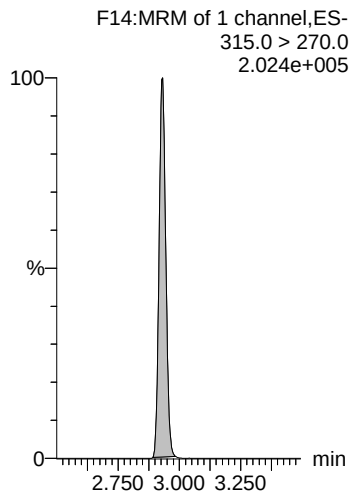




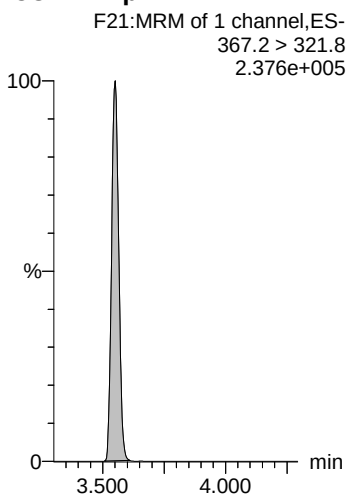
13C3-PFBS



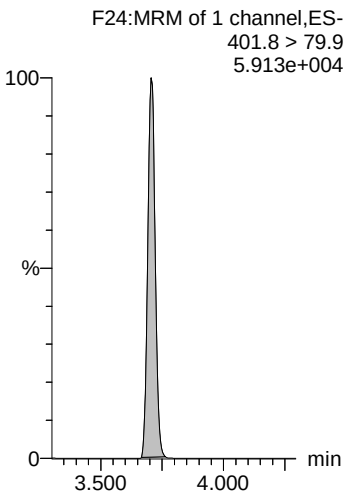
13C2-PFHxA



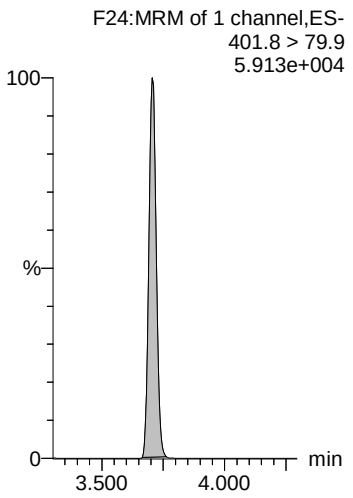
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



NY 7/16/2019

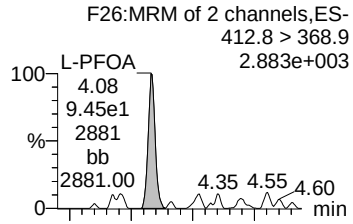
Review: AMR 7/16/2019

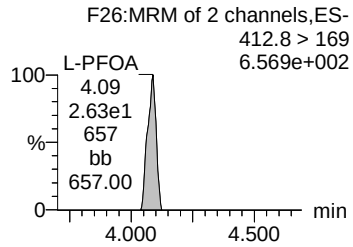
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-38.qld

Last Altered: Tuesday, July 16, 2019 09:20:08 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:22:38 Pacific Daylight Time

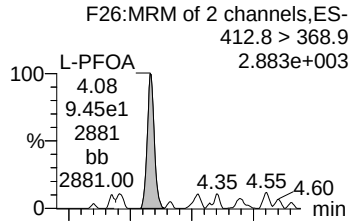
Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

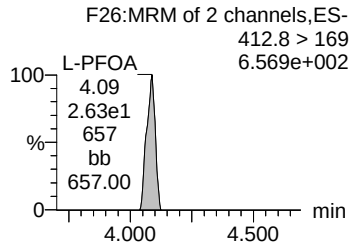
L-PFOA



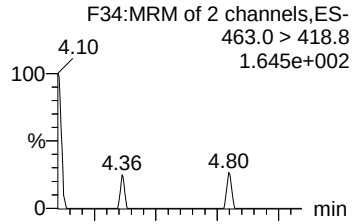


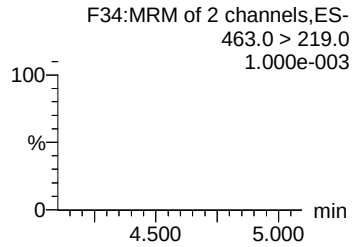
Total PFOA





PFNA





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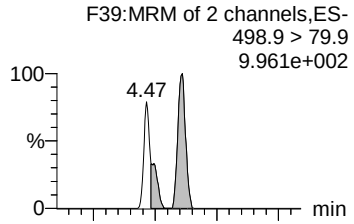
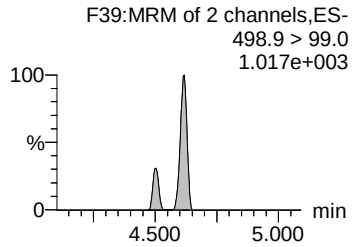
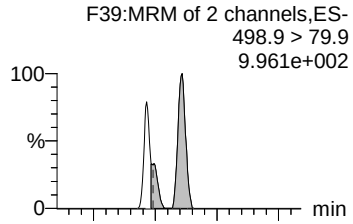
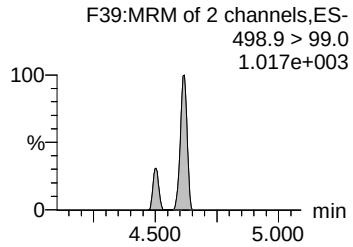


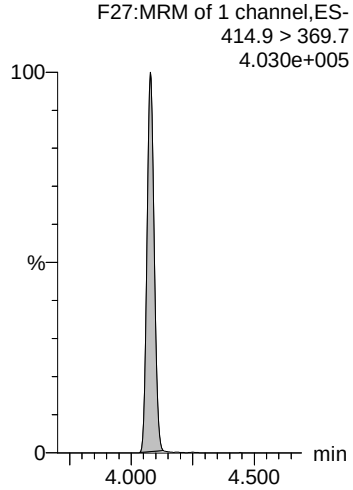


Total PFOS





13C2-PFOA



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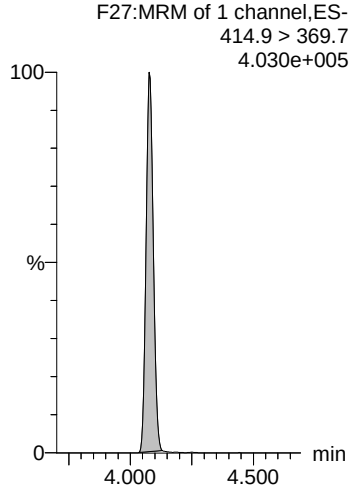
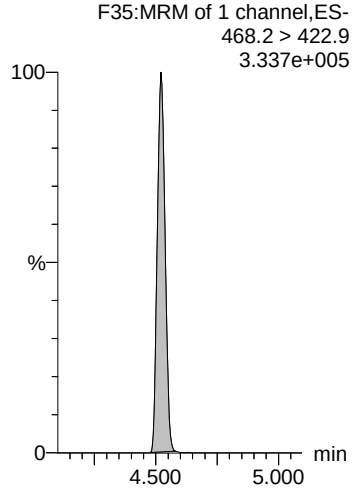
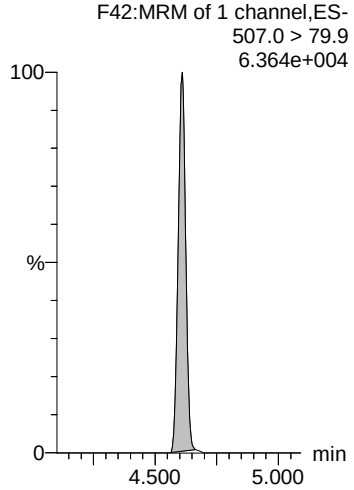


13C5-PFNA



13C8-PFOS



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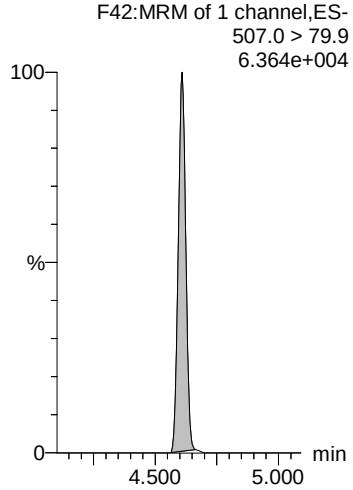


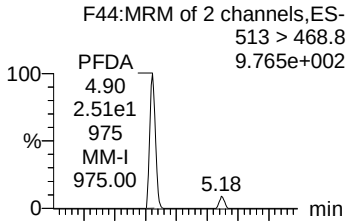
NY 7/16/2019

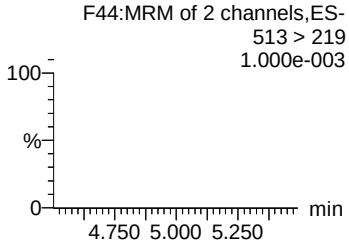
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-38.qld

Last Altered: Tuesday, July 16, 2019 09:20:08 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:22:38 Pacific Daylight Time

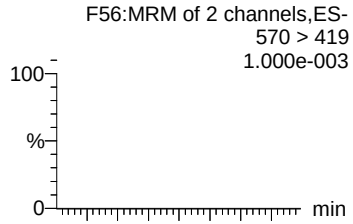
Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

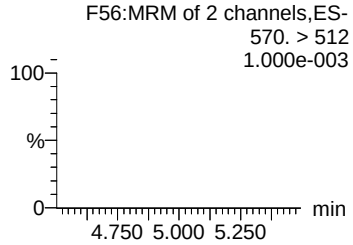
PFDA





L-MeFOSAA





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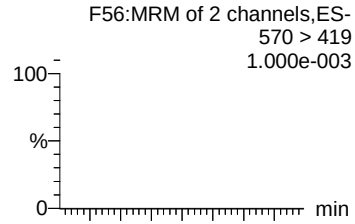
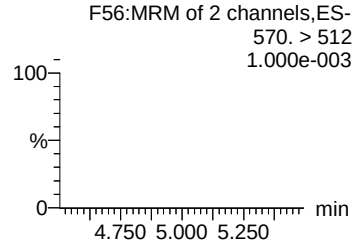
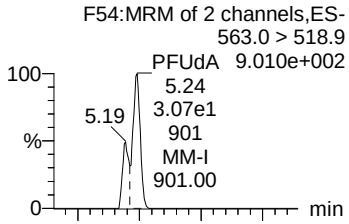
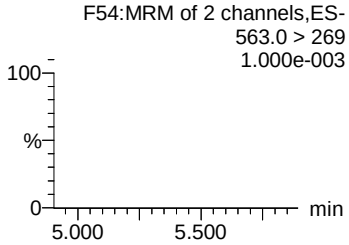


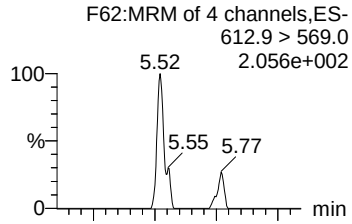


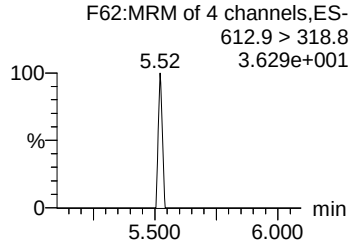
PFUdA



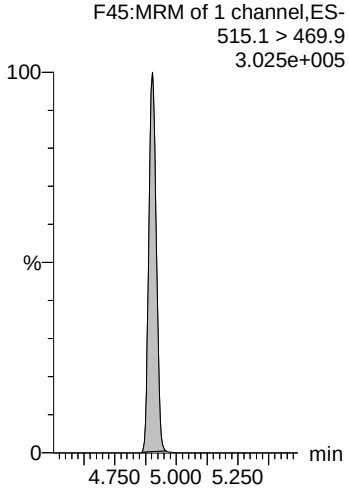


PFDoA

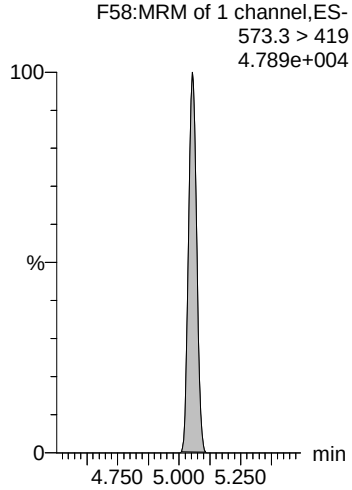




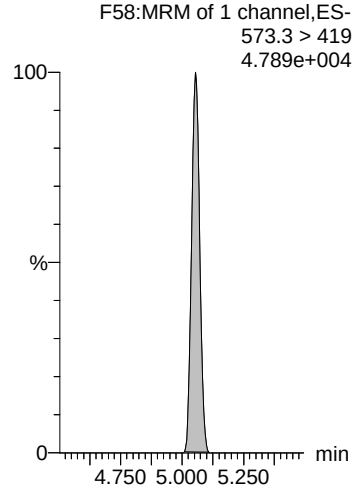
13C2-PFDA



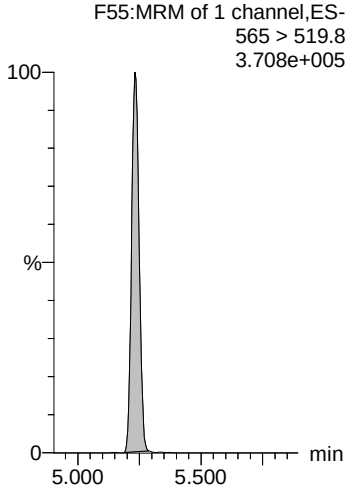
d3-N-MeFOSAA



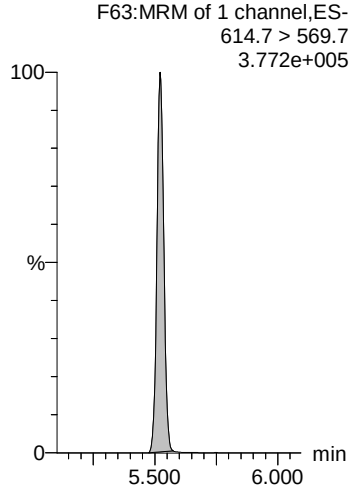
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



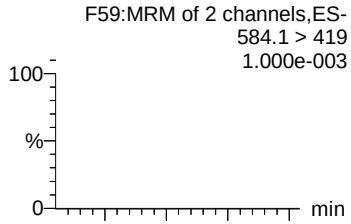
Review: AMR 7/16/2019

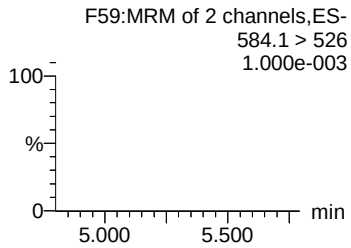
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-38.qld

Last Altered: Tuesday, July 16, 2019 09:20:08 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:22:38 Pacific Daylight Time

Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

L-EtFOSAA





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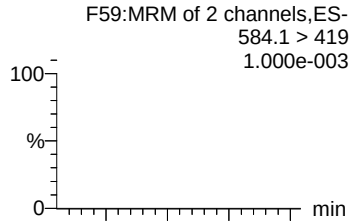

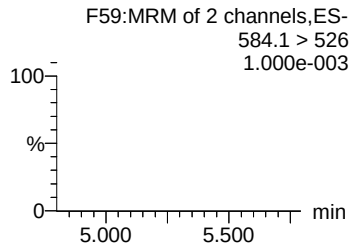

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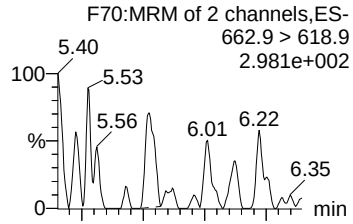

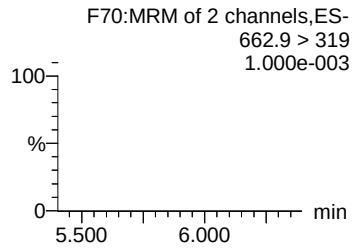

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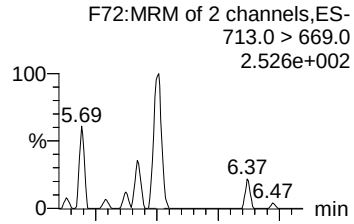
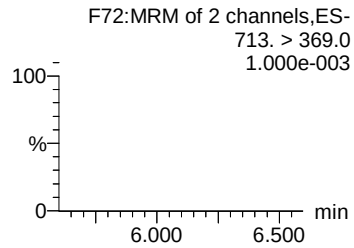
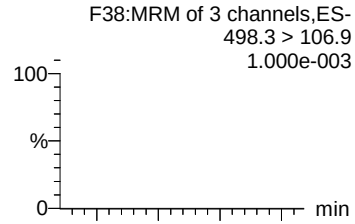
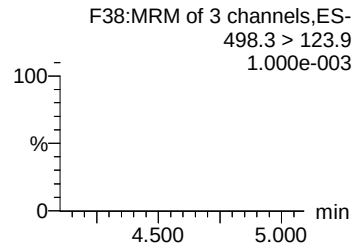




TDCA





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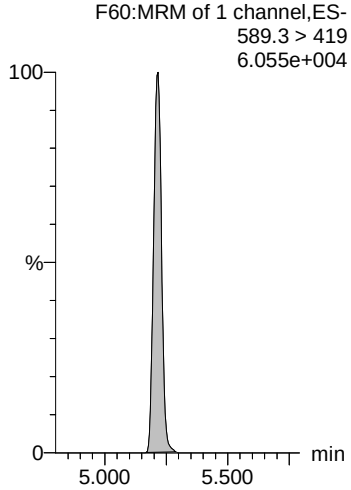

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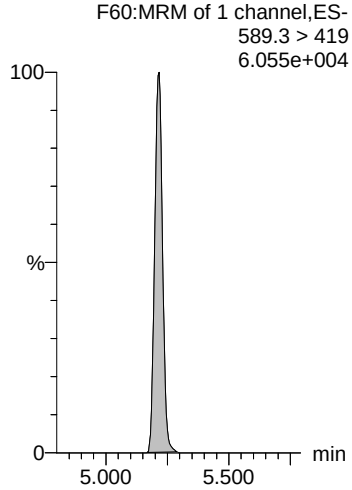

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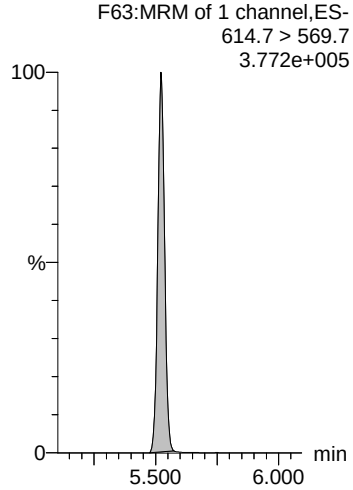
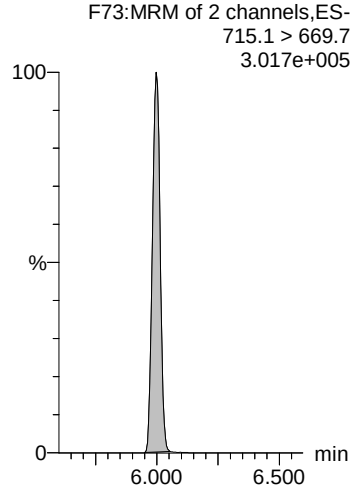
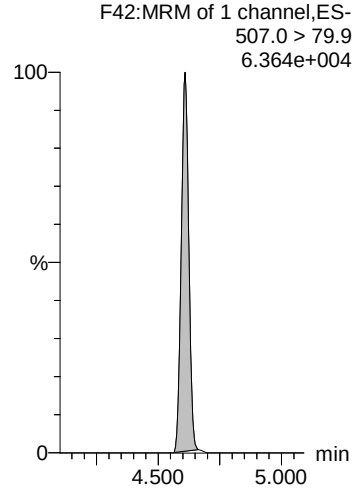


13C2-PFTeDA



13C8-PFOS



 NY 7/16/2019

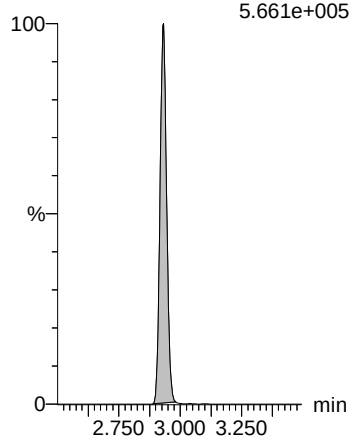
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-38.qld

Last Altered: Tuesday, July 16, 2019 09:20:08 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:22:38 Pacific Daylight Time

Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

13C5-PFHxA



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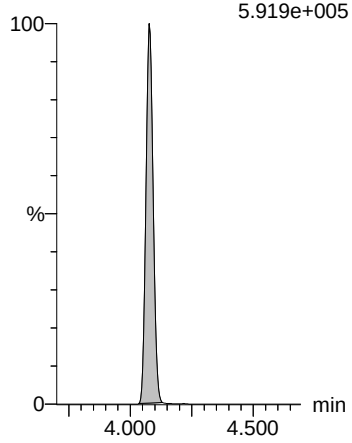
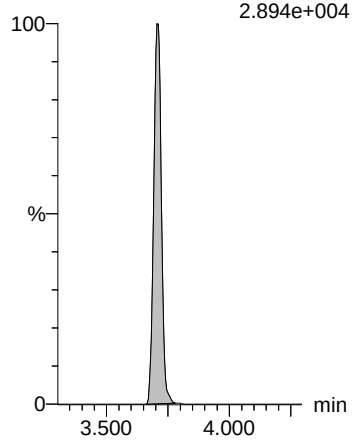
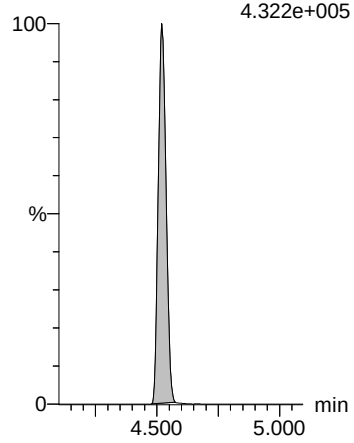


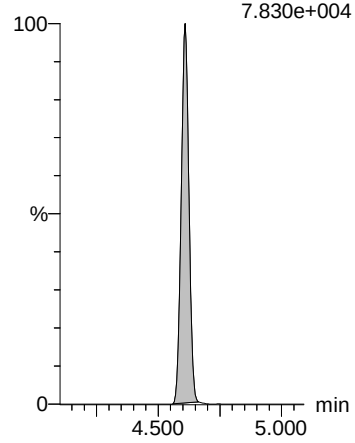
18O2-PFHxS



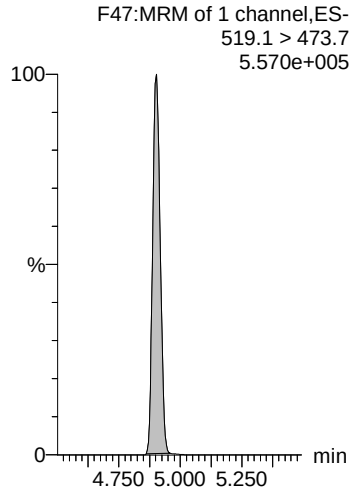
13C9-PFNA



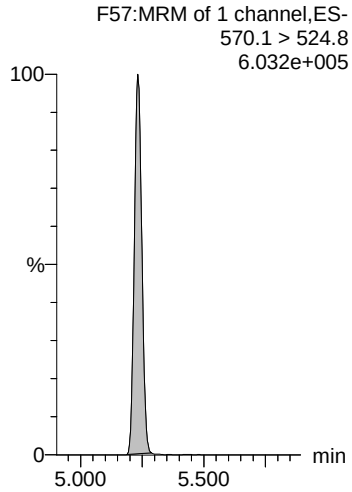
13C4-PFOS



13C6-PFDA



13C7-PFUdA



NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-39.qld

Last Altered: Tuesday, July 16, 2019 09:26:46 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:27:36 Pacific Daylight Time

Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	2.18e1	1.12e3	1.04		2.42	2.42	0.244	0.1622		2.129	NO
2	7	PFHxA	313.0 > 269.0	1.13e3	6.52e3	1.04		2.93	2.93	0.869	0.9261		16.965	NO
3	11	PFHpA	363.0 > 318.9	3.60e2	8.47e3	1.04		3.55	3.55	0.531	0.4196		39.596	YES
4	13	L-PFHxS	398.9 > 79.6	2.93e2	2.15e3	1.04		3.71	3.71	1.71	1.7975		2.363	NO
5	80	Total PFHxS	398.9 > 79.6	2.93e2	2.15e3	1.04		3.83		1.71	1.7975			
6	49	13C3-PFBS	302.0 > 98.8	1.12e3	1.00e3	1.04	1.073	2.41	2.42	13.9	12.4347	103.5		
7	52	13C2-PFHxA	315.0 > 270.0	6.52e3	1.73e4	1.04	1.009	2.92	2.93	4.70	4.4795	93.2		
8	53	13C4-PFHpA	367.2 > 321.8	8.47e3	1.73e4	1.04	0.512	3.54	3.55	6.11	11.4716	95.5		
9	54	13C3-PFHxS	401.8 > 79.9	2.15e3	1.00e3	1.04	2.197	3.70	3.71	26.7	11.6853	97.3		
10	54	13C3-PFHxS	401.8 > 79.9	2.15e3	1.00e3	1.04	2.197	3.70	3.71	26.7	11.6853	97.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.25e3	1.44e4	1.04		4.08	4.08	1.09	0.7129		3.763	NO
13	81	Total PFOA	412.8 > 368.9	1.25e3	1.44e4	1.04		4.21		1.09	0.7129			
14	21	PFNA	463.0 > 418.8	3.27e1	1.29e4	1.04		4.52	4.53	0.0316	0.0384		10.479	YES
15	23	L-PFOS	498.9 > 79.9	8.00e2	2.31e3	1.04		4.61	4.61	4.33	3.8675		2.323	NO
16	82	Total PFOS	498.9 > 79.9	8.00e2	2.31e3	1.04		4.74		4.33	3.8675			
17	58	13C2-PFOA	414.9 > 369.7	1.44e4	2.01e4	1.04	0.789	4.07	4.08	8.96	10.8991	90.7		
18	58	13C2-PFOA	414.9 > 369.7	1.44e4	2.01e4	1.04	0.789	4.07	4.08	8.96	10.8991	90.7		
19	56	13C5-PFNA	468.2 > 422.9	1.29e4	1.62e4	1.04	0.991	4.52	4.52	10.0	9.6922	80.7		
20	59	13C8-PFOS	507.0 > 79.9	2.31e3	2.59e3	1.04	1.017	4.60	4.61	11.1	10.5311	87.7		
21	59	13C8-PFOS	507.0 > 79.9	2.31e3	2.59e3	1.04	1.017	4.60	4.61	11.1	10.5311	87.7		
22	-1													
23	26	PFDA	513 > 468.8		1.07e4	1.04		4.90						
24	29	L-MeFOSAA	570 > 419		1.72e3	1.04		5.05						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.72e3	1.04		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	2.51e1	1.34e4	1.04		5.24	5.24	0.0233			16.551	YES
27	37	PFDoA	612.9 > 569.0	7.98e0	1.15e4	1.04		5.52	5.53	0.00865	0.0147		13.454	YES
28	60	13C2-PFDA	515.1 > 469.9	1.07e4	1.91e4	1.04	0.808	4.90	4.90	7.02	8.3529	69.5		
29	62	d3-N-MeFOSAA	573.3 > 419	1.72e3	2.05e4	1.04	0.140	5.05	5.05	1.05	7.2137	60.1		
30	62	d3-N-MeFOSAA	573.3 > 419	1.72e3	2.05e4	1.04	0.140	5.05	5.05	1.05	7.2137	60.1		
31	63	13C2-PFUdA	565 > 519.8	1.34e4	2.05e4	1.04	1.051	5.23	5.24	8.21	7.5064	62.5		
32	65	13C2-PFDoA	614.7 > 569.7	1.15e4	1.91e4	1.04	1.041	5.52	5.52	7.56	6.9807	58.1		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.24e3	1.04		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.24e3	1.04		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.15e4	1.04		5.77						

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-39.qld

Last Altered: Tuesday, July 16, 2019 09:26:46 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:27:36 Pacific Daylight Time

Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		9.70e3	1.04		6.00						
38	85	TDCA	498.3>106.9			1.04		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.24e3	2.05e4	1.04	0.168	5.21	5.22	1.37	7.8552	65.4		
40	64	d5-N-EtFOSAA	589.3 > 419	2.24e3	2.05e4	1.04	0.168	5.21	5.22	1.37	7.8552	65.4		
41	65	13C2-PFDoA	614.7 > 569.7	1.15e4	1.91e4	1.04	1.041	5.52	5.52	7.56	6.9807	58.1		
42	67	13C2-PFTeDA	715.1 > 669.7	9.70e3	2.05e4	1.04	0.690	5.99	6.00	5.93	8.2532	68.7		
43	59	13C8-PFOS	507.0 > 79.9	2.31e3	2.59e3	1.04	1.017	4.60	4.61	11.1	10.5311	87.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.73e4	1.73e4	1.04	1.000	2.92	2.93	12.5	12.0101	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.01e4	2.01e4	1.04	1.000	4.07	4.08	12.5	12.0101	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.00e3	1.00e3	1.04	1.000	3.70	3.71	12.5	12.0101	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.62e4	1.62e4	1.04	1.000	4.52	4.52	12.5	12.0101	100.0		
49	77	13C4-PFOS	503 > 79.9	2.59e3	2.59e3	1.04	1.000	4.61	4.61	12.5	12.0101	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.91e4	1.91e4	1.04	1.000	4.89	4.90	12.5	12.0101	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.05e4	2.05e4	1.04	1.000	5.23	5.23	12.5	12.0101	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

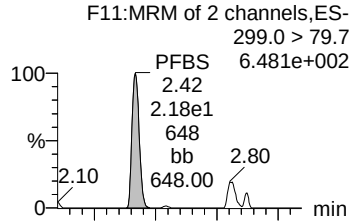
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-39.qld

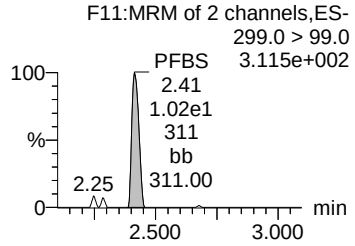
Last Altered: Tuesday, July 16, 2019 09:26:46 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:27:36 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

PFBS





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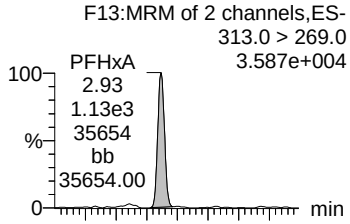
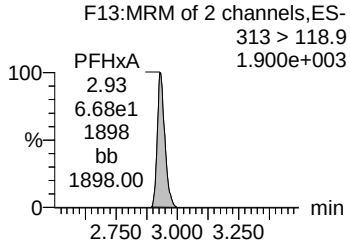
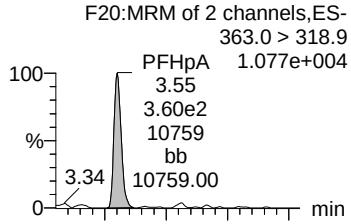
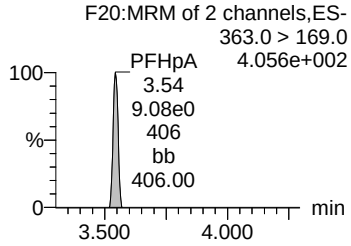


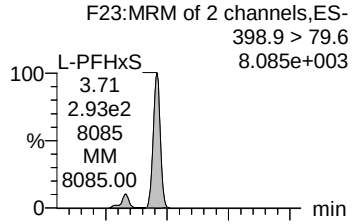


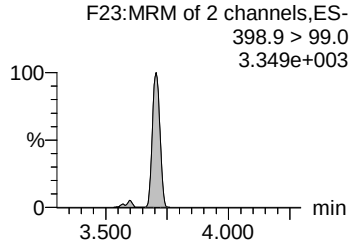
PFHpA



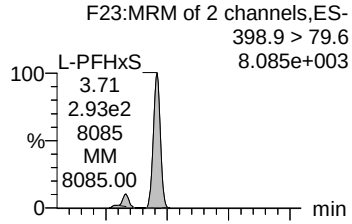


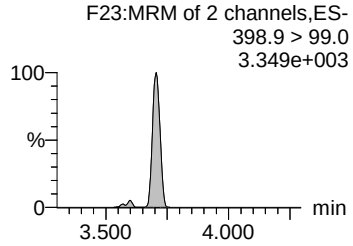
L-PFHxS





Total PFHxS





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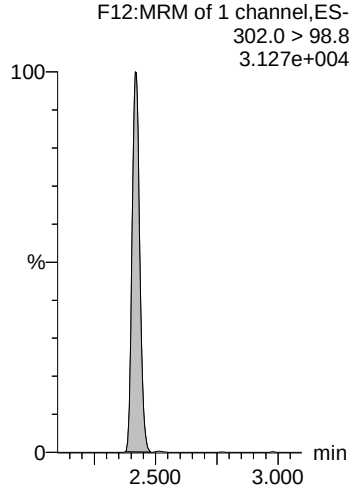

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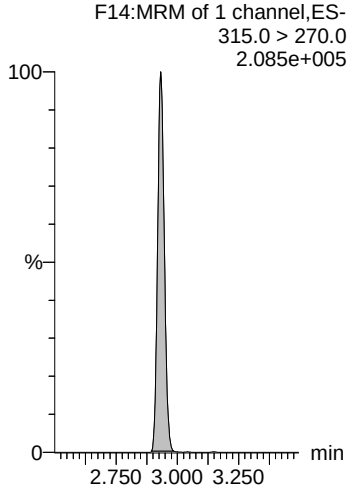
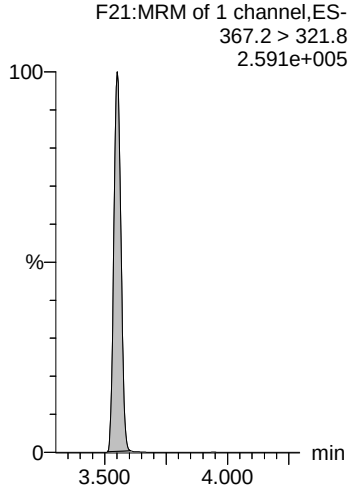


13C4-PFHpA



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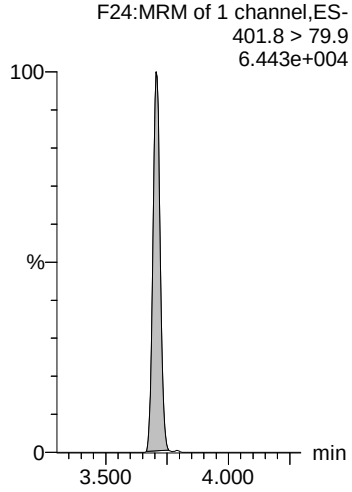

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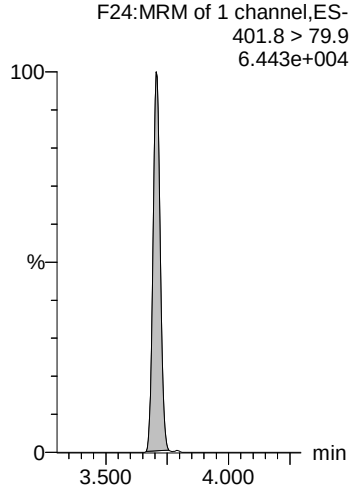


Vista Analytical Laboratory L14

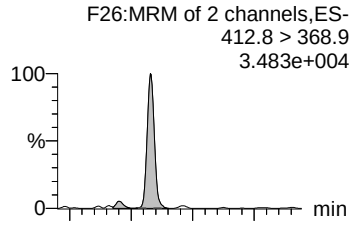
Review: AMR 7/16/2019

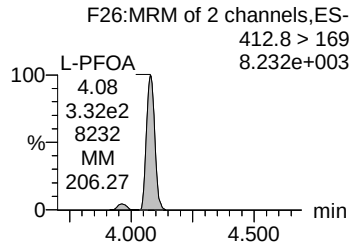
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-39.qld

Last Altered: Tuesday, July 16, 2019 09:26:46 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:27:36 Pacific Daylight Time

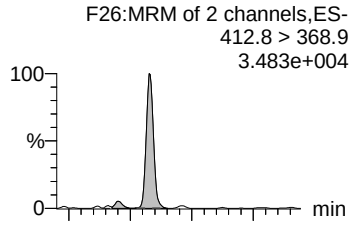
Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

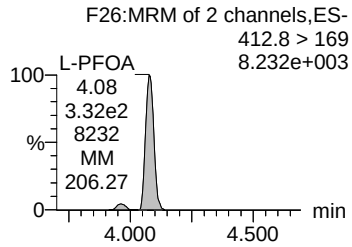
L-PFOA



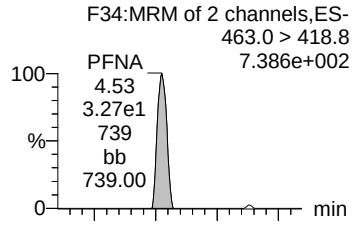


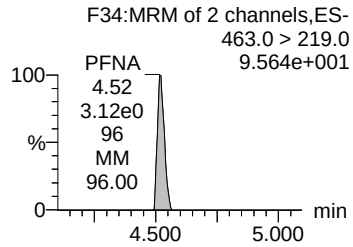
Total PFOA



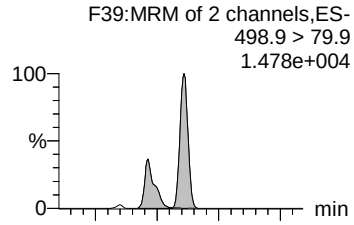


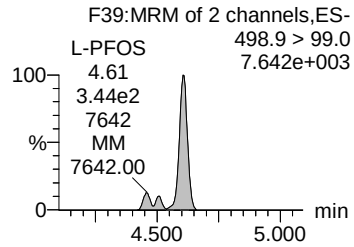
PFNA



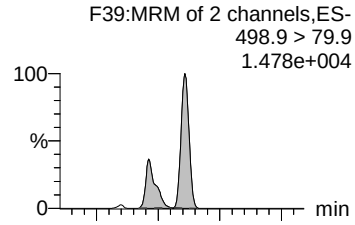


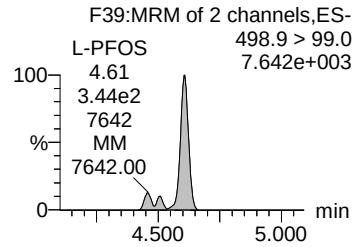
L-PFOS





Total PFOS





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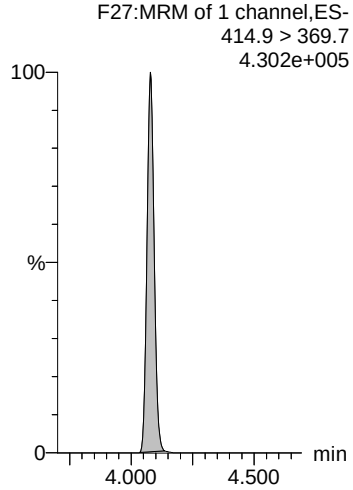

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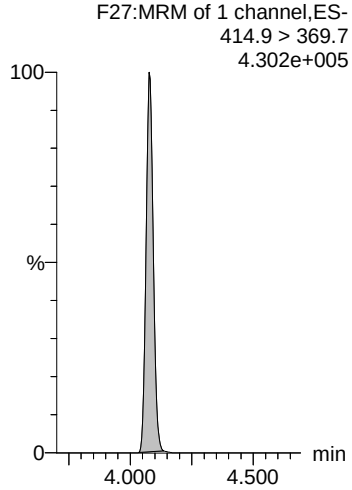

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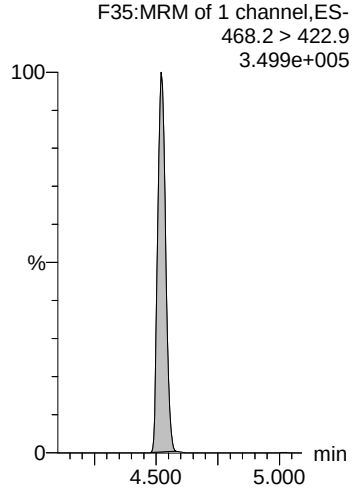
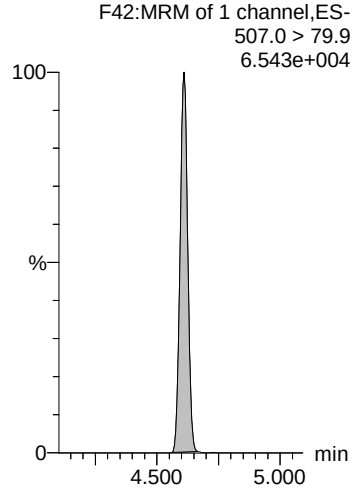


13C8-PFOS



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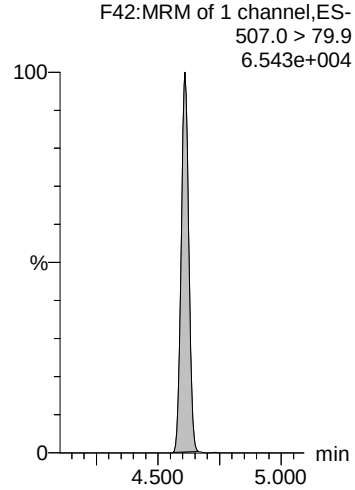


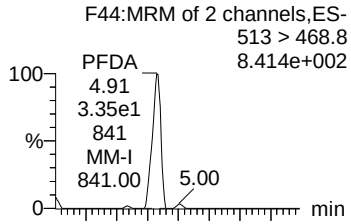
Review: AMR 7/16/2019

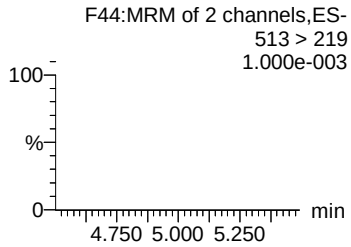
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-39.qld

Last Altered: Tuesday, July 16, 2019 09:26:46 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:27:36 Pacific Daylight Time

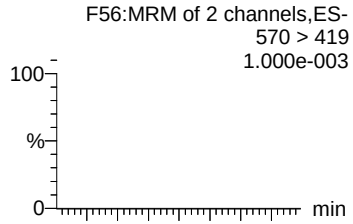
Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

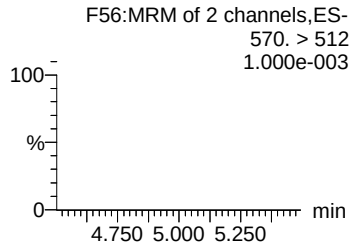
PFDA



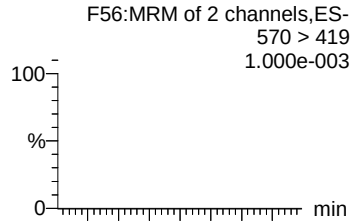


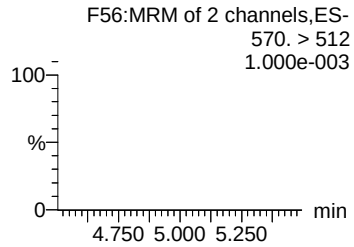
L-MeFOSAA



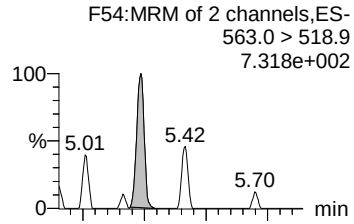


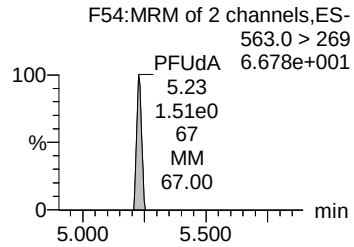
Total N-MeFOSAA



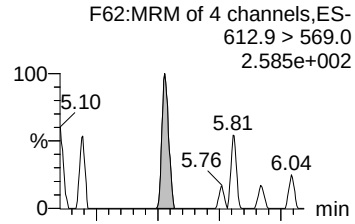


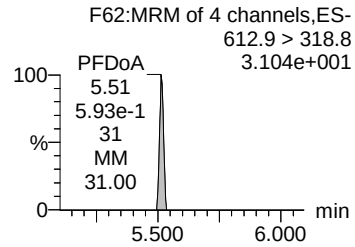
PFUdA



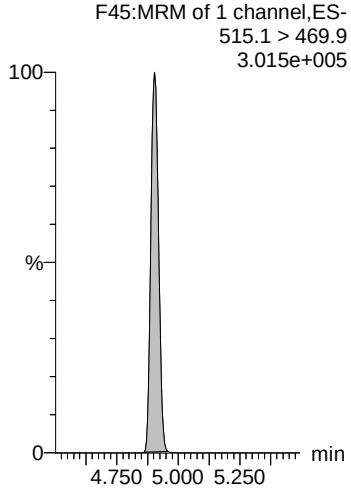


PFDoA

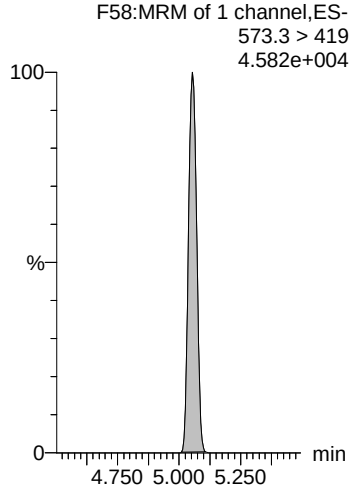




13C2-PFDA



d3-N-MeFOSAA



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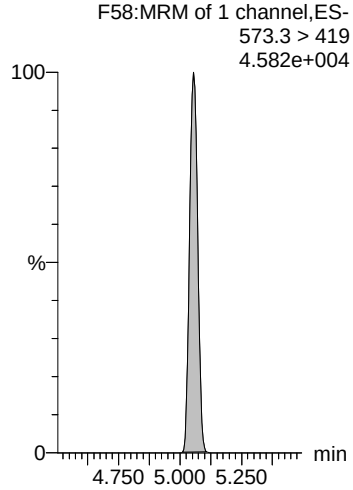
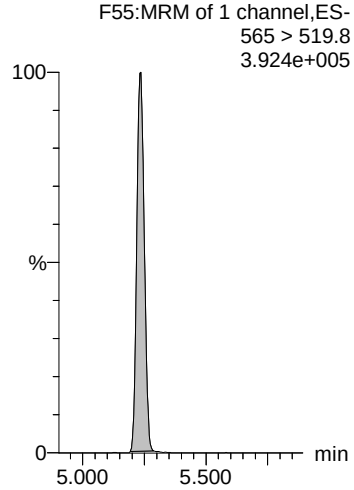


13C2-PFUdA



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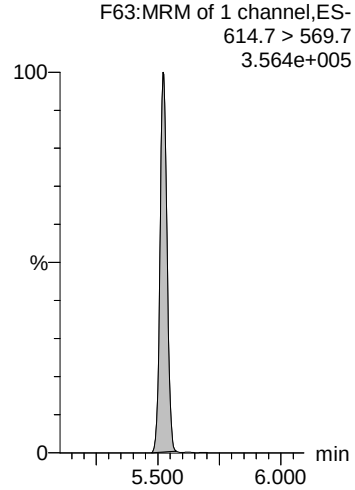

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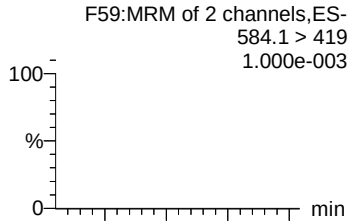
Review: AMR 7/16/2019

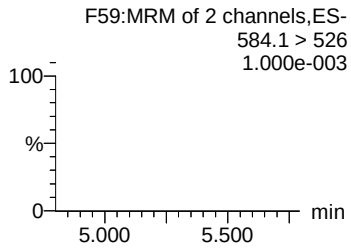
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-39.qld

Last Altered: Tuesday, July 16, 2019 09:26:46 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:27:36 Pacific Daylight Time

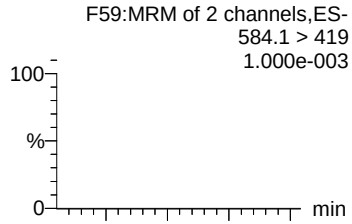
Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

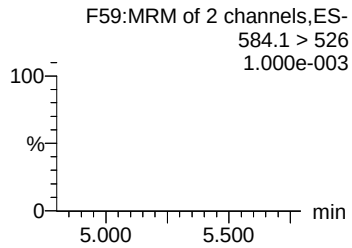
L-EtFOSAA



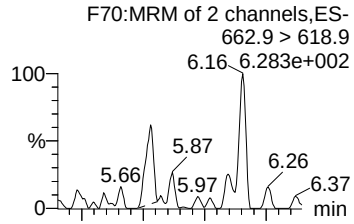


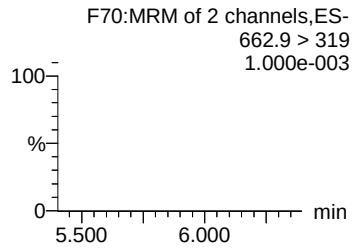
Total N-EtFOSAA



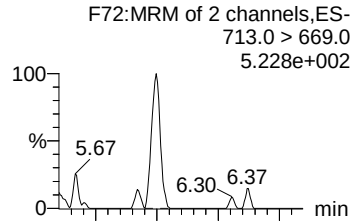


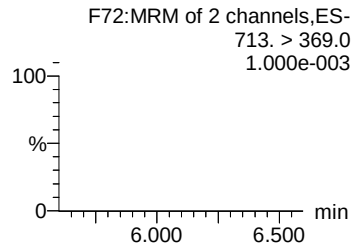
PFTrDA



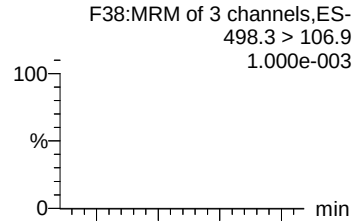


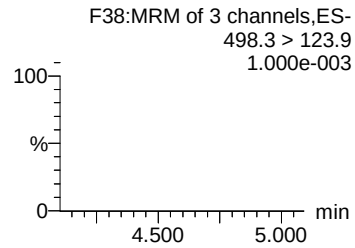
PFTeDA



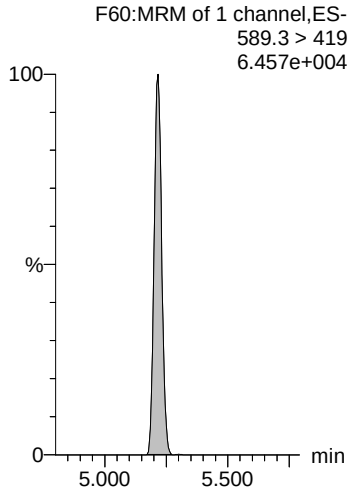


TDCA





d5-N-EtFOSAA



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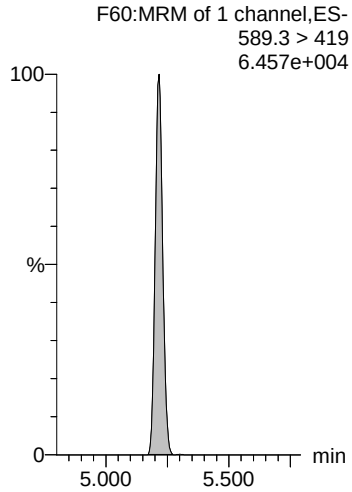
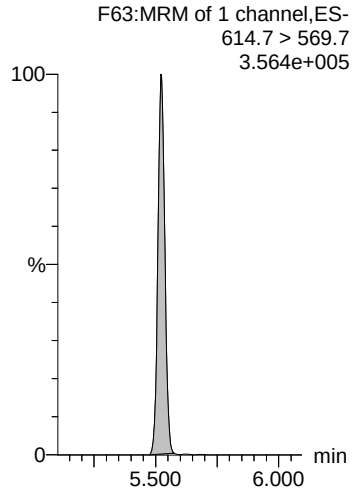
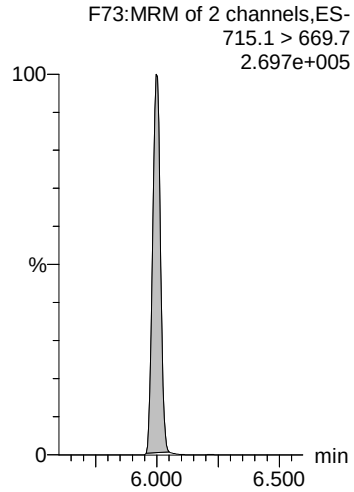


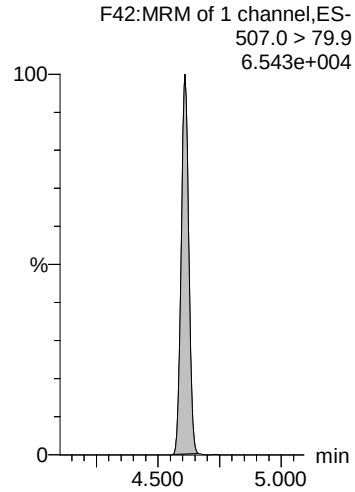
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS

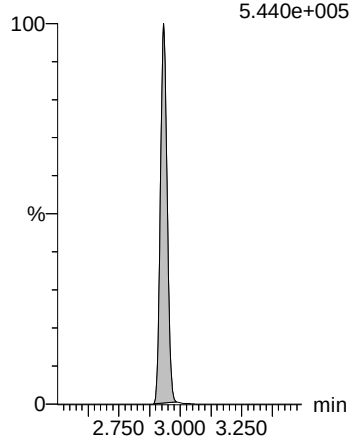


Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-39.qld

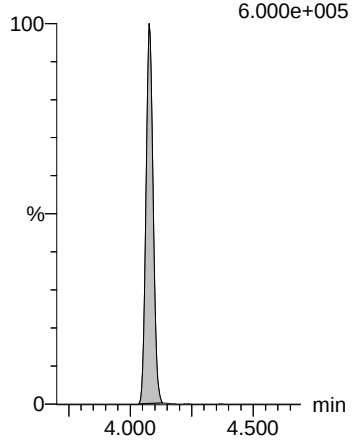
Last Altered: Tuesday, July 16, 2019 09:26:46 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:27:36 Pacific Daylight Time

Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

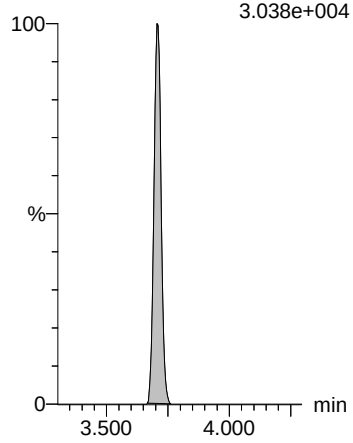
13C5-PFHxA



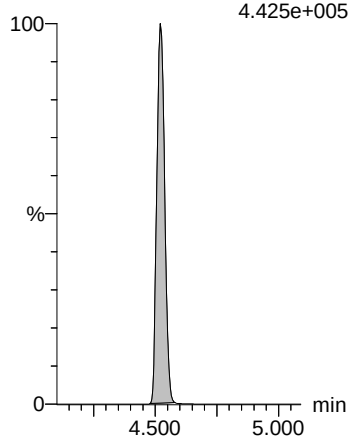
13C8-PFOA



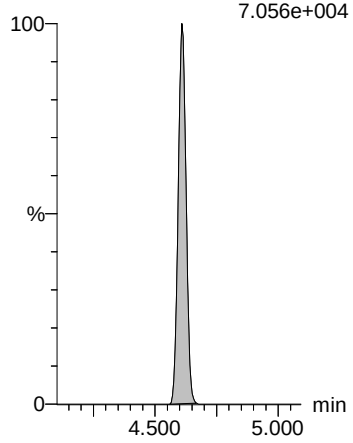
18O2-PFHxS



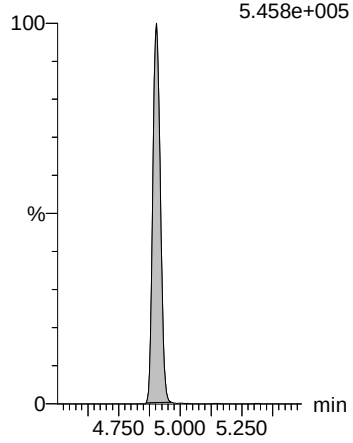
13C9-PFNA



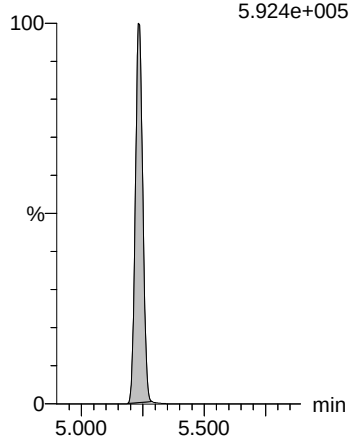
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-40.qld

Last Altered: Tuesday, July 16, 2019 09:30:11 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:31:06 Pacific Daylight Time

Name: 190712M2_40, Date: 13-Jul-2019, Time: 00:24:40, ID: 1901920-15 NAOA-B01-SO-20-20.5 1.04, Description: NAOA-B01-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		1.03e3	1.02		2.42						
2	7	PFHxA	313.0 > 269.0	5.20e1	6.21e3	1.02		2.93	2.93	0.0419	0.0160		29.334	YES
3	11	PFHpA	363.0 > 318.9		7.93e3	1.02		3.55						
4	13	L-PFHxS	398.9 > 79.6		2.11e3	1.02		3.71						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	2.11e3	1.02		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	1.03e3	9.19e2	1.02	1.073	2.41	2.42	14.0	12.7406	104.5		
7	52	13C2-PFHxA	315.0 > 270.0	6.21e3	1.66e4	1.02	1.009	2.92	2.93	4.68	4.5246	92.8		
8	53	13C4-PFHpA	367.2 > 321.8	7.93e3	1.66e4	1.02	0.512	3.54	3.55	5.97	11.3796	93.3		
9	54	13C3-PFHxS	401.8 > 79.9	2.11e3	9.19e2	1.02	2.197	3.70	3.71	28.7	12.7276	104.4		
10	54	13C3-PFHxS	401.8 > 79.9	2.11e3	9.19e2	1.02	2.197	3.70	3.71	28.7	12.7276	104.4		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.97e1	1.30e4	1.02		4.08	4.08	0.0286			14.993	YES
13	81	Total PFOA	412.8 > 368.9	2.97e1	1.30e4	1.02		4.21		0.000				
14	21	PFNA	463.0 > 418.8		1.24e4	1.02		4.52						
15	23	L-PFOS	498.9 > 79.9		2.44e3	1.02		4.61						
16	82	Total PFOS	498.9 > 79.9	0.00e0	2.44e3	1.02		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	1.30e4	1.82e4	1.02	0.789	4.07	4.08	8.93	11.0423	90.5		
18	58	13C2-PFOA	414.9 > 369.7	1.30e4	1.82e4	1.02	0.789	4.07	4.08	8.93	11.0423	90.5		
19	56	13C5-PFNA	468.2 > 422.9	1.24e4	1.47e4	1.02	0.991	4.52	4.52	10.5	10.3852	85.2		
20	59	13C8-PFOS	507.0 > 79.9	2.44e3	2.49e3	1.02	1.017	4.60	4.61	12.3	11.7684	96.5		
21	59	13C8-PFOS	507.0 > 79.9	2.44e3	2.49e3	1.02	1.017	4.60	4.61	12.3	11.7684	96.5		
22	-1													
23	26	PFDA	513 > 468.8		9.91e3	1.02		4.90						
24	29	L-MeFOSAA	570 > 419		1.64e3	1.02		5.06						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.64e3	1.02		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.27e4	1.02		5.23						
27	37	PFDoA	612.9 > 569.0		1.17e4	1.02		5.52						
28	60	13C2-PFDA	515.1 > 469.9	9.91e3	1.78e4	1.02	0.808	4.90	4.90	6.96	8.3987	68.9		
29	62	d3-N-MeFOSAA	573.3 > 419	1.64e3	1.89e4	1.02	0.140	5.05	5.06	1.09	7.5985	62.3		
30	62	d3-N-MeFOSAA	573.3 > 419	1.64e3	1.89e4	1.02	0.140	5.05	5.06	1.09	7.5985	62.3		
31	63	13C2-PFUdA	565 > 519.8	1.27e4	1.89e4	1.02	1.051	5.23	5.23	8.40	7.8000	64.0		
32	65	13C2-PFDoA	614.7 > 569.7	1.17e4	1.78e4	1.02	1.041	5.52	5.52	8.20	7.6844	63.0		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.09e3	1.02		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.09e3	1.02		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.17e4	1.02		5.78						

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Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-40.qld

Last Altered: Tuesday, July 16, 2019 09:30:11 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:31:06 Pacific Daylight Time

Name: 190712M2_40, Date: 13-Jul-2019, Time: 00:24:40, ID: 1901920-15 NAOA-B01-SO-20-20.5 1.04, Description: NAOA-B01-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		1.00e4	1.02		6.00						
38	85	TDCA	498.3>106.9			1.02		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.09e3	1.89e4	1.02	0.168	5.21	5.22	1.38	8.0431	66.0		
40	64	d5-N-EtFOSAA	589.3 > 419	2.09e3	1.89e4	1.02	0.168	5.21	5.22	1.38	8.0431	66.0		
41	65	13C2-PFDoA	614.7 > 569.7	1.17e4	1.78e4	1.02	1.041	5.52	5.52	8.20	7.6844	63.0		
42	67	13C2-PFTeDA	715.1 > 669.7	1.00e4	1.89e4	1.02	0.690	5.99	6.00	6.62	9.3632	76.8		
43	59	13C8-PFOS	507.0 > 79.9	2.44e3	2.49e3	1.02	1.017	4.60	4.61	12.3	11.7684	96.5		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.66e4	1.66e4	1.02	1.000	2.92	2.93	12.5	12.1956	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.82e4	1.82e4	1.02	1.000	4.07	4.08	12.5	12.1956	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	9.19e2	9.19e2	1.02	1.000	3.70	3.71	12.5	12.1956	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.47e4	1.47e4	1.02	1.000	4.52	4.52	12.5	12.1956	100.0		
49	77	13C4-PFOS	503 > 79.9	2.49e3	2.49e3	1.02	1.000	4.61	4.61	12.5	12.1956	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.78e4	1.78e4	1.02	1.000	4.89	4.90	12.5	12.1956	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.89e4	1.89e4	1.02	1.000	5.23	5.23	12.5	12.1956	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

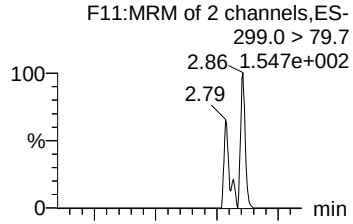
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-40.qld

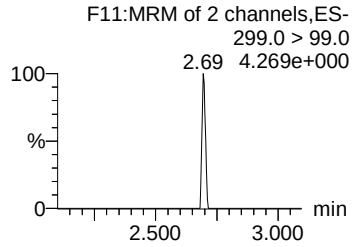
Last Altered: Tuesday, July 16, 2019 09:30:11 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:31:06 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

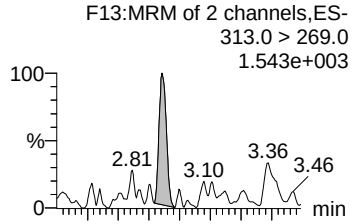
Name: 190712M2_40, Date: 13-Jul-2019, Time: 00:24:40, ID: 1901920-15 NAOA-B01-SO-20-20.5 1.04, Description: NAOA-B01-SO-20-20.5

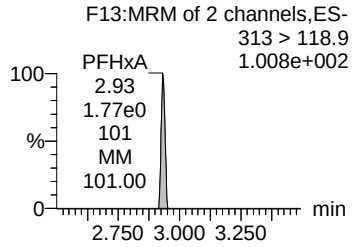
PFBS





PFHxA





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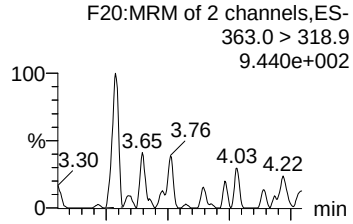
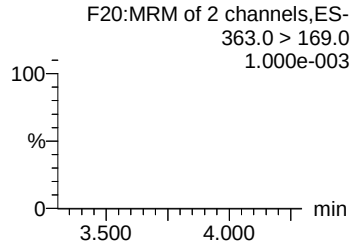
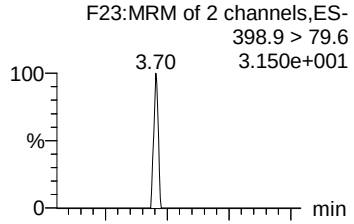
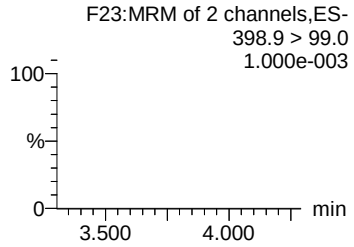


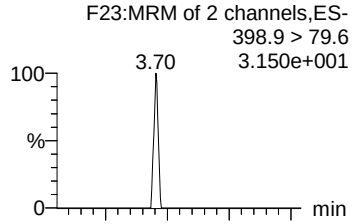


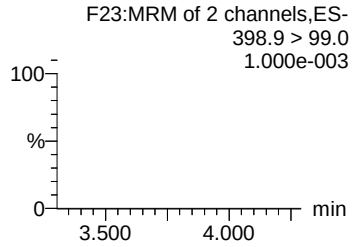
L-PFHxS



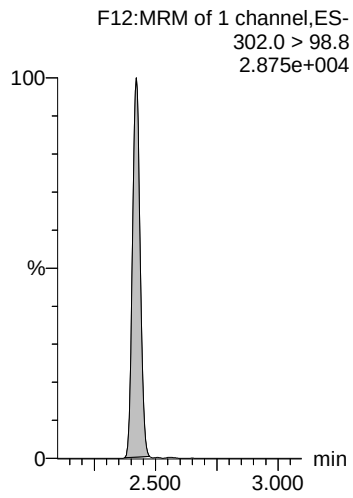


Total PFHxS





13C3-PFBS



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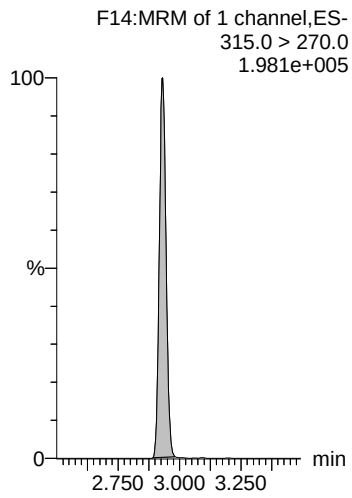

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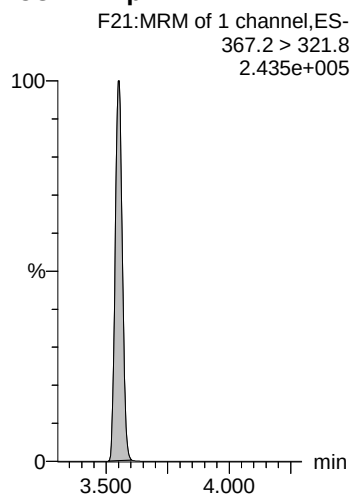

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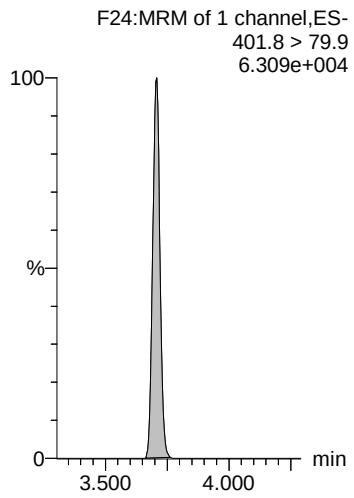

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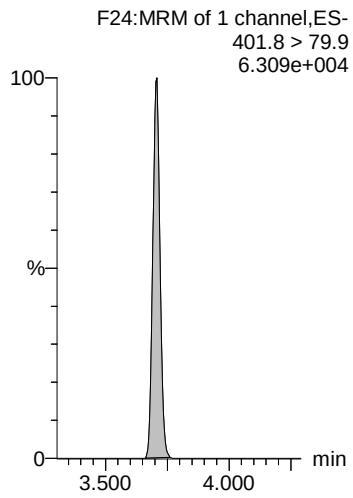

NY 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-40.qld

Last Altered: Tuesday, July 16, 2019 09:30:11 Pacific Daylight Time
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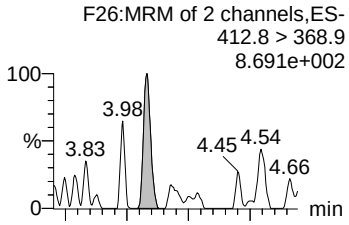
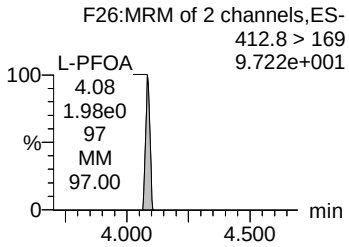
Name: 190712M2_40, Date: 13-Jul-2019, Time: 00:24:40, ID: 1901920-15 NAOA-B01-SO-20-20.5 1.04, Description: NAOA-B01-SO-20-20.5

L-PFOA





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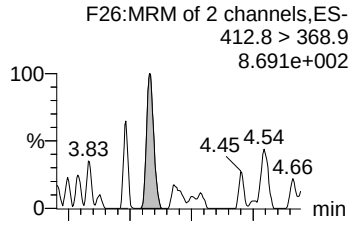

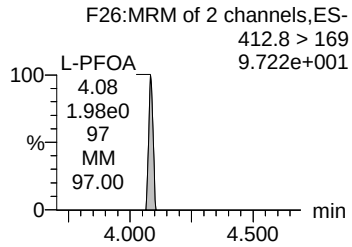

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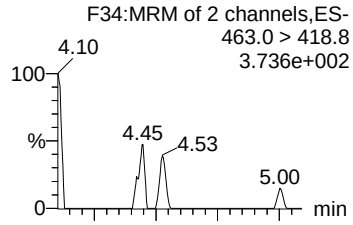
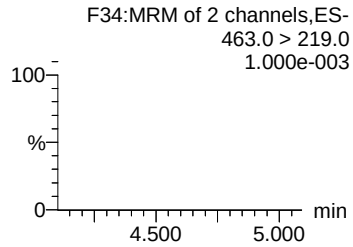
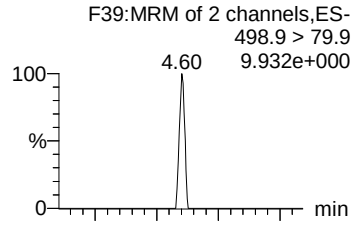
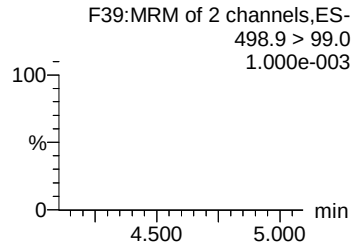




L-PFOS





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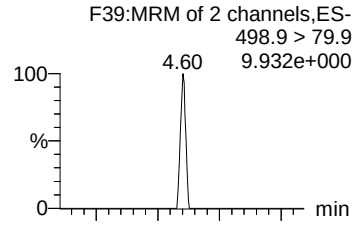

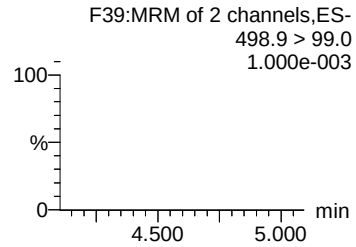

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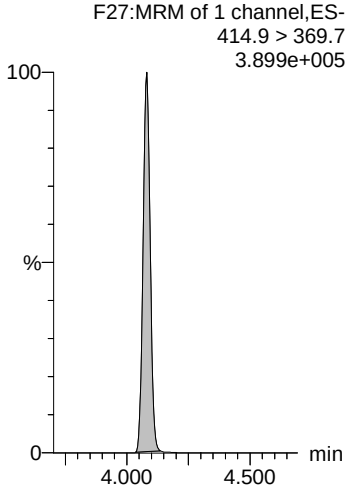

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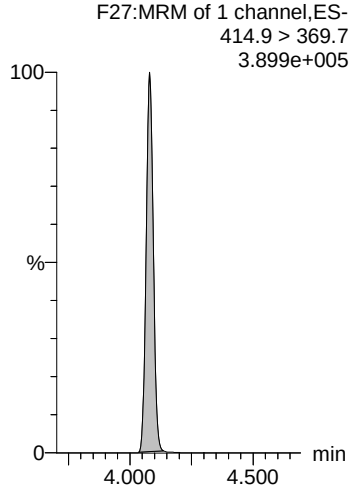

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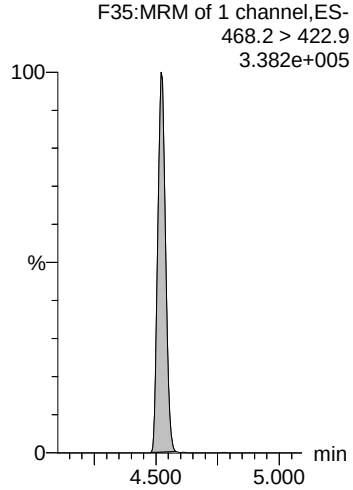

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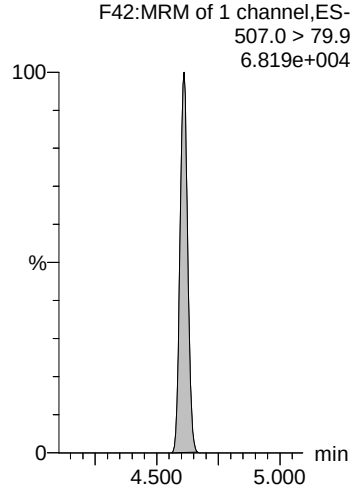

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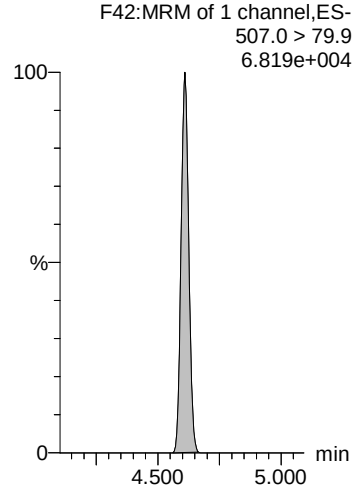

Review: AMR 7/16/2019

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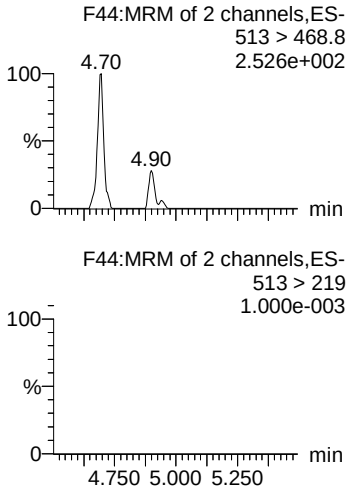
Name: 190712M2_40, Date: 13-Jul-2019, Time: 00:24:40, ID: 1901920-15 NAOA-B01-SO-20-20.5 1.04, Description: NAOA-B01-SO-20-20.5

PFDA



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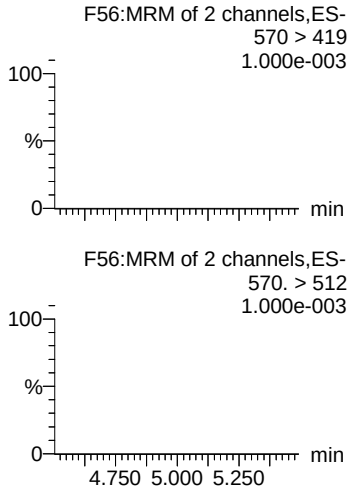

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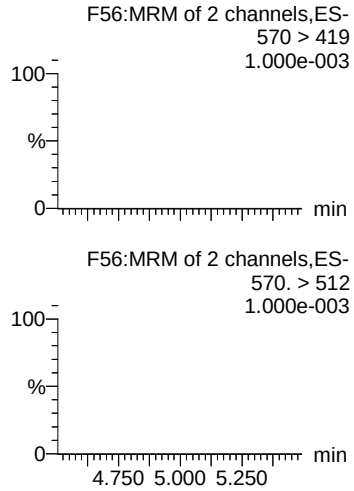

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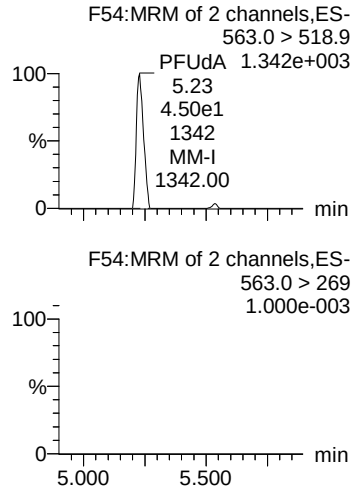
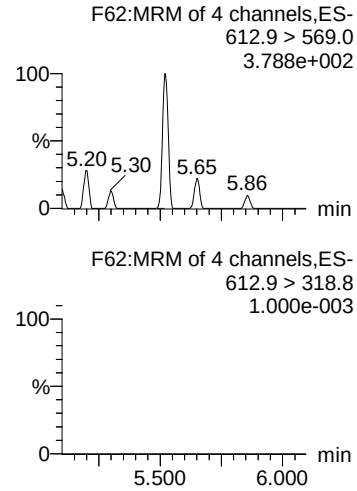


PFDoA



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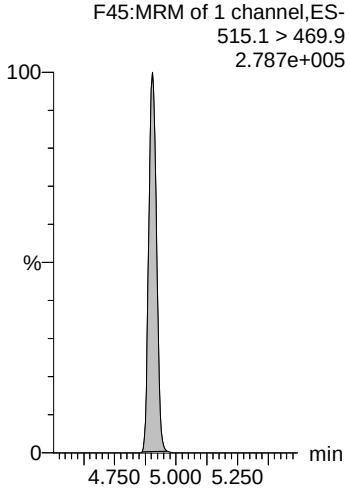

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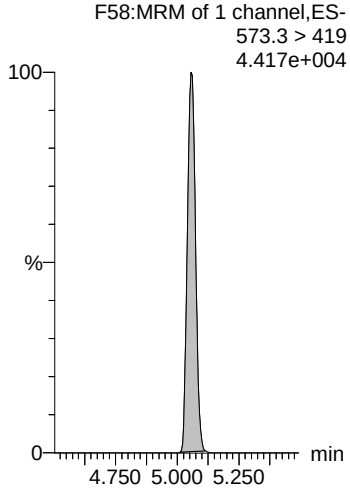

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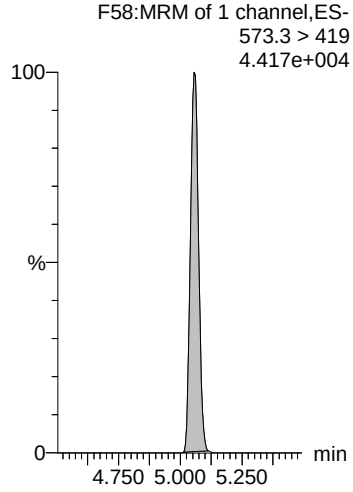

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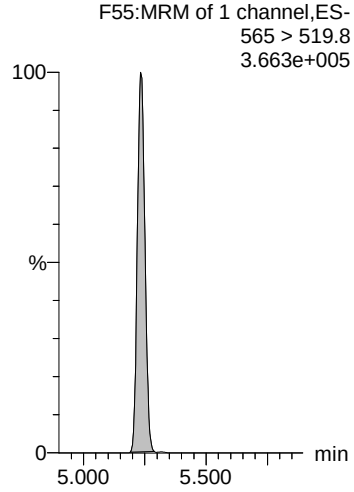

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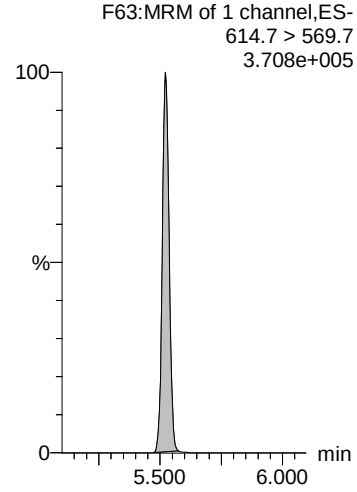

NY 7/16/2019

Review: AMR 7/16/2019

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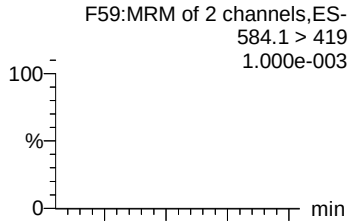
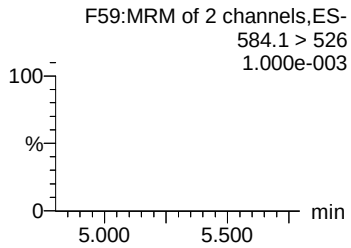
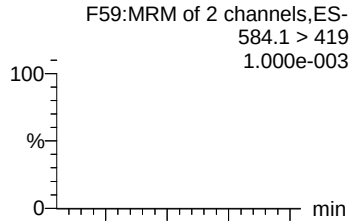
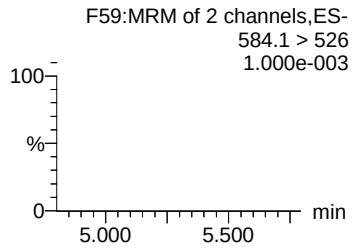
L-EtFOSAA





Total N-EtFOSAA





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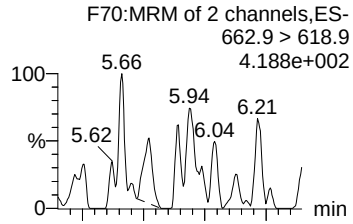

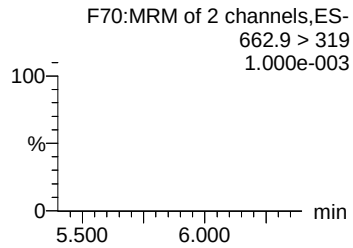

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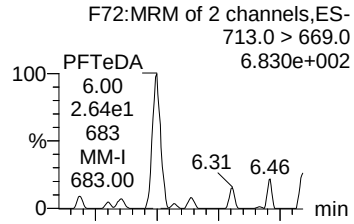

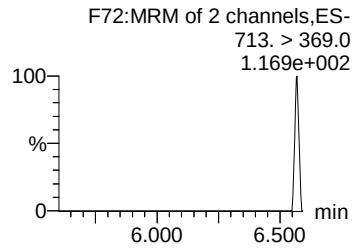

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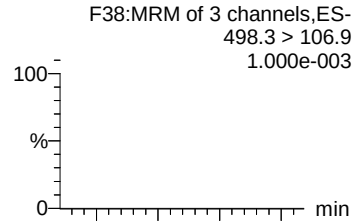

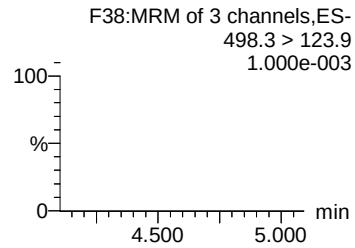

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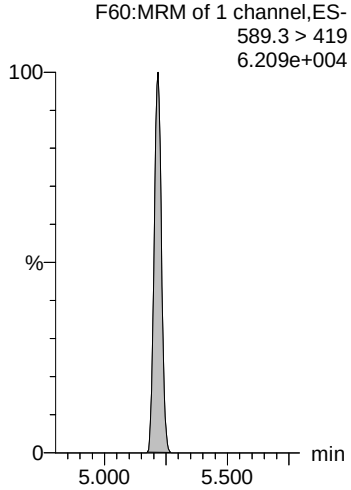

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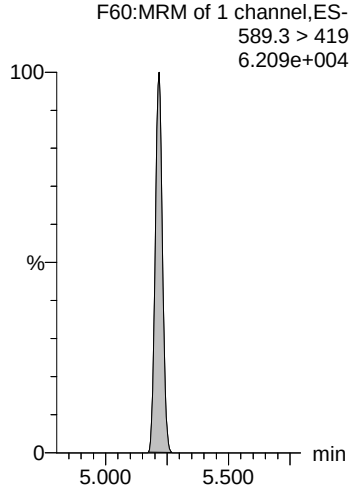
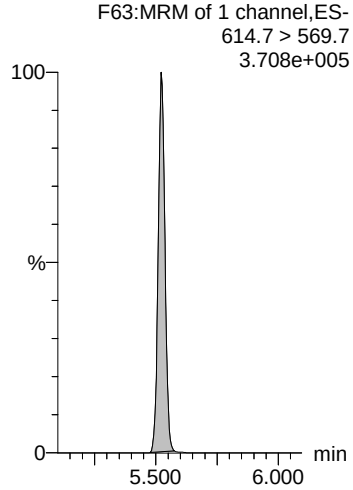
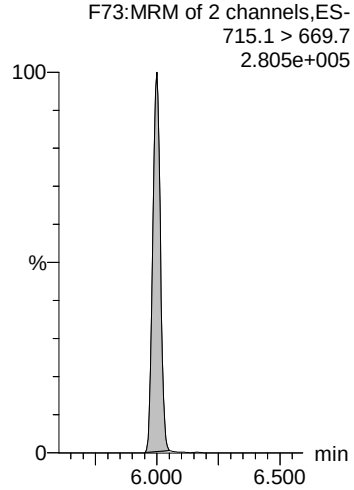


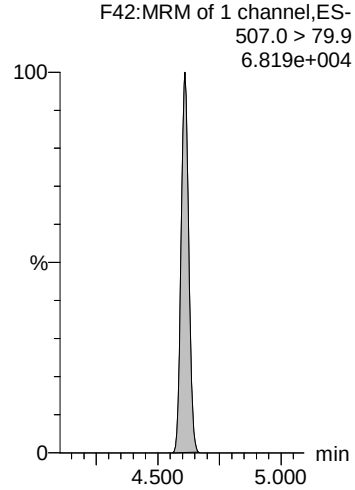
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



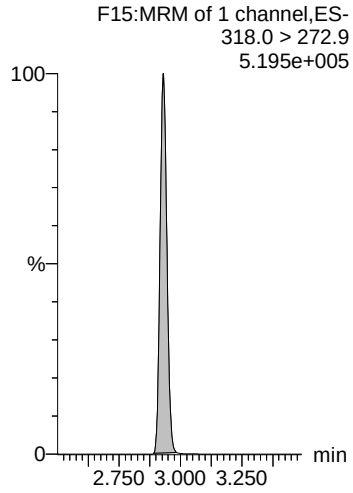
 NY 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-40.qld

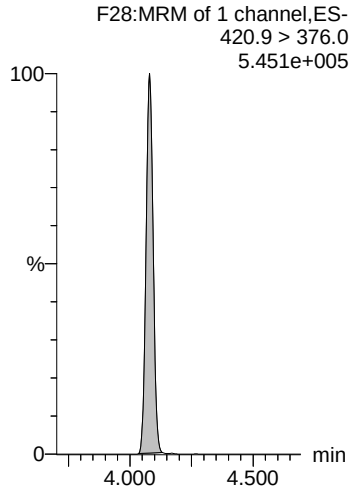
Last Altered: Tuesday, July 16, 2019 09:30:11 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:31:06 Pacific Daylight Time

Name: 190712M2_40, Date: 13-Jul-2019, Time: 00:24:40, ID: 1901920-15 NAOA-B01-SO-20-20.5 1.04, Description: NAOA-B01-SO-20-20.5

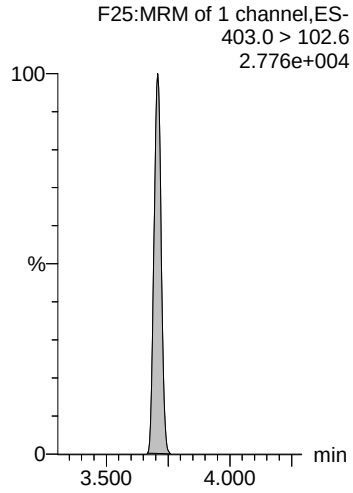
13C5-PFHxA



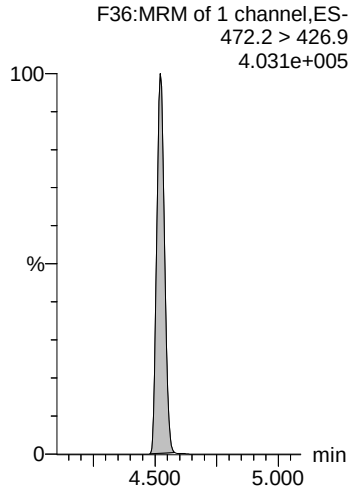
13C8-PFOA



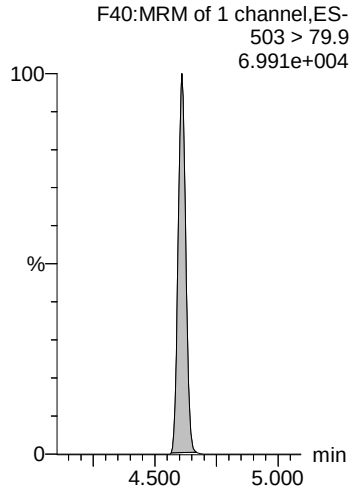
18O2-PFHxS



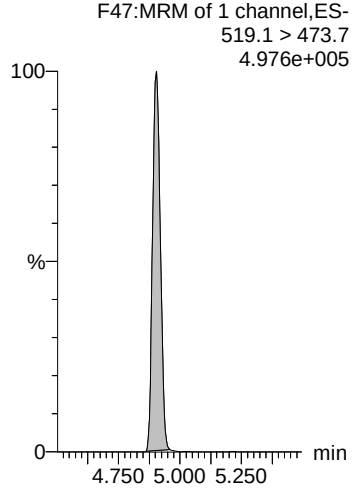
13C9-PFNA



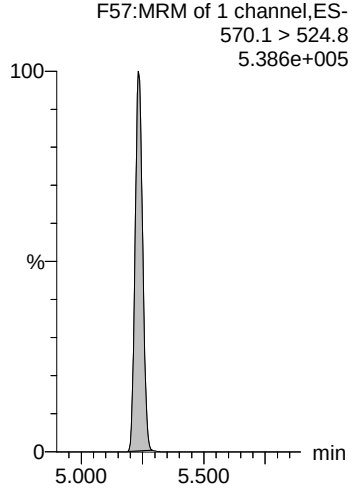
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-41.qld

Last Altered: Tuesday, July 16, 2019 13:56:17 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:56:38 Pacific Daylight Time

Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.81e1	9.94e2	1.03		2.42	2.43	0.227	0.1573		3.524	NO
2	7	PFHxA	313.0 > 269.0	2.40e3	6.18e3	1.03		2.93	2.93	1.94	2.1296		17.750	NO
3	11	PFHpA	363.0 > 318.9	8.26e2	7.87e3	1.03		3.55	3.55	1.31	1.0060		16.208	NO
4	13	L-PFHxS	398.9 > 79.6	1.47e2	2.00e3	1.03		3.71	3.71	0.919	1.0133		2.199	NO
5	80	Total PFHxS	398.9 > 79.6	1.47e2	2.00e3	1.03		3.83		0.919	1.0133			
6	49	13C3-PFBS	302.0 > 98.8	9.94e2	1.00e3	1.03	1.073	2.41	2.42	12.4	11.2509	92.5		
7	52	13C2-PFHxA	315.0 > 270.0	6.18e3	1.68e4	1.03	1.009	2.92	2.93	4.60	4.4397	91.2		
8	53	13C4-PFHpA	367.2 > 321.8	7.87e3	1.68e4	1.03	0.512	3.54	3.55	5.86	11.1400	91.6		
9	54	13C3-PFHxS	401.8 > 79.9	2.00e3	1.00e3	1.03	2.197	3.70	3.71	25.0	11.0739	91.0		
10	54	13C3-PFHxS	401.8 > 79.9	2.00e3	1.00e3	1.03	2.197	3.70	3.71	25.0	11.0739	91.0		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.40e3	1.33e4	1.03		4.08	4.08	2.26	1.5574		3.431	NO
13	81	Total PFOA	412.8 > 368.9	2.40e3	1.33e4	1.03		4.21		2.26	1.5574			
14	21	PFNA	463.0 > 418.8	7.61e2	1.23e4	1.03		4.52	4.52	0.771	0.6248		13.025	YES
15	23	L-PFOS	498.9 > 79.9	1.78e3	2.42e3	1.03		4.61	4.61	9.18	8.1551		2.021	NO
16	82	Total PFOS	498.9 > 79.9	1.78e3	2.42e3	1.03		4.74		9.18	8.1551			
17	58	13C2-PFOA	414.9 > 369.7	1.33e4	1.99e4	1.03	0.789	4.07	4.08	8.36	10.3100	84.7		
18	58	13C2-PFOA	414.9 > 369.7	1.33e4	1.99e4	1.03	0.789	4.07	4.08	8.36	10.3100	84.7		
19	56	13C5-PFNA	468.2 > 422.9	1.23e4	1.56e4	1.03	0.991	4.52	4.52	9.85	9.6770	79.5		
20	59	13C8-PFOS	507.0 > 79.9	2.42e3	2.69e3	1.03	1.017	4.60	4.61	11.2	10.7421	88.3		
21	59	13C8-PFOS	507.0 > 79.9	2.42e3	2.69e3	1.03	1.017	4.60	4.61	11.2	10.7421	88.3		
22	-1													
23	26	PFDA	513 > 468.8	6.63e2	1.05e4	1.03		4.90	4.90	0.789	0.5227		6.724	NO
24	29	L-MeFOSAA	570 > 419		2.00e3	1.03		5.06						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.00e3	1.03		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.35e4	1.03		5.23						
27	37	PFDoA	612.9 > 569.0		1.32e4	1.03		5.52						
28	60	13C2-PFDA	515.1 > 469.9	1.05e4	1.90e4	1.03	0.808	4.90	4.90	6.90	8.3160	68.4		
29	62	d3-N-MeFOSAA	573.3 > 419	2.00e3	1.99e4	1.03	0.140	5.05	5.06	1.26	8.7839	72.2		
30	62	d3-N-MeFOSAA	573.3 > 419	2.00e3	1.99e4	1.03	0.140	5.05	5.06	1.26	8.7839	72.2		
31	63	13C2-PFUdA	565 > 519.8	1.35e4	1.99e4	1.03	1.051	5.23	5.23	8.49	7.8625	64.6		
32	65	13C2-PFDoA	614.7 > 569.7	1.32e4	1.90e4	1.03	1.041	5.52	5.52	8.70	8.1361	66.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.47e3	1.03		5.21						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.47e3	1.03		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.32e4	1.03		5.78						

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-41.qld

Last Altered: Tuesday, July 16, 2019 13:56:17 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:56:38 Pacific Daylight Time

Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		1.04e4	1.03		6.00						
38	85	TDCA	498.3>106.9			1.03		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.47e3	1.99e4	1.03	0.168	5.21	5.21	1.55	9.0051	74.0		
40	64	d5-N-EtFOSAA	589.3 > 419	2.47e3	1.99e4	1.03	0.168	5.21	5.21	1.55	9.0051	74.0		
41	65	13C2-PFDoA	614.7 > 569.7	1.32e4	1.90e4	1.03	1.041	5.52	5.52	8.70	8.1361	66.9		
42	67	13C2-PFTeDA	715.1 > 669.7	1.04e4	1.99e4	1.03	0.690	5.99	6.00	6.52	9.1982	75.6		
43	59	13C8-PFOS	507.0 > 79.9	2.42e3	2.69e3	1.03	1.017	4.60	4.61	11.2	10.7421	88.3		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.68e4	1.68e4	1.03	1.000	2.92	2.93	12.5	12.1653	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.99e4	1.99e4	1.03	1.000	4.07	4.08	12.5	12.1653	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.00e3	1.00e3	1.03	1.000	3.70	3.71	12.5	12.1653	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.56e4	1.56e4	1.03	1.000	4.52	4.52	12.5	12.1653	100.0		
49	77	13C4-PFOS	503 > 79.9	2.69e3	2.69e3	1.03	1.000	4.61	4.61	12.5	12.1653	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.90e4	1.90e4	1.03	1.000	4.89	4.90	12.5	12.1653	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.99e4	1.99e4	1.03	1.000	5.23	5.23	12.5	12.1653	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

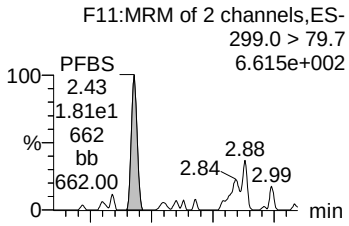
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-41.qld

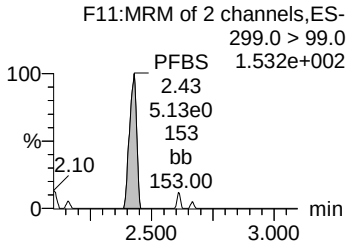
Last Altered: Tuesday, July 16, 2019 13:56:17 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:56:38 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

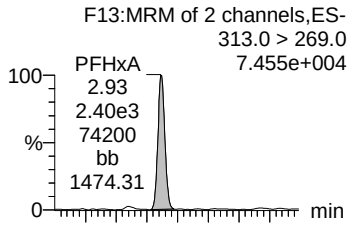
Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

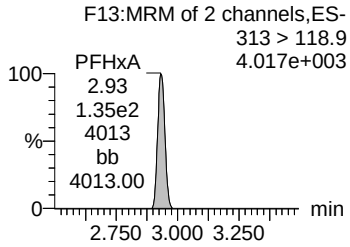
PFBS



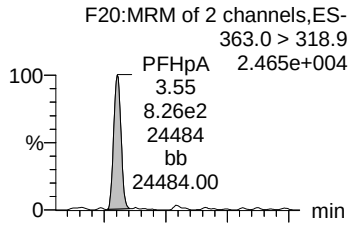


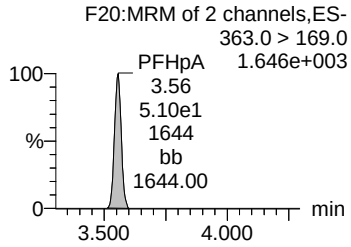
PFHxA



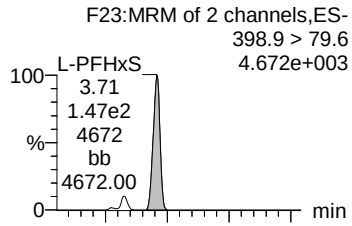


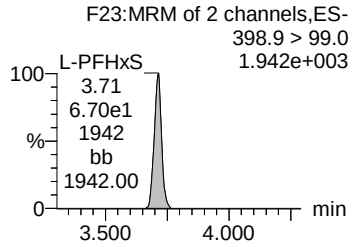
PFHpA



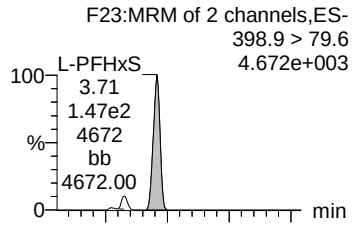


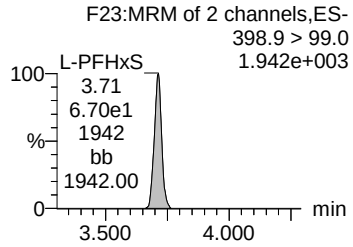
L-PFHxS



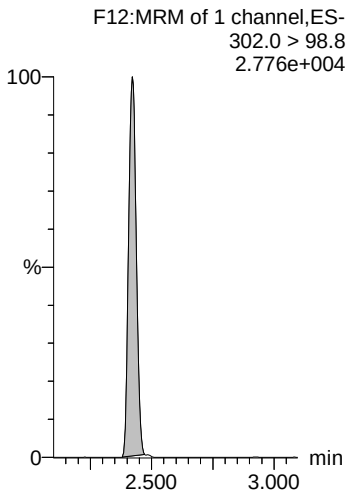


Total PFHxS

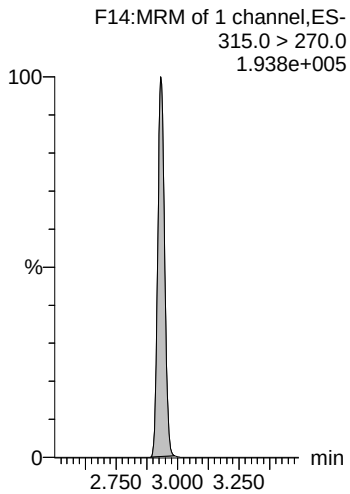




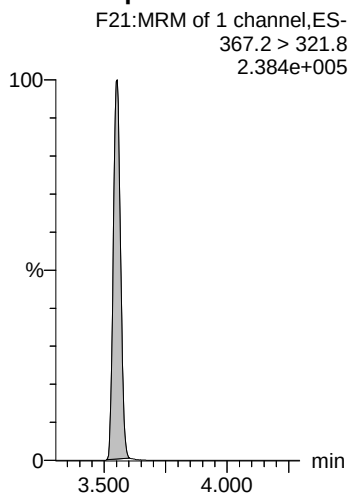
13C3-PFBS



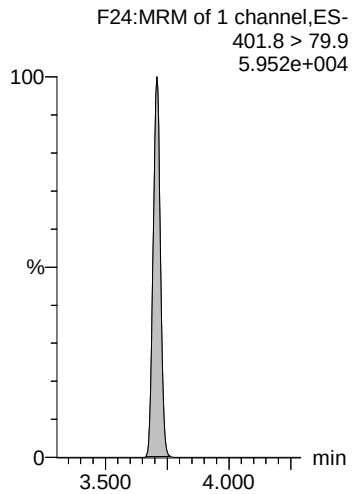
13C2-PFHxA



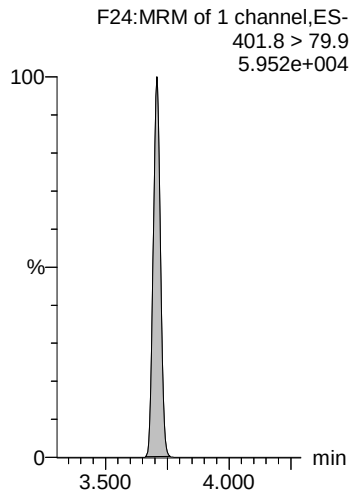
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



Vista Analytical Laboratory L14

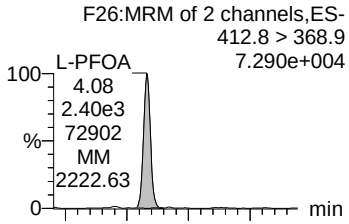
Review: AMR 7/16/2019

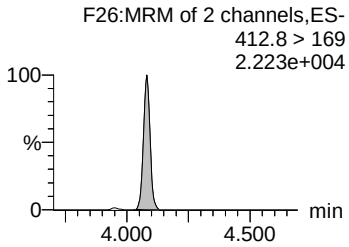
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-41.qld

Last Altered: Tuesday, July 16, 2019 13:56:17 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:56:38 Pacific Daylight Time

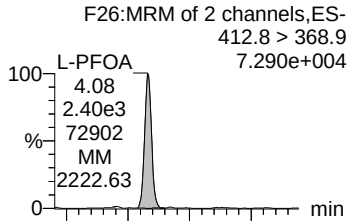
Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

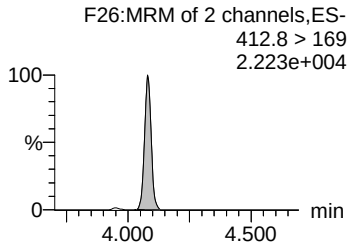
L-PFOA



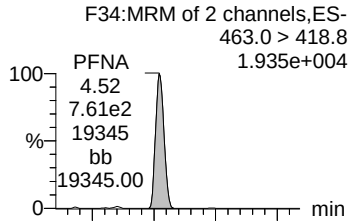


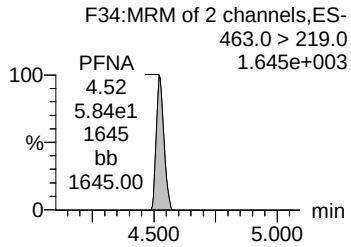
Total PFOA



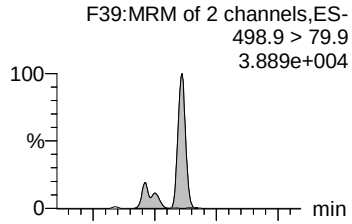


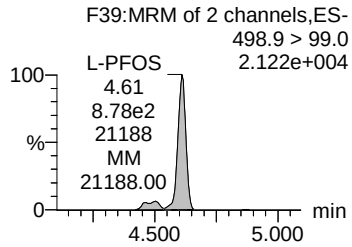
PFNA



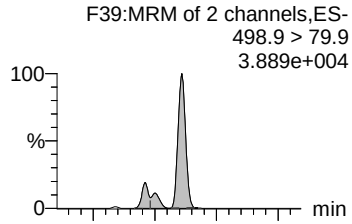


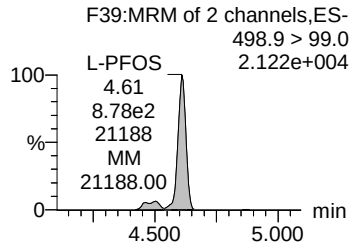
L-PFOS



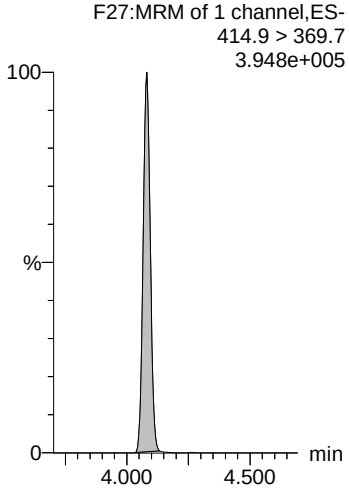


Total PFOS





13C2-PFOA



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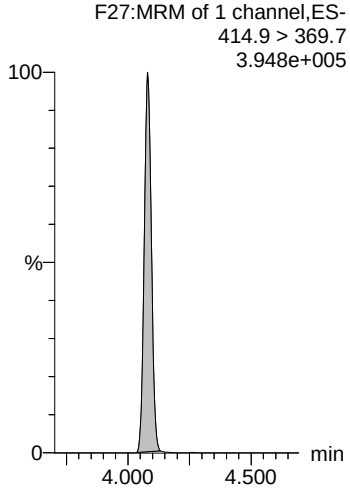
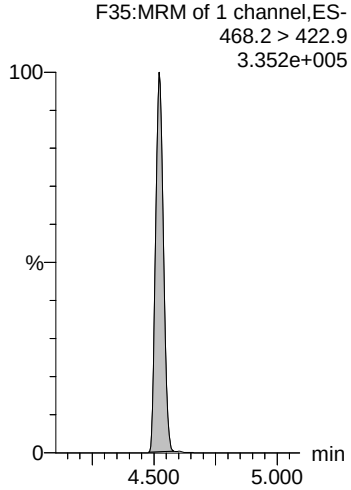
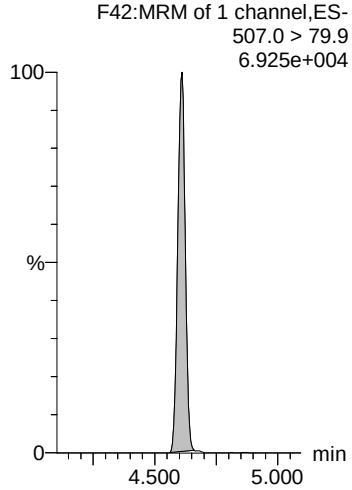


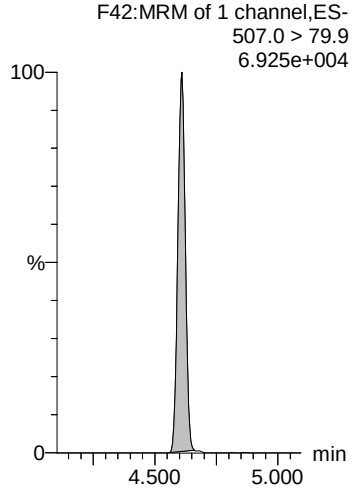
13C5-PFNA



13C8-PFOS



13C8-PFOS

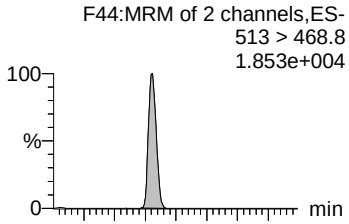


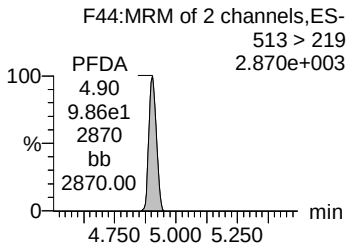
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-41.qld

Last Altered: Tuesday, July 16, 2019 13:56:17 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:56:38 Pacific Daylight Time

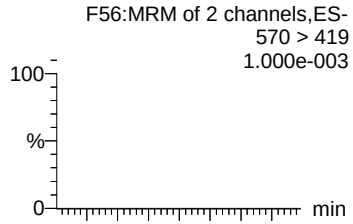
Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

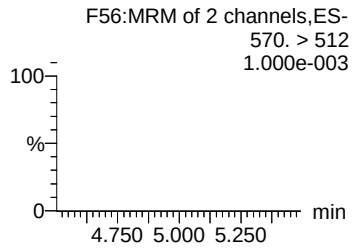
PFDA



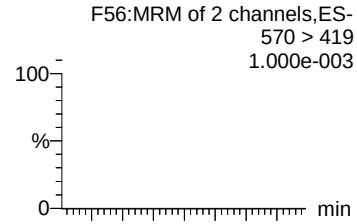


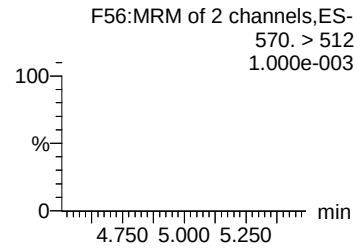
L-MeFOSAA



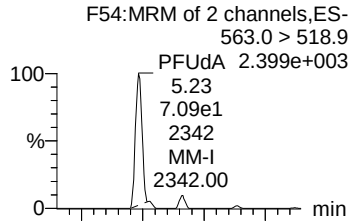


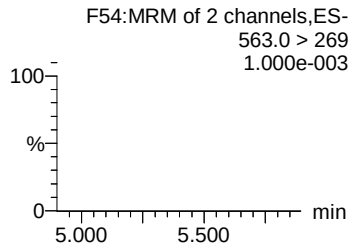
Total N-MeFOSAA



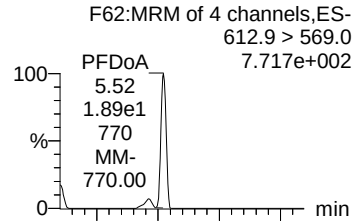


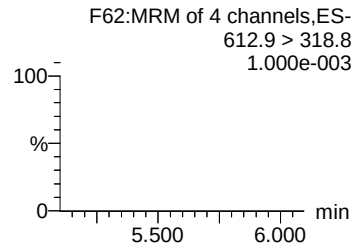
PFUdA



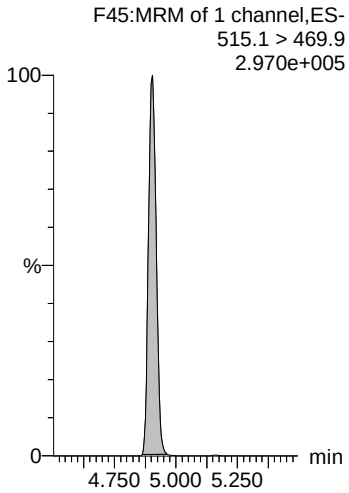


PFDoA

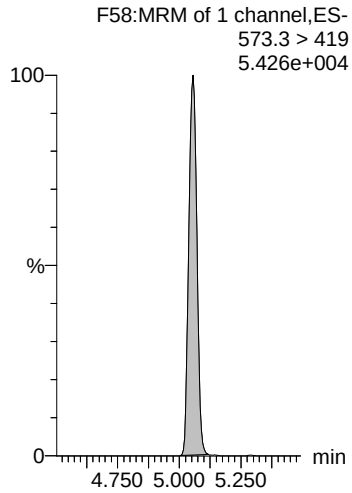




13C2-PFDA



d3-N-MeFOSAA



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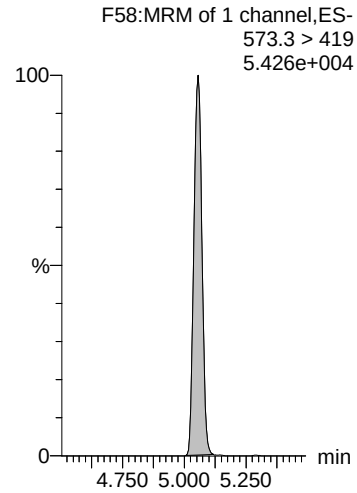
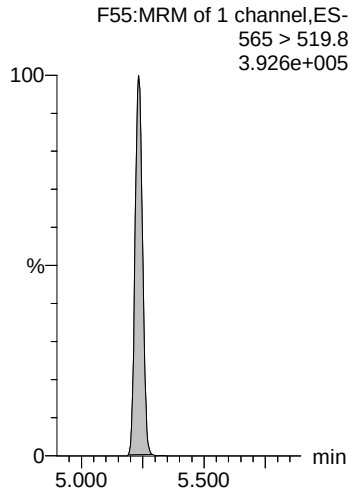
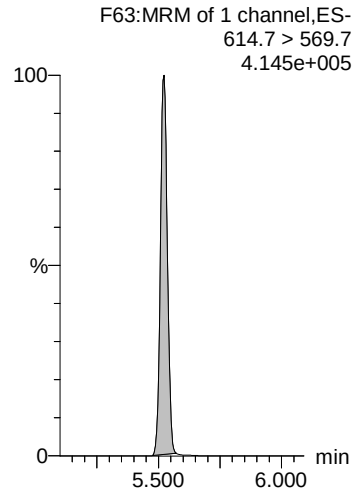


13C2-PFUdA



13C2-PFDoA



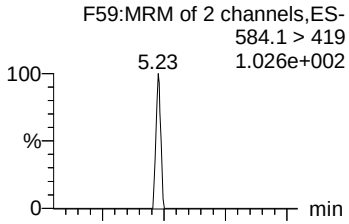
Review: AMR 7/16/2019

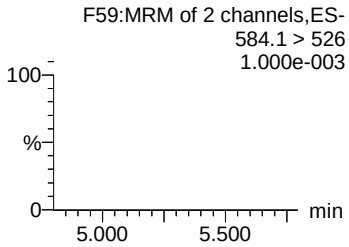
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-41.qld

Last Altered: Tuesday, July 16, 2019 13:56:17 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:56:38 Pacific Daylight Time

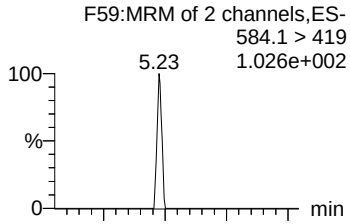
Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

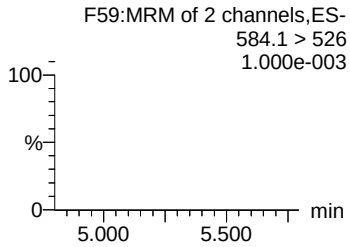
L-EtFOSAA



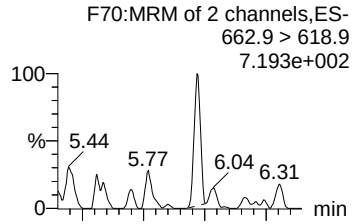


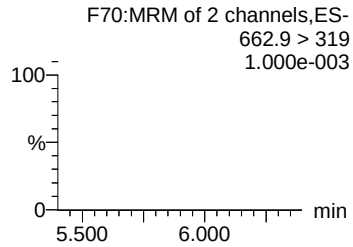
Total N-EtFOSAA



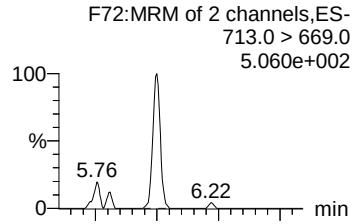


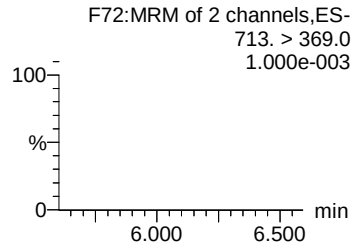
PFTrDA



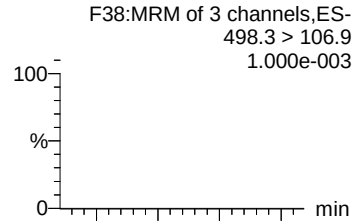


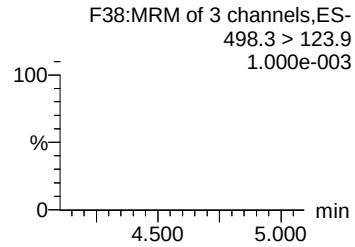
PFTeDA



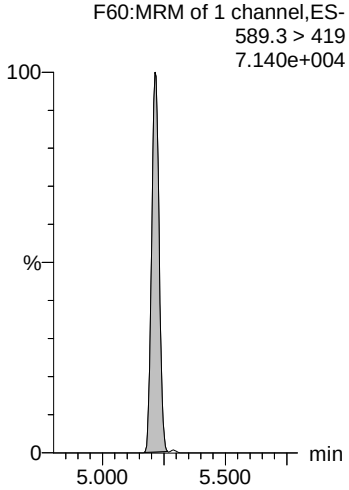


TDCA

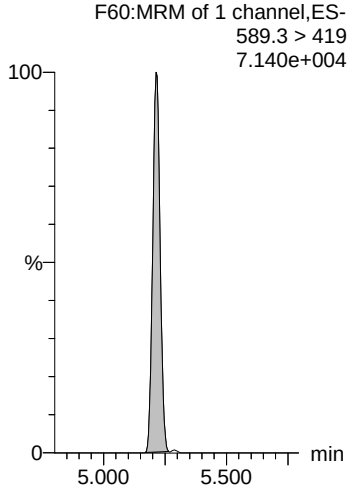




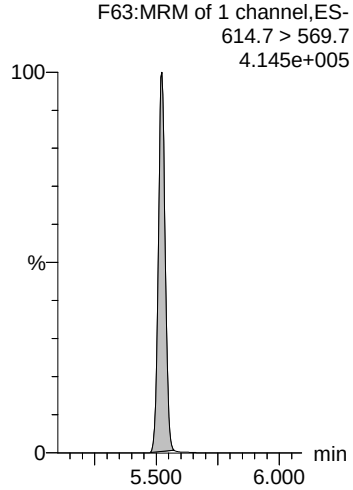
d5-N-EtFOSAA



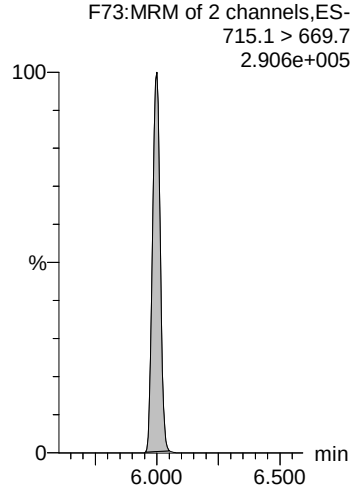
d5-N-EtFOSAA



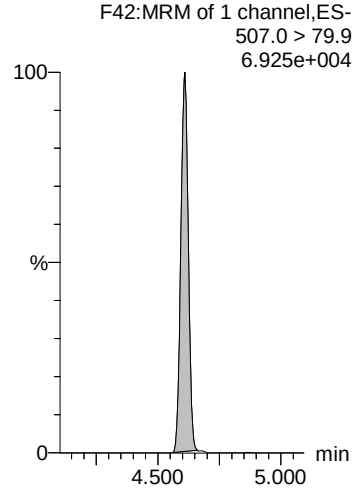
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



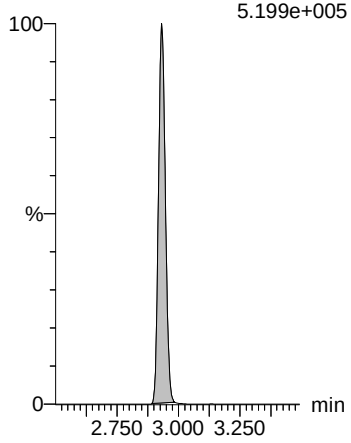
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-41.qld

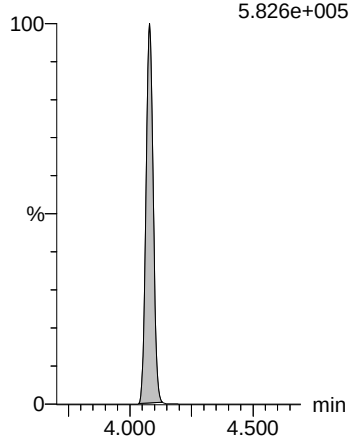
Last Altered: Tuesday, July 16, 2019 13:56:17 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:56:38 Pacific Daylight Time

Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

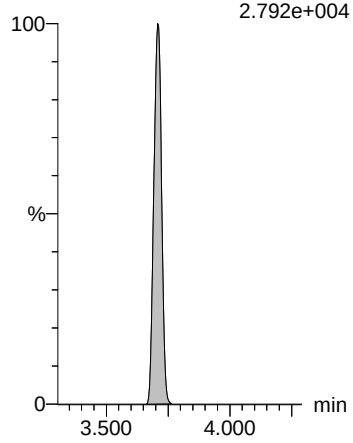
13C5-PFHxA



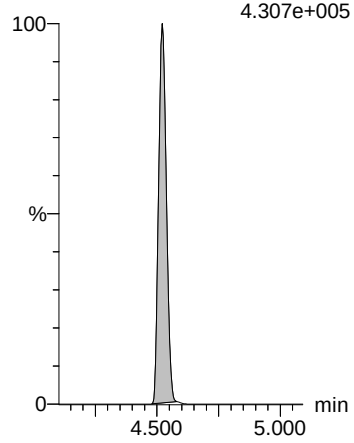
13C8-PFOA



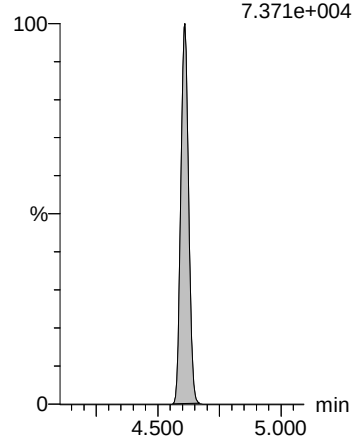
18O2-PFHxS



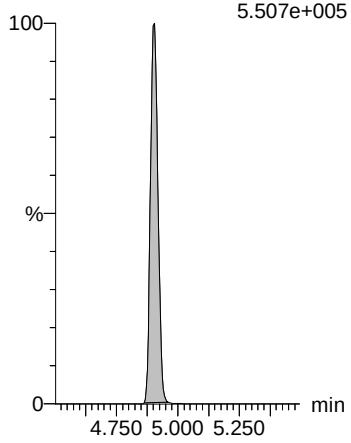
13C9-PFNA



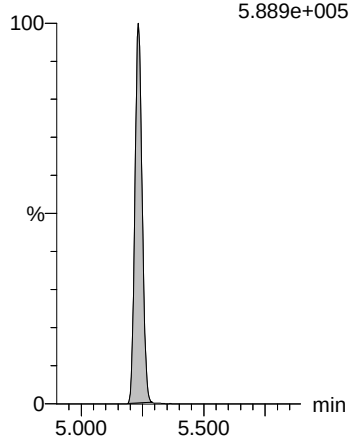
13C4-PFOS



13C6-PFDA



13C7-PFUdA



NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-23.qld

Last Altered: Monday, July 15, 2019 14:23:21 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:25:12 Pacific Daylight Time

Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	2.15e3	1.01e3	1.01		2.42	2.42	26.6	11.1583		2.821	NO
2	7	PFHxA	313.0 > 269.0	1.58e4	6.11e3	1.01		2.93	2.93	12.9	14.6088		16.224	NO
3	11	PFHpA	363.0 > 318.9	1.01e4	7.77e3	1.01		3.55	3.55	16.3	12.3280		14.190	NO
4	13	L-PFHxS	398.9 > 79.6	1.88e3	1.91e3	1.01		3.71	3.71	12.3	12.8716		1.866	NO
5	80	Total PFHxS	398.9 > 79.6	1.88e3	1.91e3	1.01		3.83		12.3	12.8716			
6	49	13C3-PFBS	302.0 > 98.8	1.01e3	9.04e2	1.01	1.073	2.41	2.42	14.0	12.8870	104.1		
7	52	13C2-PFHxA	315.0 > 270.0	6.11e3	1.71e4	1.01	1.009	2.92	2.93	4.48	4.3929	88.7		
8	53	13C4-PFHpA	367.2 > 321.8	7.77e3	1.71e4	1.01	0.512	3.54	3.55	5.70	11.0116	89.0		
9	54	13C3-PFHxS	401.8 > 79.9	1.91e3	9.04e2	1.01	2.197	3.70	3.71	26.4	11.9122	96.3		
10	54	13C3-PFHxS	401.8 > 79.9	1.91e3	9.04e2	1.01	2.197	3.70	3.71	26.4	11.9122	96.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.91e4	1.26e4	1.01		4.08	4.08	19.0	13.7028		3.543	NO
13	81	Total PFOA	412.8 > 368.9	1.91e4	1.26e4	1.01		4.21		19.0	13.7028			
14	21	PFNA	463.0 > 418.8	1.36e4	1.18e4	1.01		4.52	4.52	14.4	11.6013		4.982	NO
15	23	L-PFOS	498.9 > 79.9	3.91e3	2.28e3	1.01		4.61	4.61	21.4	19.1684		1.919	NO
16	82	Total PFOS	498.9 > 79.9	3.92e3	2.28e3	1.01		4.74		21.5	19.3401			
17	58	13C2-PFOA	414.9 > 369.7	1.26e4	1.92e4	1.01	0.789	4.07	4.08	8.20	10.2827	83.1		
18	58	13C2-PFOA	414.9 > 369.7	1.26e4	1.92e4	1.01	0.789	4.07	4.08	8.20	10.2827	83.1		
19	56	13C5-PFNA	468.2 > 422.9	1.18e4	1.50e4	1.01	0.991	4.52	4.52	9.87	9.8602	79.7		
20	59	13C8-PFOS	507.0 > 79.9	2.28e3	2.52e3	1.01	1.017	4.60	4.61	11.3	11.0049	88.9		
21	59	13C8-PFOS	507.0 > 79.9	2.28e3	2.52e3	1.01	1.017	4.60	4.61	11.3	11.0049	88.9		
22	-1													
23	26	PFDA	513 > 468.8	1.36e4	9.77e3	1.01		4.90	4.90	17.4	12.5662		5.926	NO
24	29	L-MeFOSAA	570 > 419	4.77e3	1.91e3	1.01		5.05	5.06	31.1	10.5901		2.499	NO
25	83	Total N-MeFOSAA	570. > 419	4.77e3	1.91e3	1.01		5.19		31.1	10.5901			
26	33	PFUdA	563.0 > 518.9	1.14e4	1.26e4	1.01		5.23	5.23	11.3	12.1495		11.090	NO
27	37	PFDoA	612.9 > 569.0	1.29e4	1.32e4	1.01		5.52	5.52	12.2	11.5834		9.006	NO
28	60	13C2-PFDA	515.1 > 469.9	9.77e3	1.86e4	1.01	0.808	4.90	4.90	6.58	8.0585	65.1		
29	62	d3-N-MeFOSAA	573.3 > 419	1.91e3	1.92e4	1.01	0.140	5.05	5.05	1.25	8.8396	71.4		
30	62	d3-N-MeFOSAA	573.3 > 419	1.91e3	1.92e4	1.01	0.140	5.05	5.05	1.25	8.8396	71.4		
31	63	13C2-PFUdA	565 > 519.8	1.26e4	1.92e4	1.01	1.051	5.23	5.23	8.23	7.7577	62.7		
32	65	13C2-PFDoA	614.7 > 569.7	1.32e4	1.86e4	1.01	1.041	5.52	5.52	8.85	8.4236	68.1		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	3.79e3	2.27e3	1.01		5.21	5.22	20.9	12.6842		1.459	NO
35	84	Total N-EtFOSAA	584.1 > 419	3.79e3	2.27e3	1.01		5.33		20.9	12.6842			
36	39	PFTrDA	662.9 > 618.9	1.52e4	1.32e4	1.01		5.77	5.78	14.5	11.9541		27.287	NO

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-23.qld

Last Altered: Monday, July 15, 2019 14:23:21 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:25:12 Pacific Daylight Time

Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0	1.27e4	9.78e3	1.01		6.00	6.00	16.2	12.0393		14.290	NO
38	85	TDCA	498.3>106.9			1.01		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.27e3	1.92e4	1.01	0.168	5.21	5.21	1.48	8.7439	70.7		
40	64	d5-N-EtFOSAA	589.3 > 419	2.27e3	1.92e4	1.01	0.168	5.21	5.21	1.48	8.7439	70.7		
41	65	13C2-PFDoA	614.7 > 569.7	1.32e4	1.86e4	1.01	1.041	5.52	5.52	8.85	8.4236	68.1		
42	67	13C2-PFTeDA	715.1 > 669.7	9.78e3	1.92e4	1.01	0.690	5.99	6.00	6.37	9.1359	73.8		
43	59	13C8-PFOS	507.0 > 79.9	2.28e3	2.52e3	1.01	1.017	4.60	4.61	11.3	11.0049	88.9		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.71e4	1.71e4	1.01	1.000	2.92	2.93	12.5	12.3762	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.92e4	1.92e4	1.01	1.000	4.07	4.08	12.5	12.3762	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	9.04e2	9.04e2	1.01	1.000	3.70	3.71	12.5	12.3762	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.50e4	1.50e4	1.01	1.000	4.52	4.52	12.5	12.3762	100.0		
49	77	13C4-PFOS	503 > 79.9	2.52e3	2.52e3	1.01	1.000	4.61	4.61	12.5	12.3762	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.86e4	1.86e4	1.01	1.000	4.89	4.90	12.5	12.3762	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.92e4	1.92e4	1.01	1.000	5.23	5.23	12.5	12.3762	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

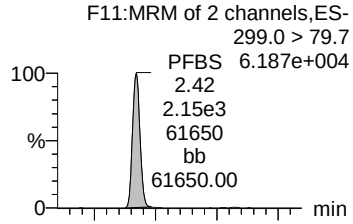
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-23.qld

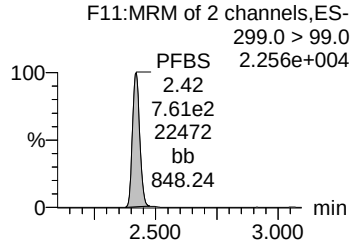
Last Altered: Monday, July 15, 2019 14:23:21 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:25:12 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

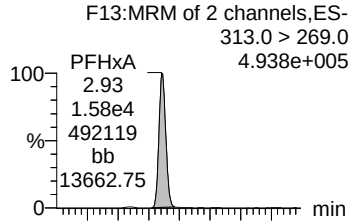
Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

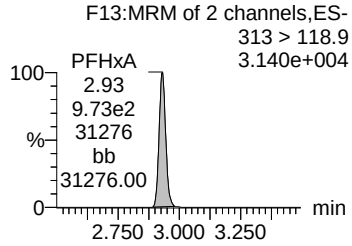
PFBS



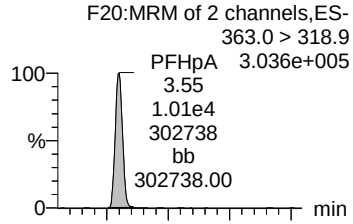


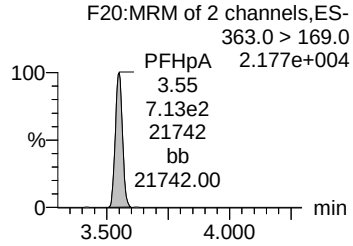
PFHxA



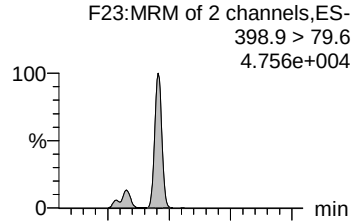


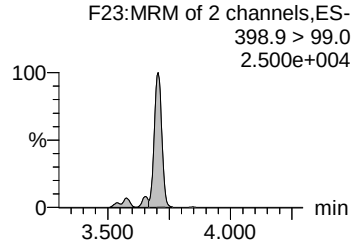
PFHpA



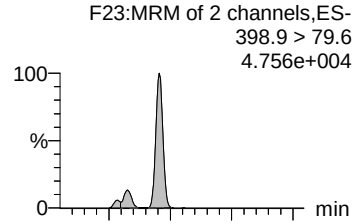


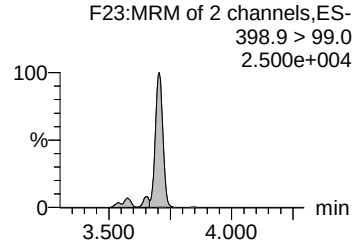
L-PFHxS



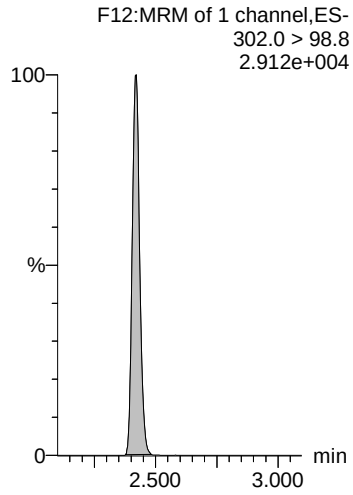


Total PFHxS

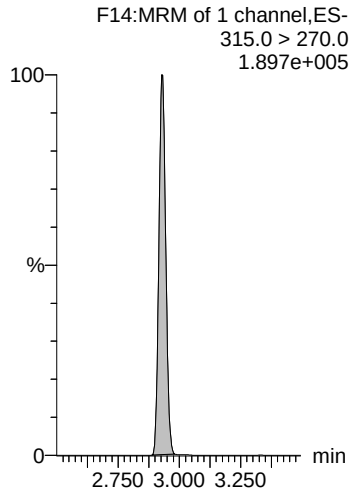




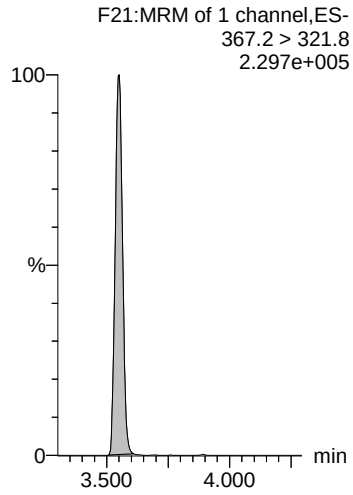
13C3-PFBS



13C2-PFHxA



13C4-PFHpA



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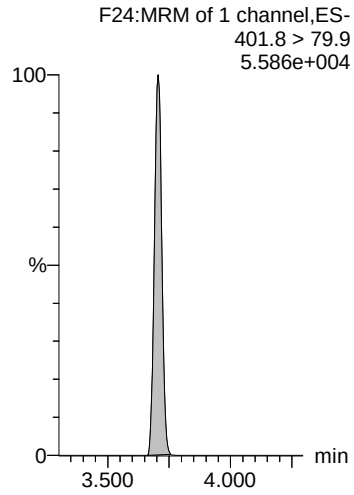

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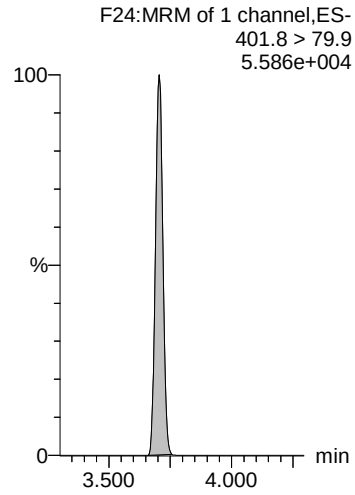


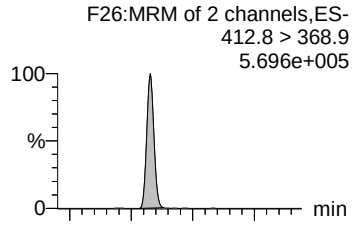
Review: AMR 7/16/2019

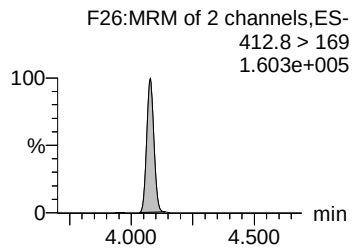
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-23.qld

Last Altered: Monday, July 15, 2019 14:23:21 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:25:12 Pacific Daylight Time

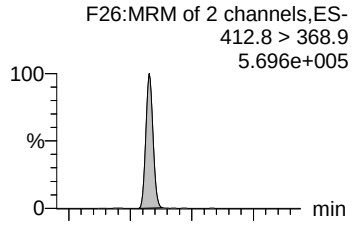
Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

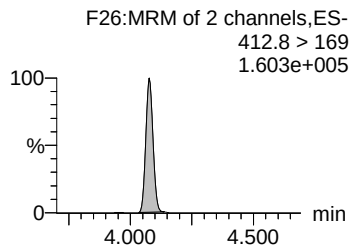
L-PFOA



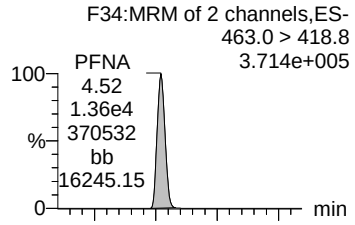


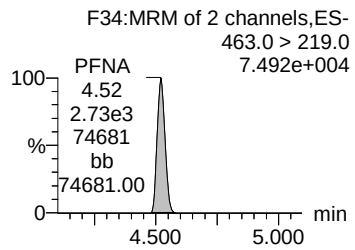
Total PFOA



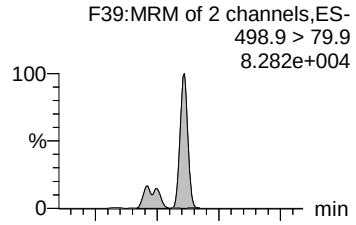


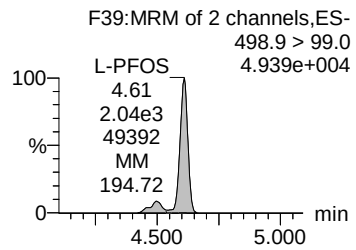
PFNA



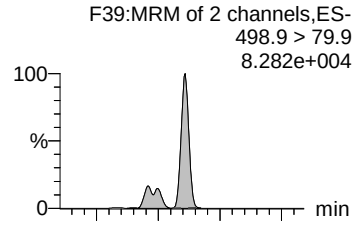


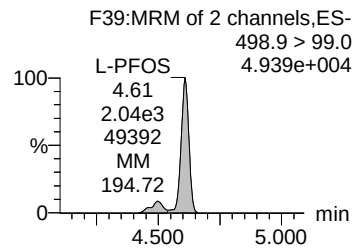
L-PFOS



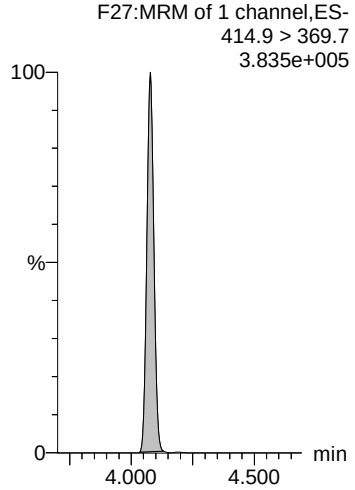


Total PFOS





13C2-PFOA



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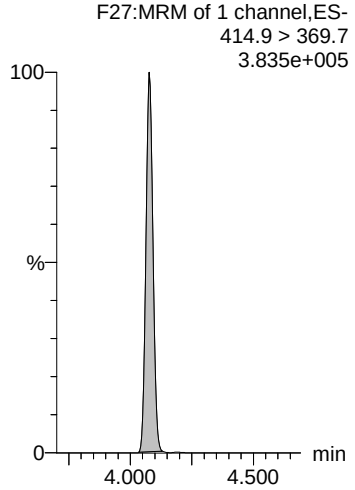

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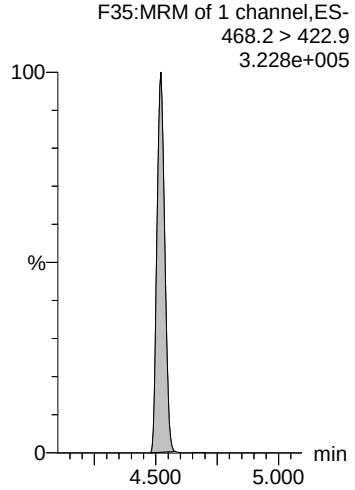
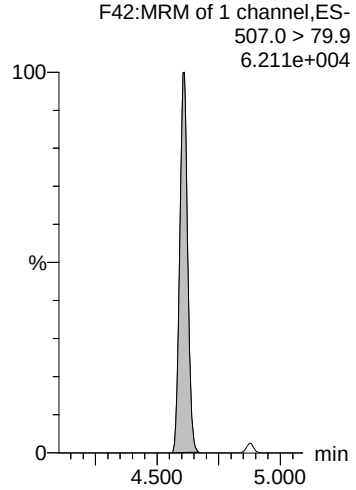


13C8-PFOS



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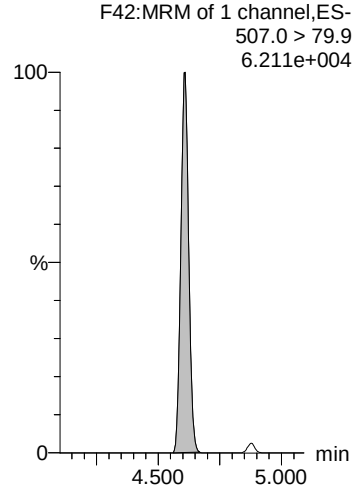


 NY 7/15/2019

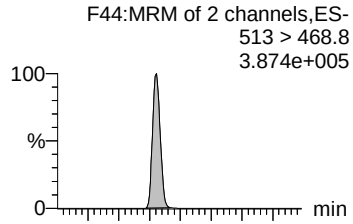
Review: AMR 7/16/2019

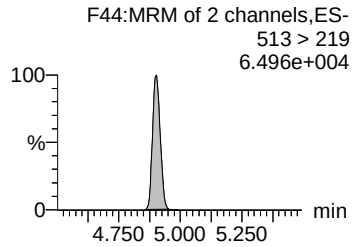
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-23.qld

Last Altered: Monday, July 15, 2019 14:23:21 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:25:12 Pacific Daylight Time

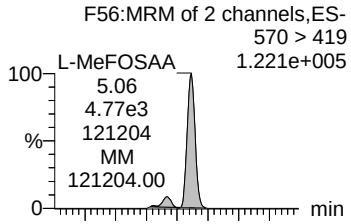
Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

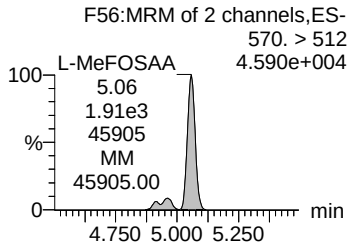
PFDA



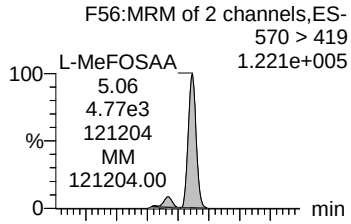


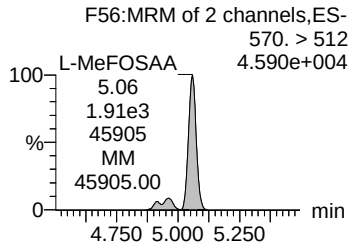
L-MeFOSAA



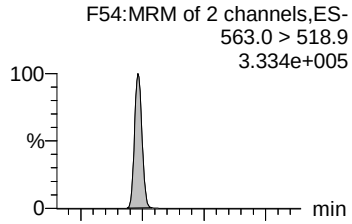


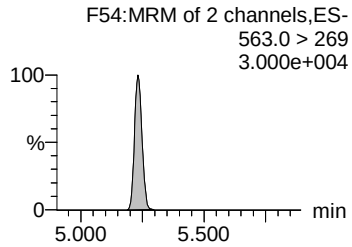
Total N-MeFOSAA



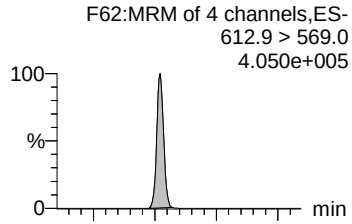


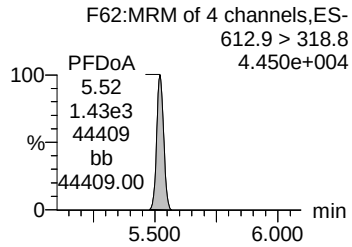
PFUdA



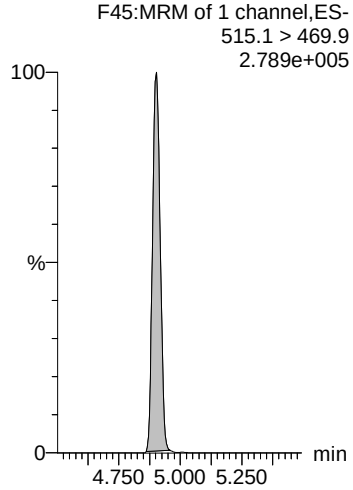


PFDoA

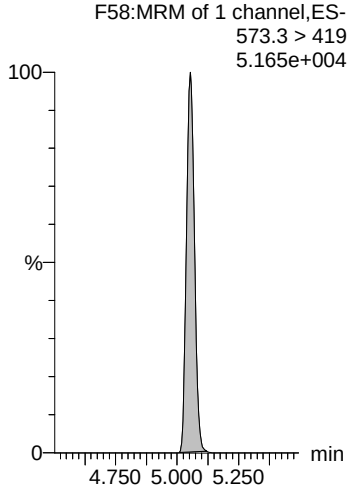




13C2-PFDA



d3-N-MeFOSAA



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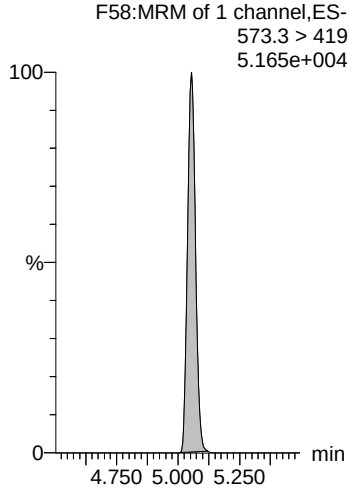
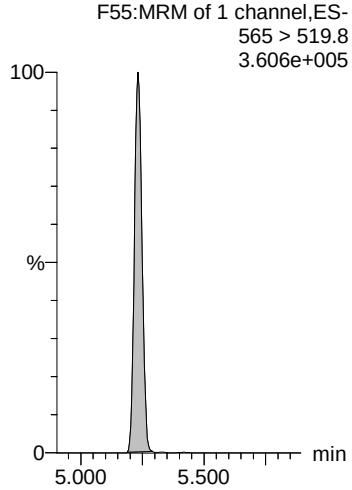
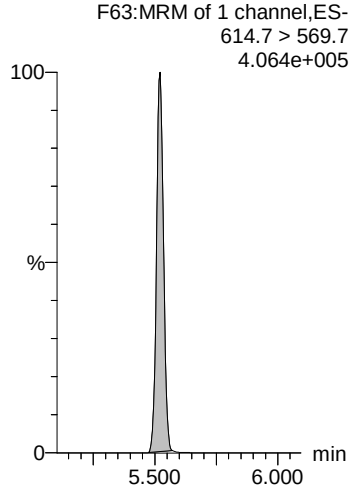


13C2-PFUdA



13C2-PFDoA



 NY 7/15/2019

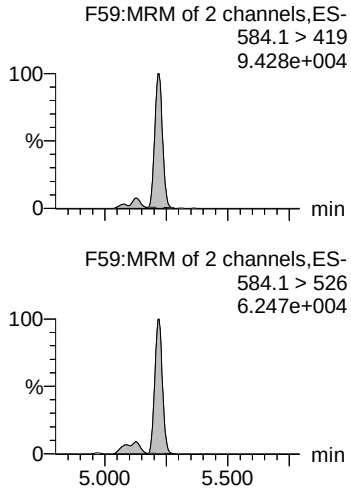
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-23.qld

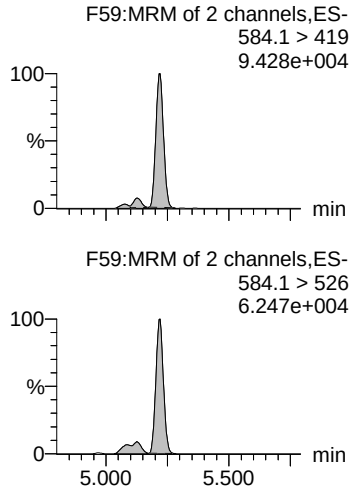
Last Altered: Monday, July 15, 2019 14:23:21 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:25:12 Pacific Daylight Time

Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

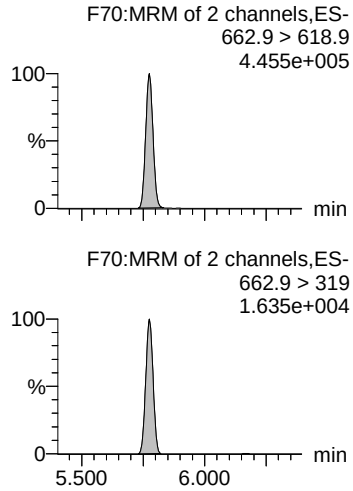
L-EtFOSAA



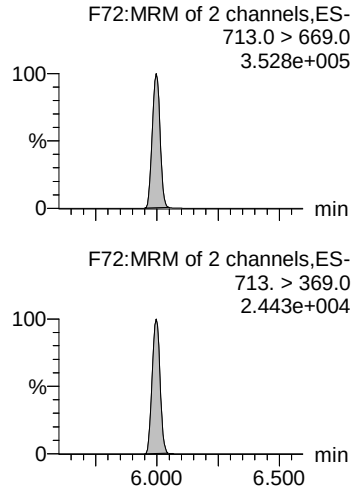
Total N-EtFOSAA



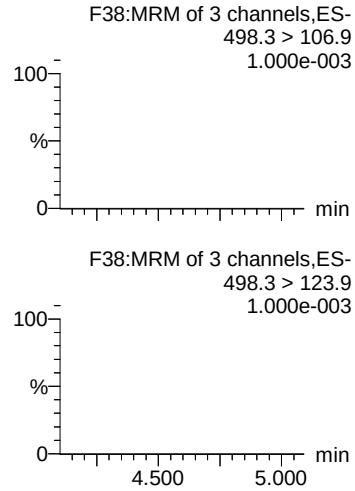
PFTrDA



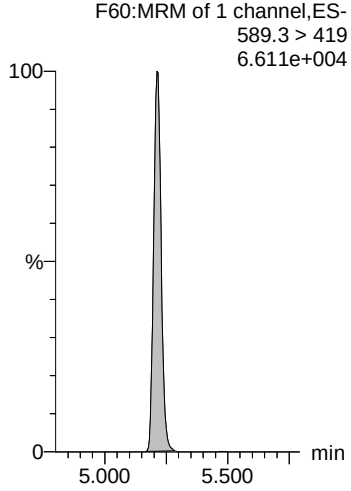
PFTeDA



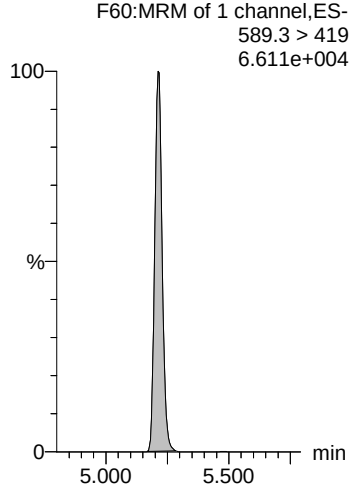
TDCA



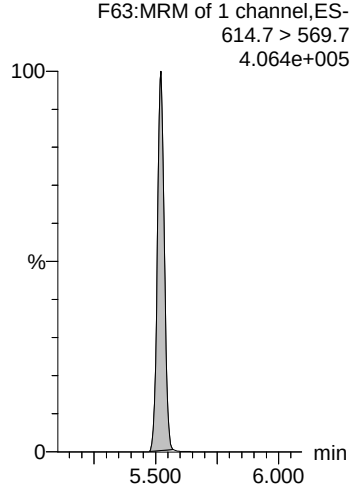
d5-N-EtFOSAA



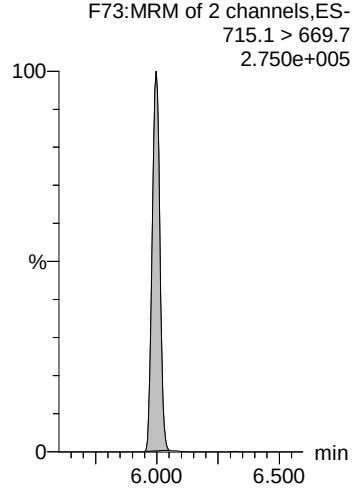
d5-N-EtFOSAA



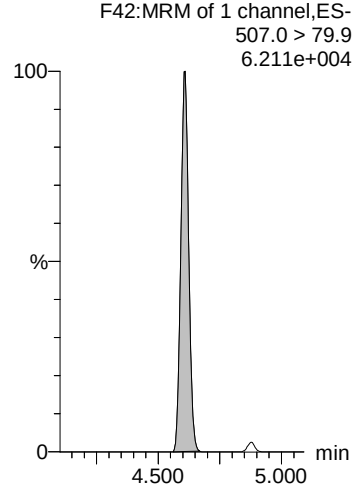
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



 NY 7/15/2019

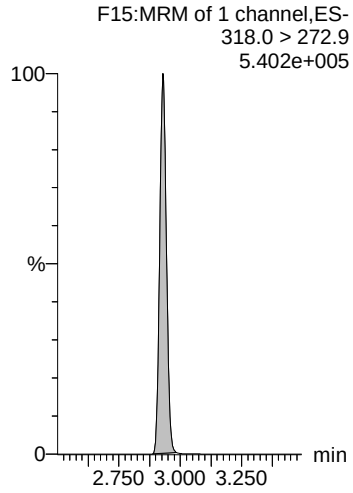
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-23.qld

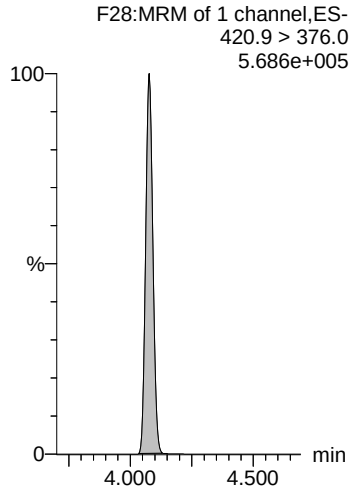
Last Altered: Monday, July 15, 2019 14:23:21 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:25:12 Pacific Daylight Time

Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

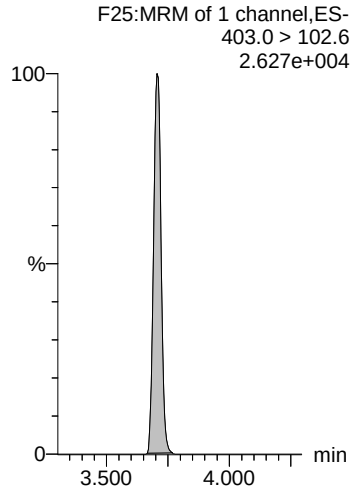
13C5-PFHxA



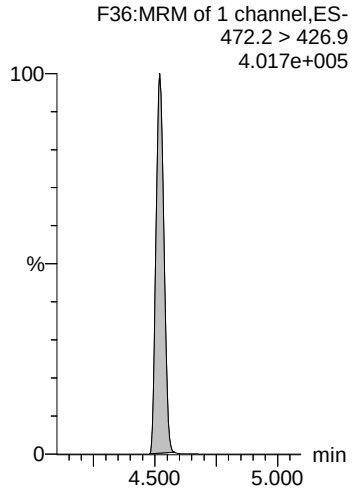
13C8-PFOA



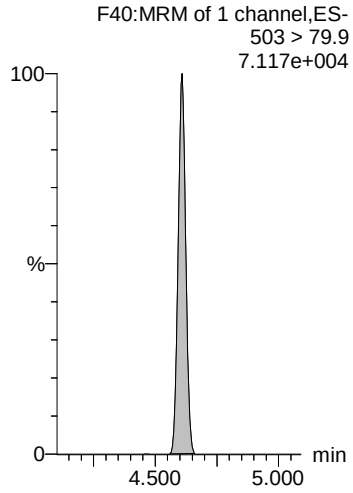
18O2-PFHxS



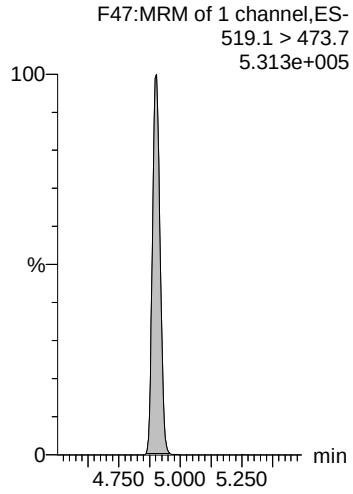
13C9-PFNA



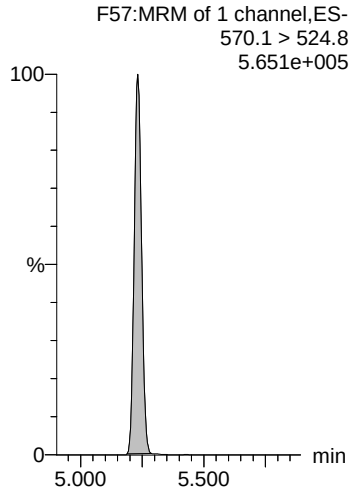
13C4-PFOS



13C6-PFDA



13C7-PFUdA



 NY 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-24.qld

Last Altered: Monday, July 15, 2019 14:29:11 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:30:35 Pacific Daylight Time

Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	2.03e3	1.02e3	1.03		2.42	2.42	24.9	10.2579		2.665	NO
2	7	PFHxA	313.0 > 269.0	1.68e4	6.01e3	1.03		2.93	2.93	14.0	15.5088		14.996	NO
3	11	PFHpA	363.0 > 318.9	1.06e4	7.60e3	1.03		3.55	3.55	17.5	13.0012		14.546	NO
4	13	L-PFHxS	398.9 > 79.6	1.94e3	2.04e3	1.03		3.71	3.71	11.9	12.2303		1.864	NO
5	80	Total PFHxS	398.9 > 79.6	1.94e3	2.04e3	1.03		3.83		11.9	12.2303			
6	49	13C3-PFBS	302.0 > 98.8	1.02e3	9.77e2	1.03	1.073	2.41	2.42	13.0	11.7753	97.0		
7	52	13C2-PFHxA	315.0 > 270.0	6.01e3	1.76e4	1.03	1.009	2.92	2.93	4.26	4.0978	84.4		
8	53	13C4-PFHpA	367.2 > 321.8	7.60e3	1.76e4	1.03	0.512	3.54	3.55	5.39	10.2127	84.2		
9	54	13C3-PFHxS	401.8 > 79.9	2.04e3	9.77e2	1.03	2.197	3.70	3.71	26.1	11.5341	95.0		
10	54	13C3-PFHxS	401.8 > 79.9	2.04e3	9.77e2	1.03	2.197	3.70	3.71	26.1	11.5341	95.0		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.84e4	1.28e4	1.03		4.08	4.08	17.9	12.7020		3.392	NO
13	81	Total PFOA	412.8 > 368.9	1.84e4	1.28e4	1.03		4.21		17.9	12.7020			
14	21	PFNA	463.0 > 418.8	1.27e4	1.11e4	1.03		4.52	4.52	14.3	11.2839		4.602	NO
15	23	L-PFOS	498.9 > 79.9	3.99e3	2.30e3	1.03		4.61	4.61	21.7	19.0674		2.044	NO
16	82	Total PFOS	498.9 > 79.9	3.99e3	2.30e3	1.03		4.74		21.7	19.0674			
17	58	13C2-PFOA	414.9 > 369.7	1.28e4	1.97e4	1.03	0.789	4.07	4.08	8.16	10.0372	82.7		
18	58	13C2-PFOA	414.9 > 369.7	1.28e4	1.97e4	1.03	0.789	4.07	4.08	8.16	10.0372	82.7		
19	56	13C5-PFNA	468.2 > 422.9	1.11e4	1.55e4	1.03	0.991	4.52	4.52	9.00	8.8142	72.6		
20	59	13C8-PFOS	507.0 > 79.9	2.30e3	2.70e3	1.03	1.017	4.60	4.61	10.6	10.1533	83.7		
21	59	13C8-PFOS	507.0 > 79.9	2.30e3	2.70e3	1.03	1.017	4.60	4.61	10.6	10.1533	83.7		
22	-1													
23	26	PFDA	513 > 468.8	1.20e4	9.19e3	1.03		4.90	4.90	16.3	11.5826		5.552	NO
24	29	L-MeFOSAA	570 > 419	4.73e3	2.07e3	1.03		5.05	5.06	28.5	9.5210		2.426	NO
25	83	Total N-MeFOSAA	570. > 419	4.73e3	2.07e3	1.03		5.19		28.5	9.5210			
26	33	PFUdA	563.0 > 518.9	1.15e4	1.33e4	1.03		5.23	5.23	10.8	11.3888		11.600	NO
27	37	PFDoA	612.9 > 569.0	1.26e4	1.33e4	1.03		5.52	5.52	11.8	10.9847		8.163	NO
28	60	13C2-PFDA	515.1 > 469.9	9.19e3	1.82e4	1.03	0.808	4.90	4.90	6.32	7.5989	62.6		
29	62	d3-N-MeFOSAA	573.3 > 419	2.07e3	1.99e4	1.03	0.140	5.05	5.05	1.30	9.0532	74.6		
30	62	d3-N-MeFOSAA	573.3 > 419	2.07e3	1.99e4	1.03	0.140	5.05	5.05	1.30	9.0532	74.6		
31	63	13C2-PFUdA	565 > 519.8	1.33e4	1.99e4	1.03	1.051	5.23	5.23	8.37	7.7363	63.7		
32	65	13C2-PFDoA	614.7 > 569.7	1.33e4	1.82e4	1.03	1.041	5.52	5.52	9.18	8.5626	70.6		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	3.38e3	2.46e3	1.03		5.22	5.22	17.2	10.2401		1.336	NO
35	84	Total N-EtFOSAA	584.1 > 419	3.38e3	2.46e3	1.03		5.33		17.2	10.2401			
36	39	PFTrDA	662.9 > 618.9	1.52e4	1.33e4	1.03		5.77	5.78	14.3	11.5746		26.335	NO

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-24.qld

Last Altered: Monday, July 15, 2019 14:29:11 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:30:35 Pacific Daylight Time

Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0	1.29e4	1.03e4	1.03		6.00	6.00	15.7	11.4324		12.536	NO
38	85	TDCA	498.3>106.9			1.03		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.46e3	1.99e4	1.03	0.168	5.21	5.22	1.55	8.9662	73.9		
40	64	d5-N-EtFOSAA	589.3 > 419	2.46e3	1.99e4	1.03	0.168	5.21	5.22	1.55	8.9662	73.9		
41	65	13C2-PFDoA	614.7 > 569.7	1.33e4	1.82e4	1.03	1.041	5.52	5.52	9.18	8.5626	70.6		
42	67	13C2-PFTeDA	715.1 > 669.7	1.03e4	1.99e4	1.03	0.690	5.99	6.00	6.44	9.0668	74.7		
43	59	13C8-PFOS	507.0 > 79.9	2.30e3	2.70e3	1.03	1.017	4.60	4.61	10.6	10.1533	83.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.76e4	1.76e4	1.03	1.000	2.92	2.93	12.5	12.1359	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.97e4	1.97e4	1.03	1.000	4.07	4.08	12.5	12.1359	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	9.77e2	9.77e2	1.03	1.000	3.70	3.71	12.5	12.1359	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.55e4	1.55e4	1.03	1.000	4.52	4.52	12.5	12.1359	100.0		
49	77	13C4-PFOS	503 > 79.9	2.70e3	2.70e3	1.03	1.000	4.61	4.61	12.5	12.1359	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.82e4	1.82e4	1.03	1.000	4.89	4.90	12.5	12.1359	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.99e4	1.99e4	1.03	1.000	5.23	5.23	12.5	12.1359	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

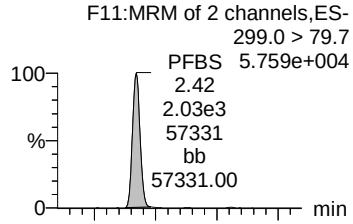
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-24.qld

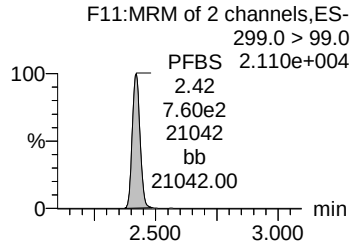
Last Altered: Monday, July 15, 2019 14:29:11 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:30:35 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

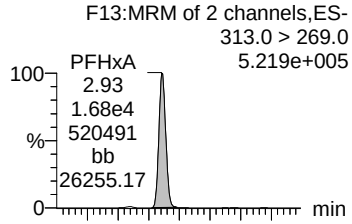
Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

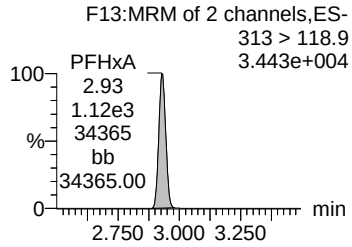
PFBS



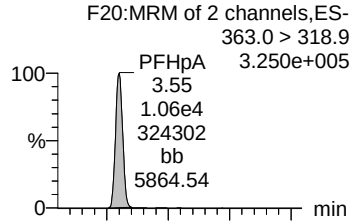


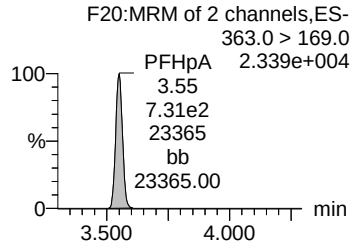
PFHxA



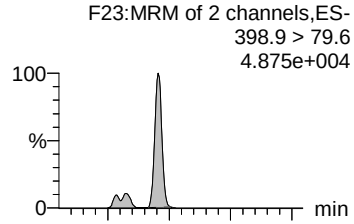


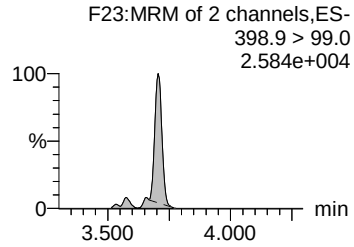
PFHpA



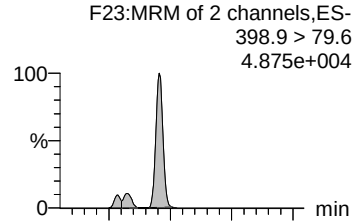


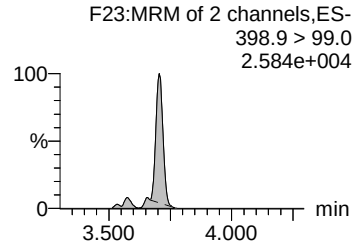
L-PFHxS



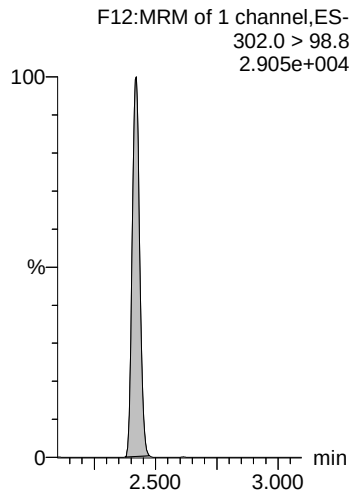


Total PFHxS

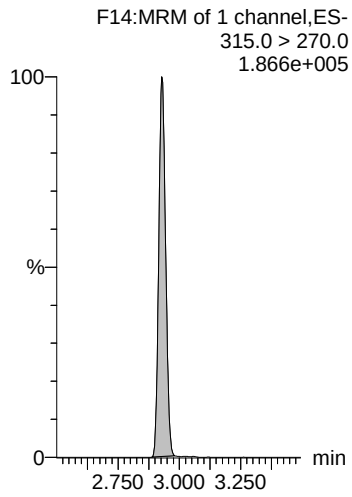




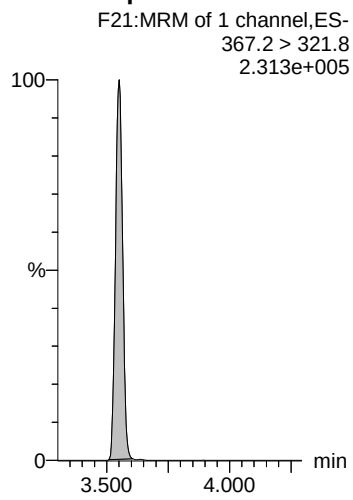
13C3-PFBS



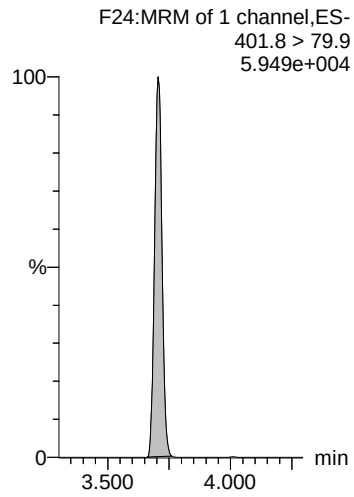
13C2-PFHxA



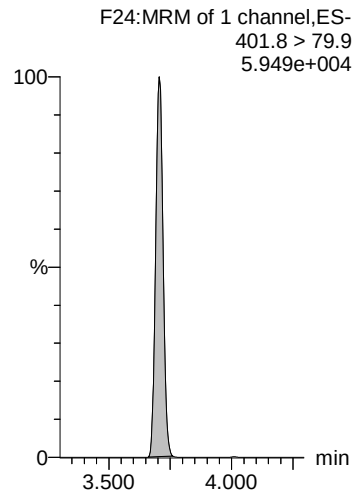
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



Vista Analytical Laboratory L14

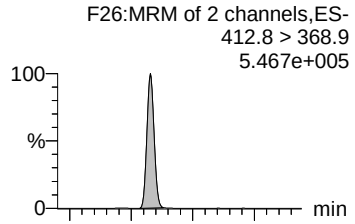
Review: AMR 7/16/2019

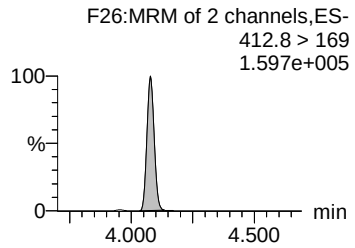
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-24.qld

Last Altered: Monday, July 15, 2019 14:29:11 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:30:35 Pacific Daylight Time

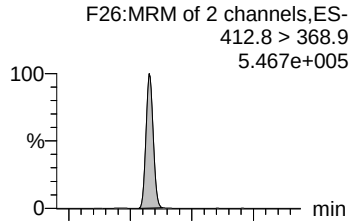
Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

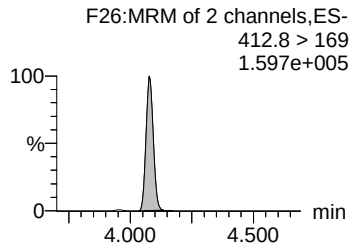
L-PFOA



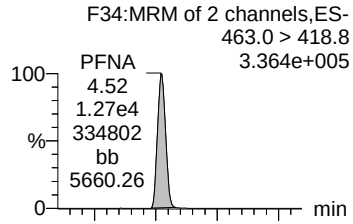


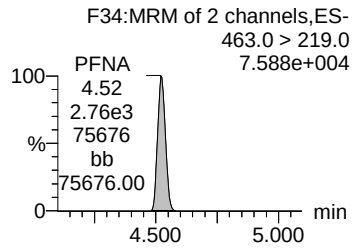
Total PFOA



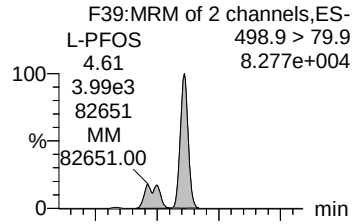


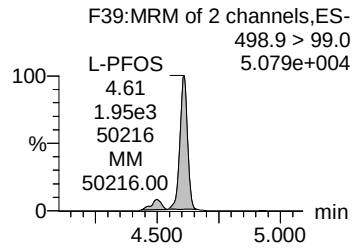
PFNA



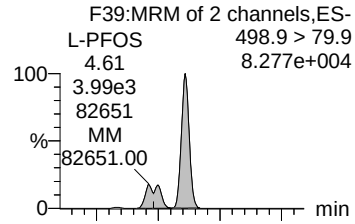


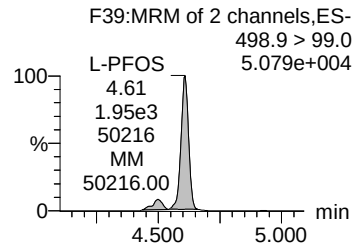
L-PFOS



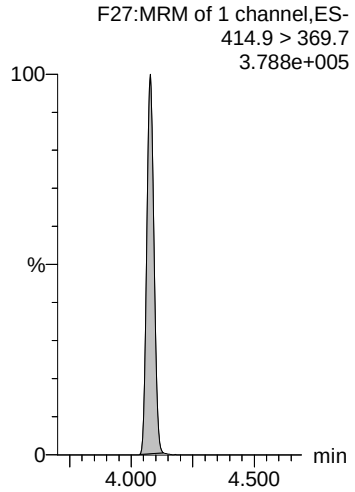


Total PFOS

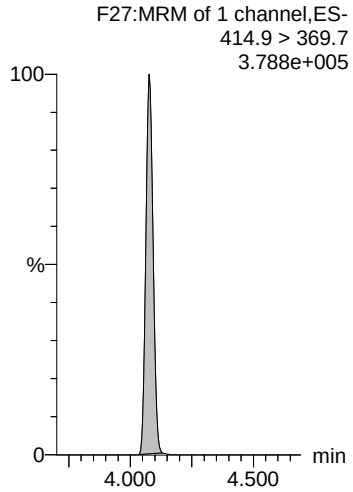




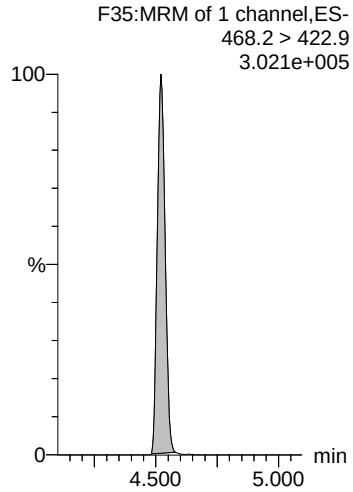
13C2-PFOA



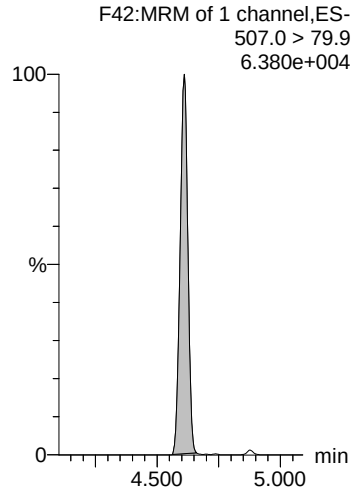
13C2-PFOA



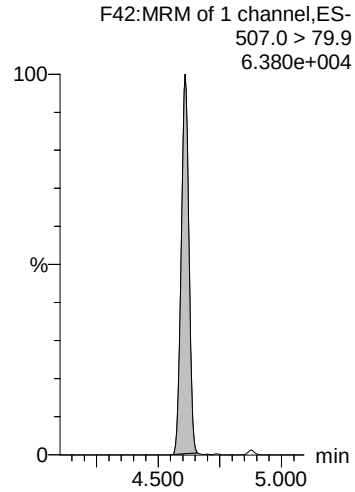
13C5-PFNA



13C8-PFOS



13C8-PFOS



Vista Analytical Laboratory L14

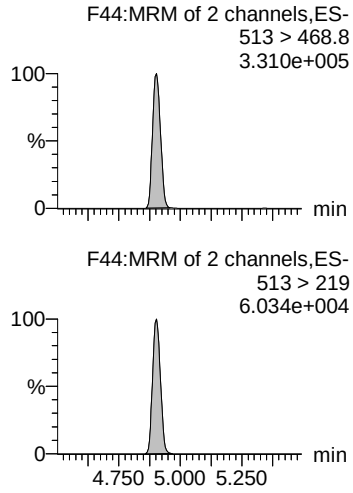
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-24.qld

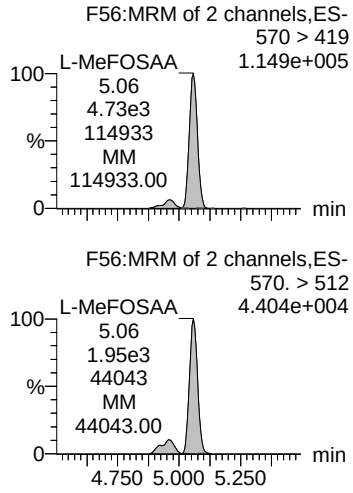
Last Altered: Monday, July 15, 2019 14:29:11 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:30:35 Pacific Daylight Time

Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

PFDA



L-MeFOSAA



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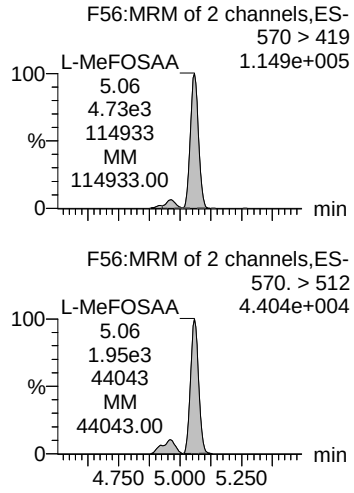
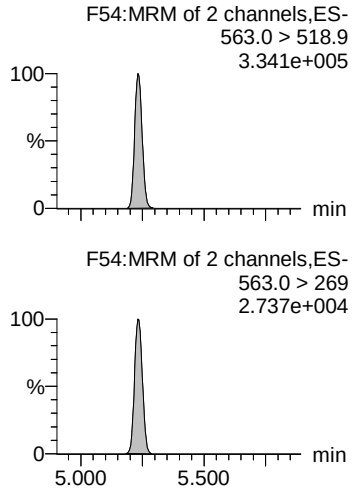
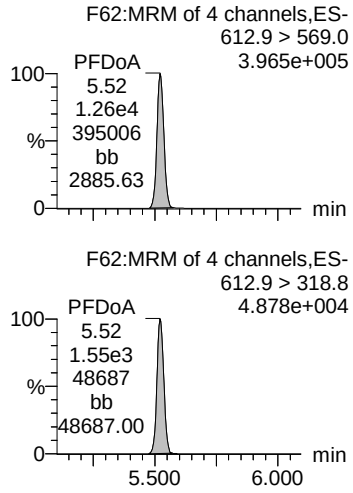


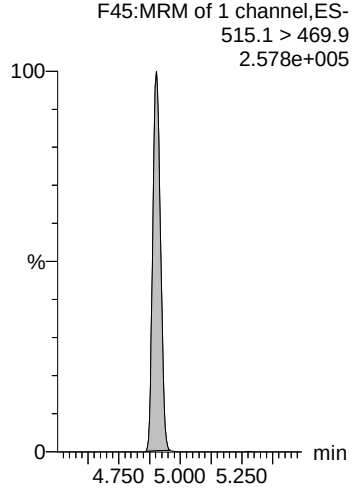
PFUdA



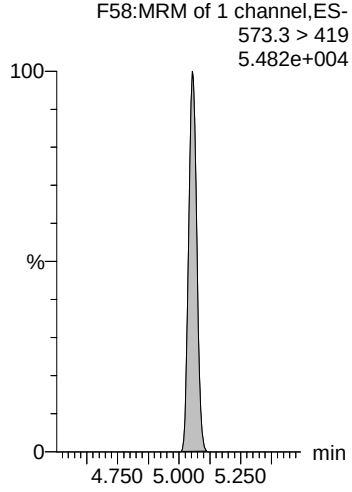
PFDoA



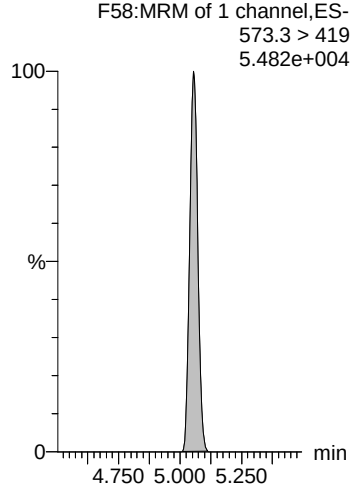
13C2-PFDA



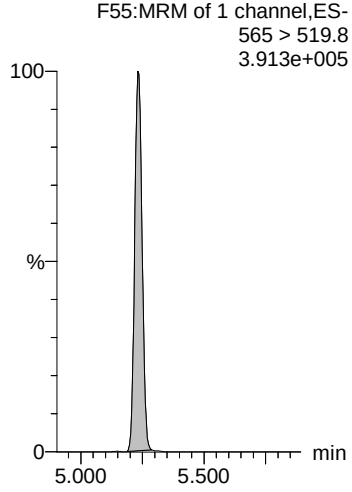
d3-N-MeFOSAA



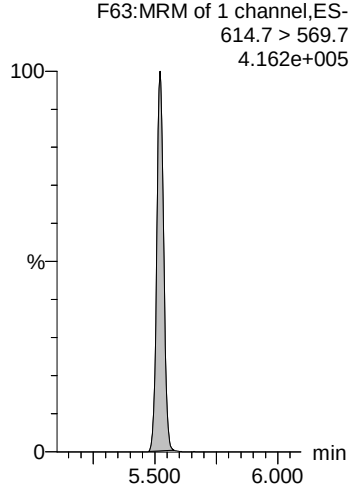
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



NY 7/15/2019

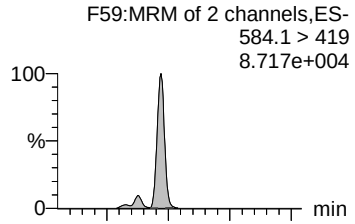
Review: AMR 7/16/2019

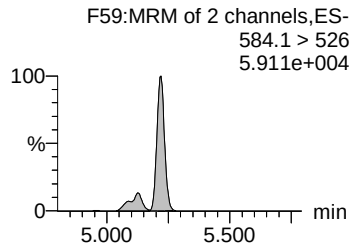
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-24.qld

Last Altered: Monday, July 15, 2019 14:29:11 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:30:35 Pacific Daylight Time

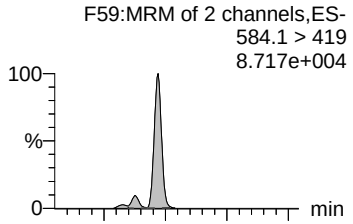
Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

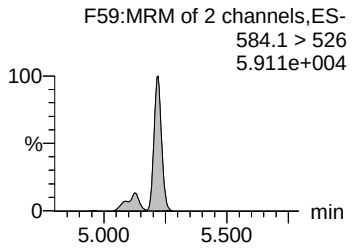
L-EtFOSAA



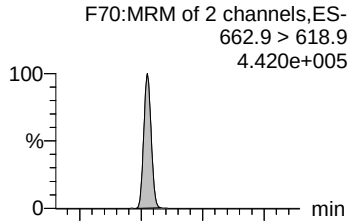


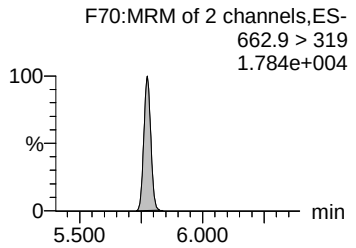
Total N-EtFOSAA



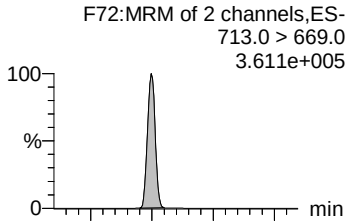


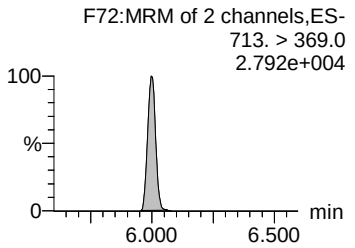
PFTrDA



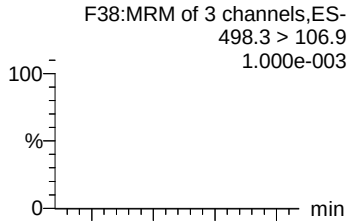


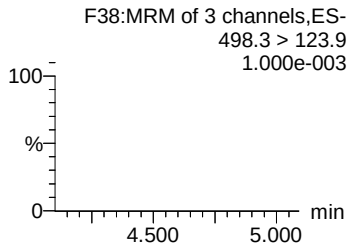
PFTeDA



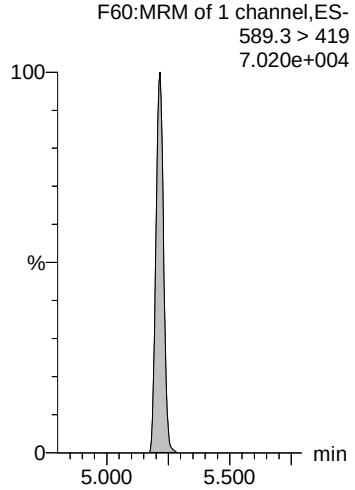


TDCA

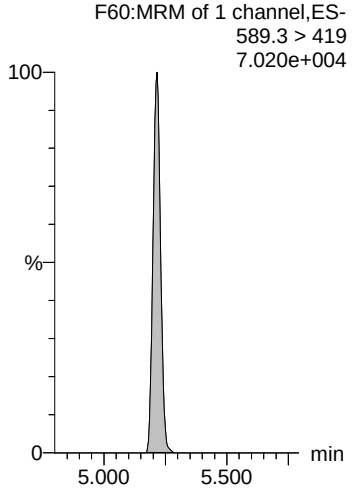




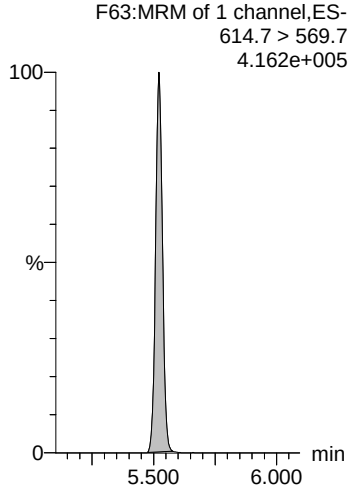
d5-N-EtFOSAA



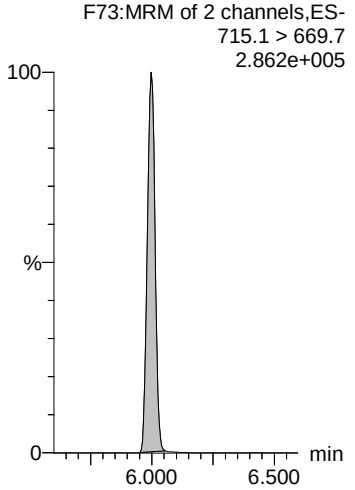
d5-N-EtFOSAA



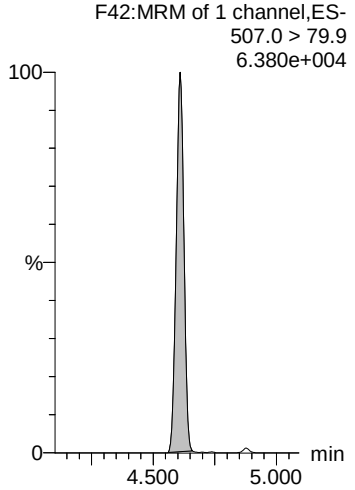
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



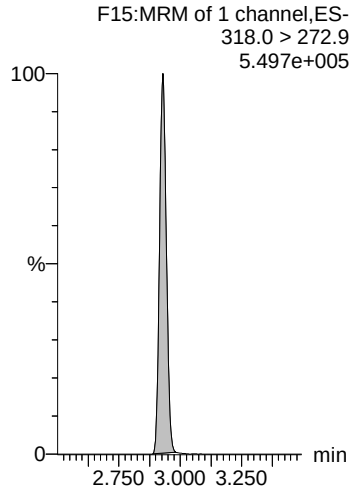
 NY 7/15/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-24.qld

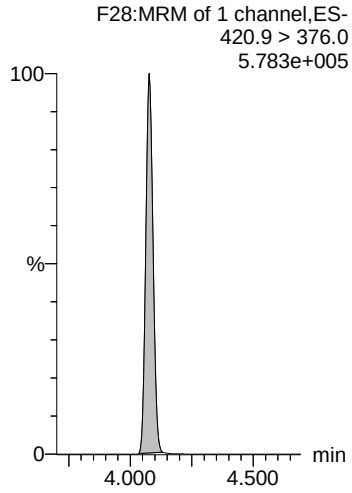
Last Altered: Monday, July 15, 2019 14:29:11 Pacific Daylight Time
Printed: Monday, July 15, 2019 14:30:35 Pacific Daylight Time

Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

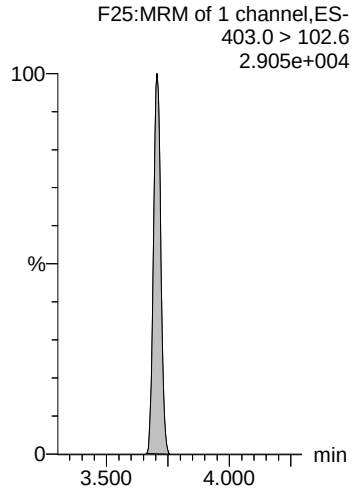
13C5-PFHxA



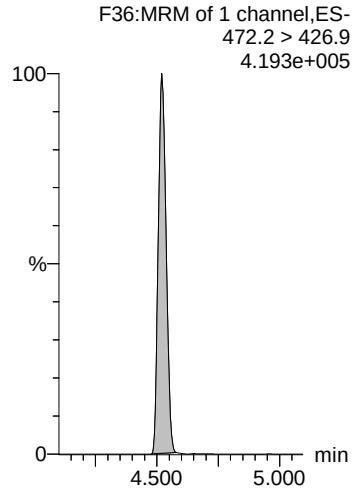
13C8-PFOA



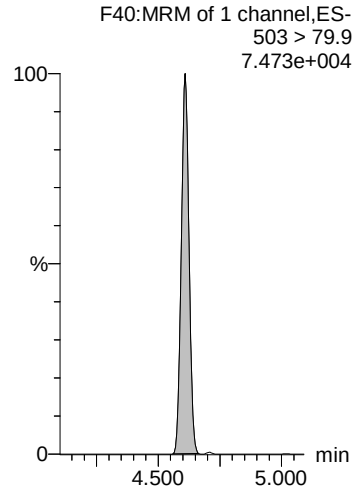
18O2-PFHxS



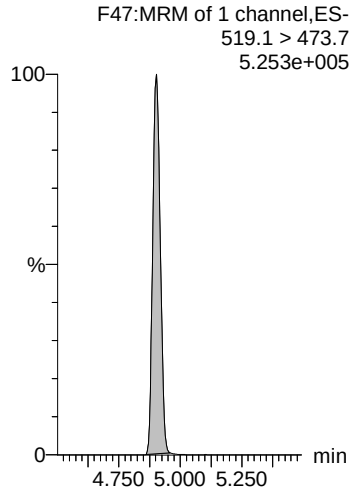
13C9-PFNA



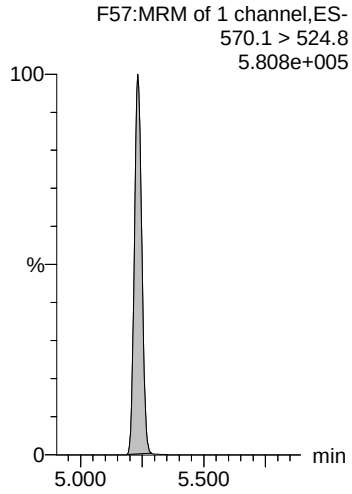
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-42.qld

Last Altered: Tuesday, July 16, 2019 09:39:02 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:40:14 Pacific Daylight Time

Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	7.65e1	1.24e3	1.00		2.42	2.42	0.770	0.3891		5.378	YES
2	7	PFHxA	313.0 > 269.0	7.21e3	7.51e3	1.00		2.93	2.93	4.80	5.4513		16.433	NO
3	11	PFHpA	363.0 > 318.9	1.63e3	9.63e3	1.00		3.55	3.55	2.11	1.6384		14.492	NO
4	13	L-PFHxS	398.9 > 79.6	6.18e2	2.45e3	1.00		3.71	3.71	3.15	3.3805		1.774	NO
5	80	Total PFHxS	398.9 > 79.6	6.18e2	2.45e3	1.00		3.83		3.15	3.3805			
6	49	13C3-PFBS	302.0 > 98.8	1.24e3	1.24e3	1.00	1.073	2.41	2.42	12.5	11.6157	93.2		
7	52	13C2-PFHxA	315.0 > 270.0	7.51e3	2.00e4	1.00	1.009	2.92	2.93	4.71	4.6500	93.3		
8	53	13C4-PFHpA	367.2 > 321.8	9.63e3	2.00e4	1.00	0.512	3.54	3.55	6.03	11.7498	94.3		
9	54	13C3-PFHxS	401.8 > 79.9	2.45e3	1.24e3	1.00	2.197	3.70	3.71	24.7	11.1871	89.8		
10	54	13C3-PFHxS	401.8 > 79.9	2.45e3	1.24e3	1.00	2.197	3.70	3.71	24.7	11.1871	89.8		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.94e3	1.57e4	1.00		4.08	4.08	2.34	1.6574		3.355	NO
13	81	Total PFOA	412.8 > 368.9	2.94e3	1.57e4	1.00		4.21		2.34	1.6574			
14	21	PFNA	463.0 > 418.8	2.12e2	1.37e4	1.00		4.52	4.53	0.194	0.1721		5.983	NO
15	23	L-PFOS	498.9 > 79.9	2.94e3	2.75e3	1.00		4.61	4.61	13.4	12.1132		2.033	NO
16	82	Total PFOS	498.9 > 79.9	2.94e3	2.75e3	1.00		4.74		13.4	12.1132			
17	58	13C2-PFOA	414.9 > 369.7	1.57e4	2.31e4	1.00	0.789	4.07	4.08	8.48	10.7122	85.9		
18	58	13C2-PFOA	414.9 > 369.7	1.57e4	2.31e4	1.00	0.789	4.07	4.08	8.48	10.7122	85.9		
19	56	13C5-PFNA	468.2 > 422.9	1.37e4	1.76e4	1.00	0.991	4.52	4.52	9.70	9.7576	78.3		
20	59	13C8-PFOS	507.0 > 79.9	2.75e3	2.96e3	1.00	1.017	4.60	4.61	11.6	11.3669	91.2		
21	59	13C8-PFOS	507.0 > 79.9	2.75e3	2.96e3	1.00	1.017	4.60	4.61	11.6	11.3669	91.2		
22	-1													
23	26	PFDA	513 > 468.8		1.10e4	1.00		4.90						
24	29	L-MeFOSAA	570 > 419		1.65e3	1.00		5.05						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.65e3	1.00		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.19e4	1.00		5.23						
27	37	PFDoA	612.9 > 569.0		1.03e4	1.00		5.52						
28	60	13C2-PFDA	515.1 > 469.9	1.10e4	2.13e4	1.00	0.808	4.90	4.90	6.45	7.9580	63.8		
29	62	d3-N-MeFOSAA	573.3 > 419	1.65e3	2.26e4	1.00	0.140	5.05	5.05	0.913	6.5210	52.3		
30	62	d3-N-MeFOSAA	573.3 > 419	1.65e3	2.26e4	1.00	0.140	5.05	5.05	0.913	6.5210	52.3		
31	63	13C2-PFUdA	565 > 519.8	1.19e4	2.26e4	1.00	1.051	5.23	5.23	6.57	6.2403	50.1		
32	65	13C2-PFDoA	614.7 > 569.7	1.03e4	2.13e4	1.00	1.041	5.52	5.52	6.03	5.7756	46.3		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.09e3	1.00		5.22						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.09e3	1.00		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.03e4	1.00		5.77						

NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-42.qld

Last Altered: Tuesday, July 16, 2019 09:39:02 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:40:14 Pacific Daylight Time

Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		1.09e4	1.00		6.00						
38	85	TDCA	498.3>106.9			1.00		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.09e3	2.26e4	1.00	0.168	5.21	5.22	1.16	6.8849	55.2		
40	64	d5-N-EtFOSAA	589.3 > 419	2.09e3	2.26e4	1.00	0.168	5.21	5.22	1.16	6.8849	55.2		
41	65	13C2-PFDoA	614.7 > 569.7	1.03e4	2.13e4	1.00	1.041	5.52	5.52	6.03	5.7756	46.3		
42	67	13C2-PFTeDA	715.1 > 669.7	1.09e4	2.26e4	1.00	0.690	5.99	6.00	6.02	8.7017	69.8		
43	59	13C8-PFOS	507.0 > 79.9	2.75e3	2.96e3	1.00	1.017	4.60	4.61	11.6	11.3669	91.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.00e4	2.00e4	1.00	1.000	2.92	2.93	12.5	12.4646	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.31e4	2.31e4	1.00	1.000	4.07	4.08	12.5	12.4646	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.24e3	1.24e3	1.00	1.000	3.70	3.71	12.5	12.4646	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.76e4	1.76e4	1.00	1.000	4.52	4.52	12.5	12.4646	100.0		
49	77	13C4-PFOS	503 > 79.9	2.96e3	2.96e3	1.00	1.000	4.61	4.61	12.5	12.4646	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.13e4	2.13e4	1.00	1.000	4.89	4.90	12.5	12.4646	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.26e4	2.26e4	1.00	1.000	5.23	5.23	12.5	12.4646	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-42.qld

Last Altered: Tuesday, July 16, 2019 09:39:02 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:40:14 Pacific Daylight Time

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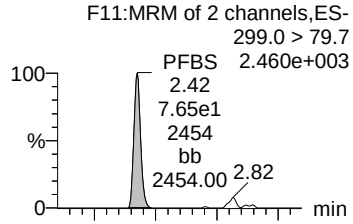
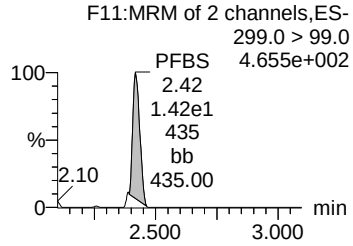
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

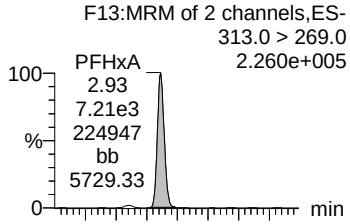
Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

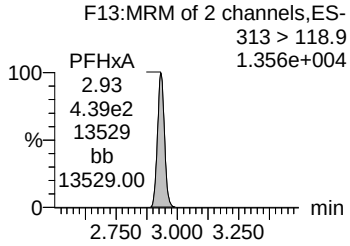
PFBS



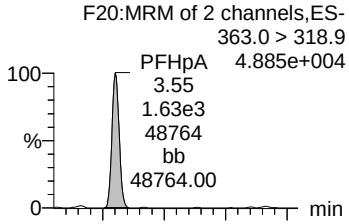


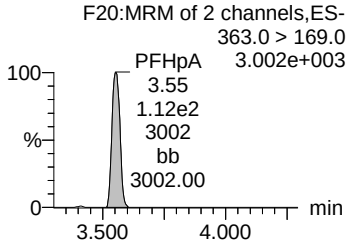
PFHxA





PFHpA





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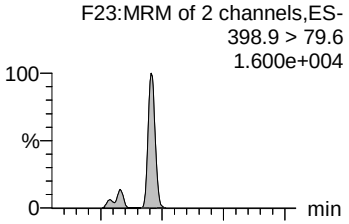
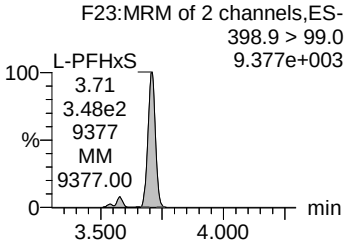
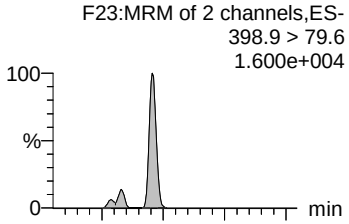
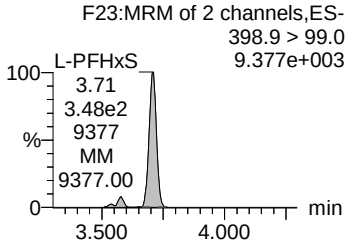


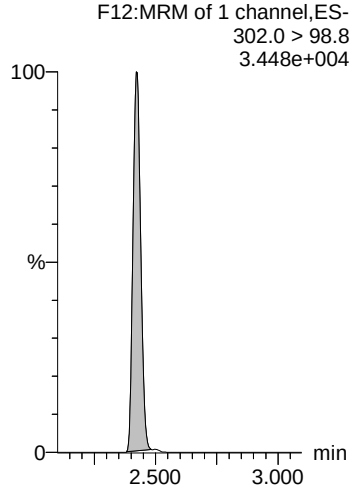


Total PFHxS

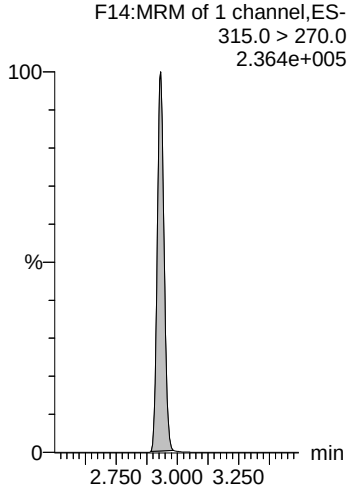




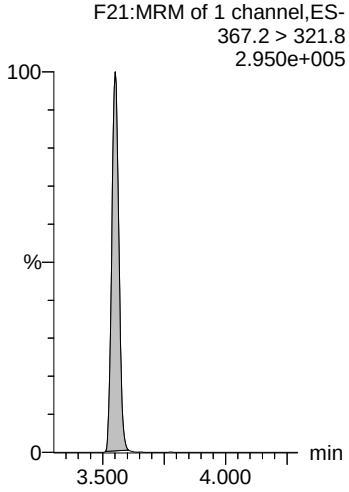
13C3-PFBS



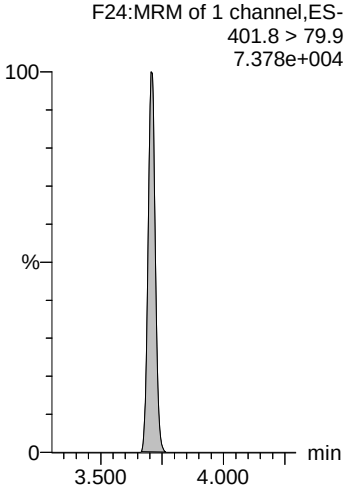
13C2-PFHxA



13C4-PFHpA



13C3-PFHxS



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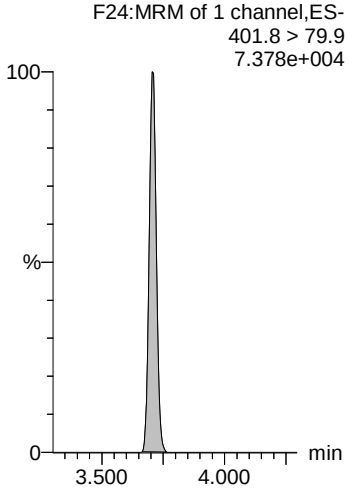


NY 7/16/2019

Vista Analytical Laboratory L14

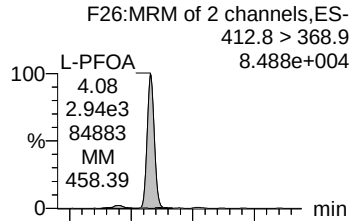
Review: AMR 7/16/2019

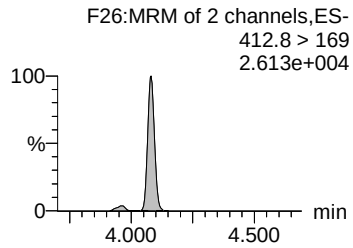
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-42.qld

Last Altered: Tuesday, July 16, 2019 09:39:02 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:40:14 Pacific Daylight Time

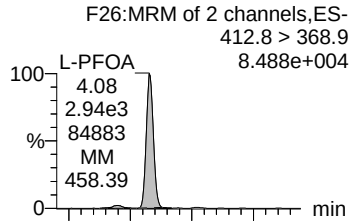
Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

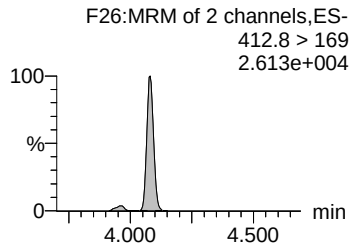
L-PFOA





Total PFOA





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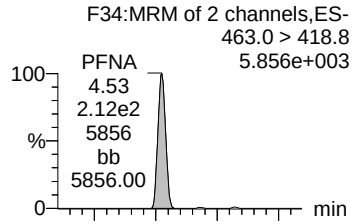
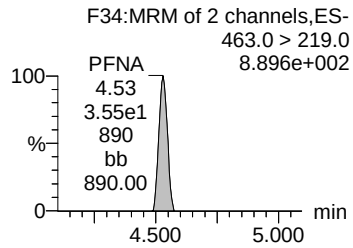
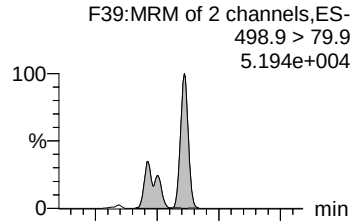
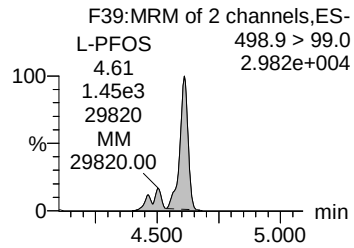


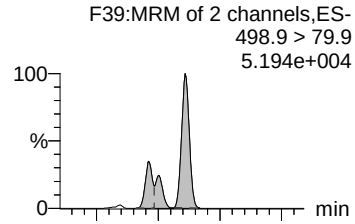


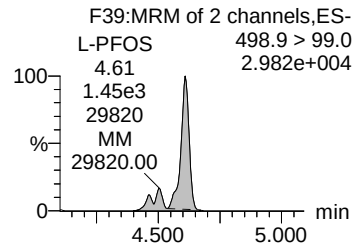
L-PFOS



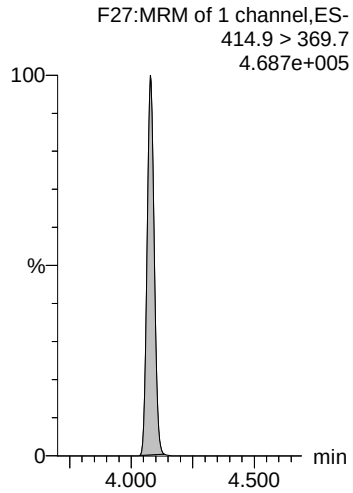


Total PFOS





13C2-PFOA



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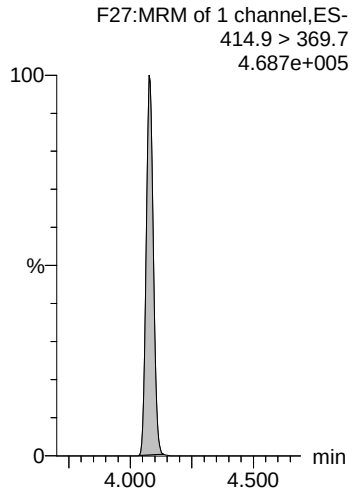
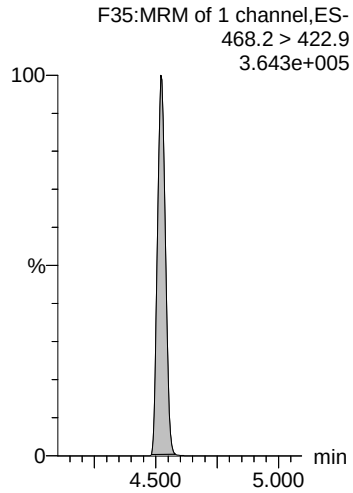
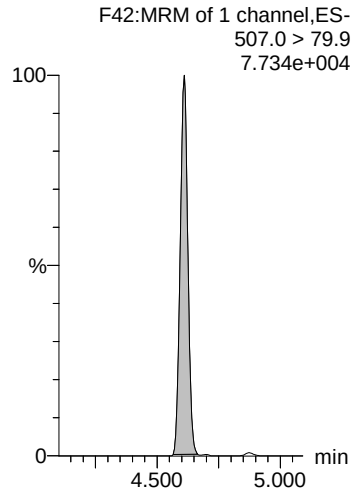


13C5-PFNA



13C8-PFOS



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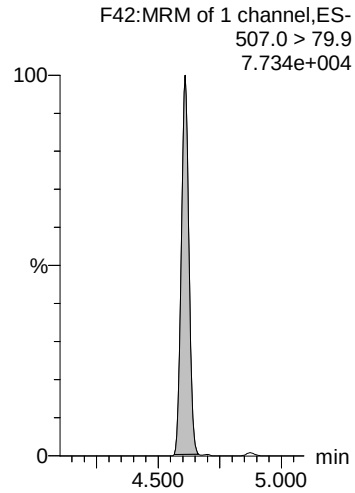


Vista Analytical Laboratory L14

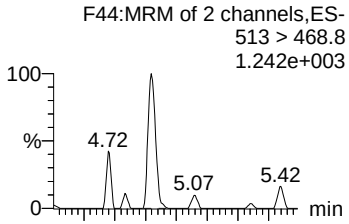
Review: AMR 7/16/2019

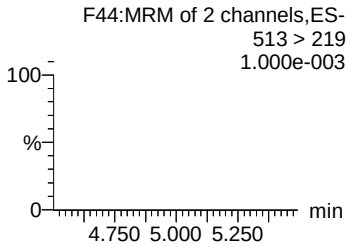
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-42.qld

Last Altered: Tuesday, July 16, 2019 09:39:02 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:40:14 Pacific Daylight Time

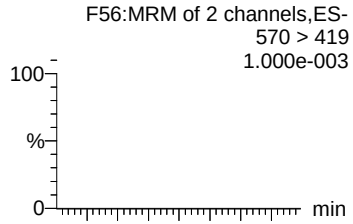
Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

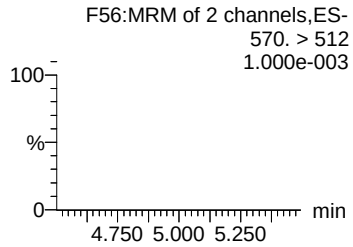
PFDA





L-MeFOSAA





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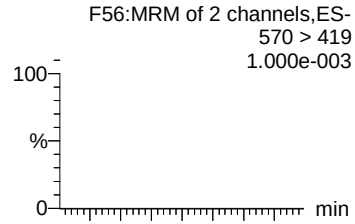

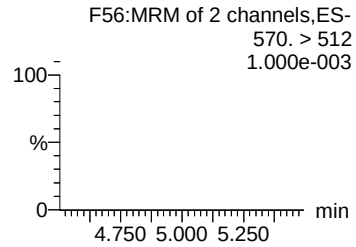

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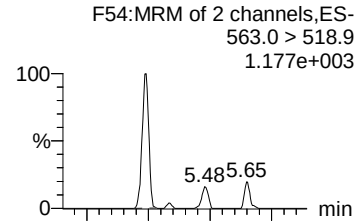
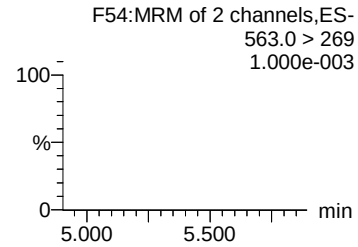
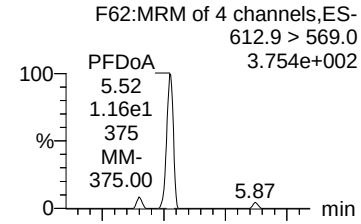
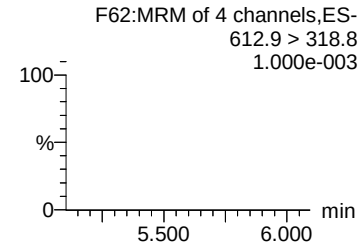




PFDoA





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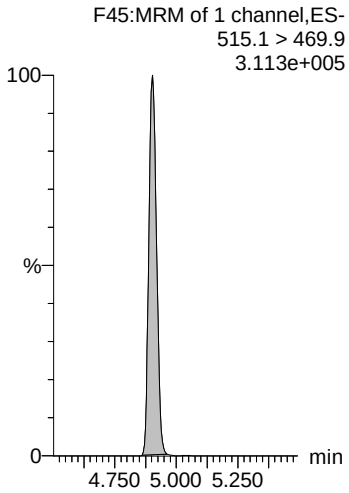
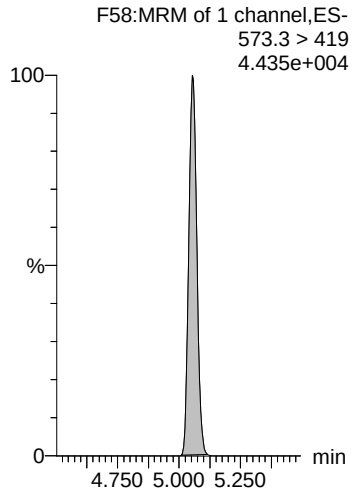


d3-N-MeFOSAA



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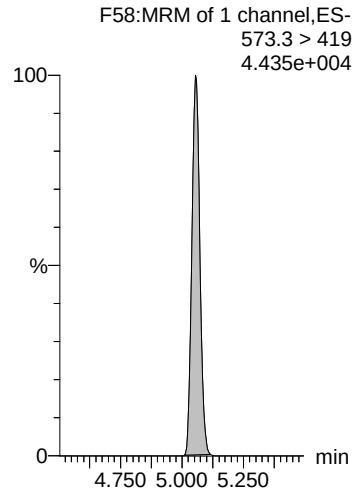
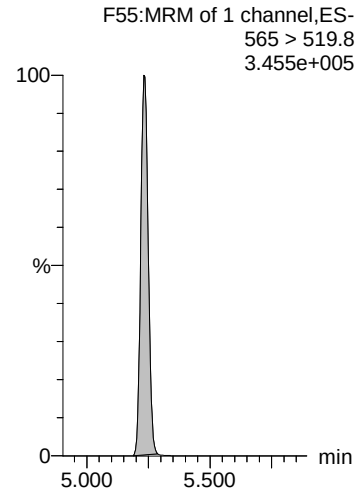


13C2-PFUdA



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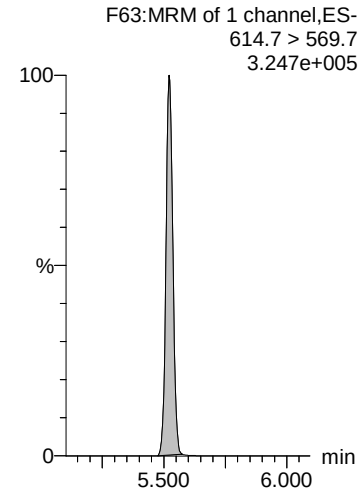


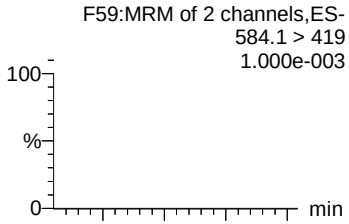
Review: AMR 7/16/2019

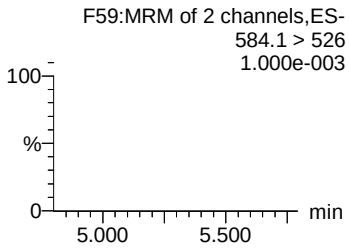
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-42.qld

Last Altered: Tuesday, July 16, 2019 09:39:02 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:40:14 Pacific Daylight Time

Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

L-EtFOSAA





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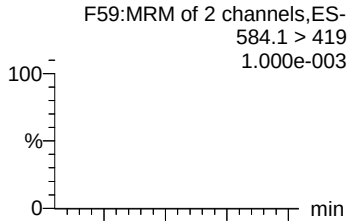
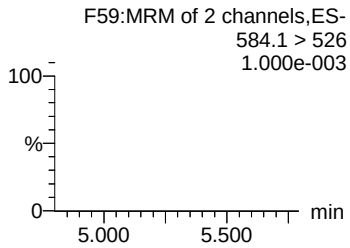
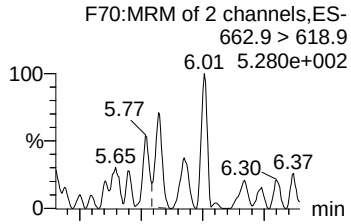
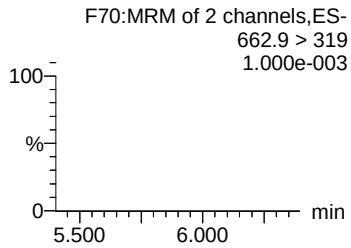




PFTrDA





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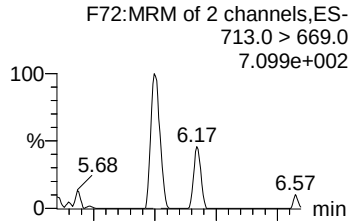
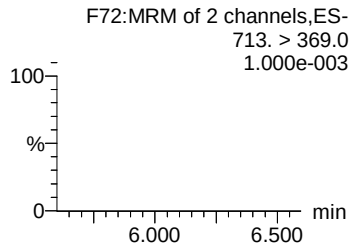
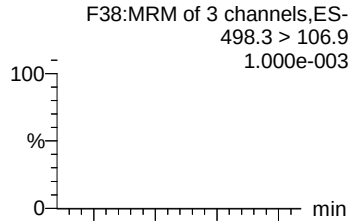
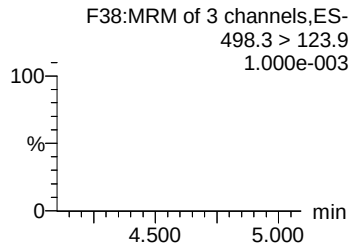




TDCA





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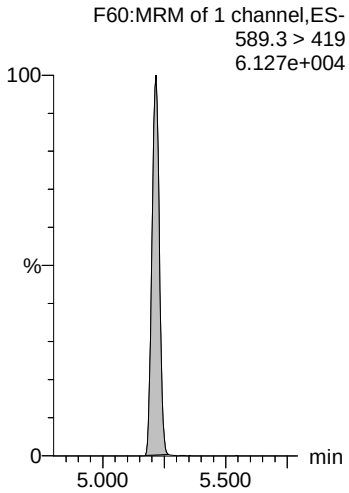

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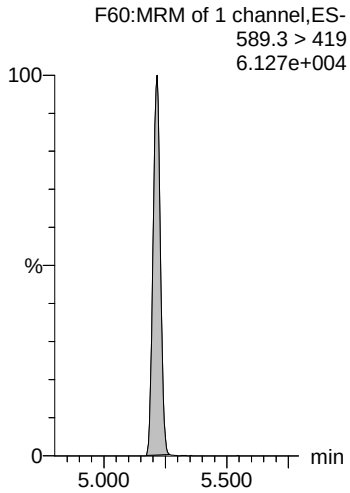
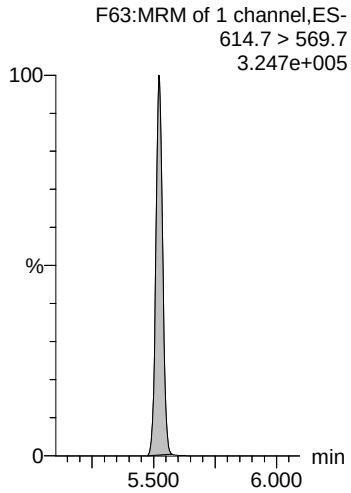


13C2-PFDoA



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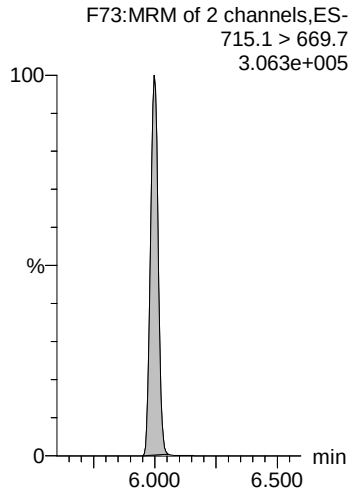

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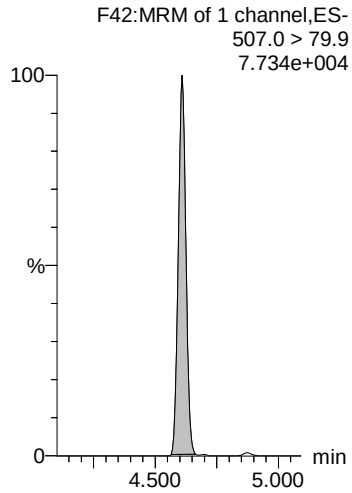


NY 7/16/2019

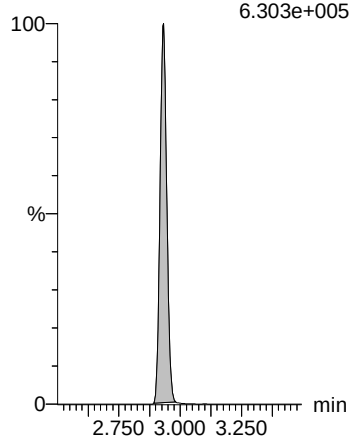
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712M2-42.qld

Last Altered: Tuesday, July 16, 2019 09:39:02 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:40:14 Pacific Daylight Time

Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

13C5-PFHxA



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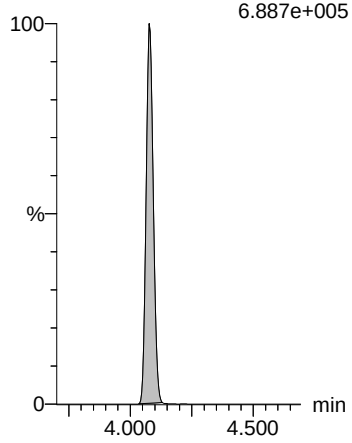

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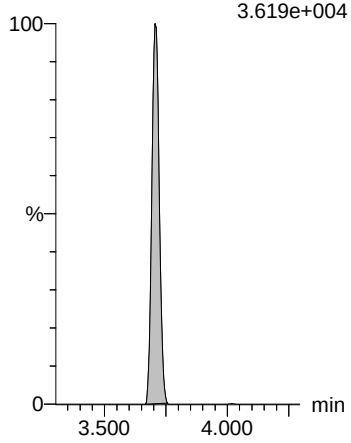
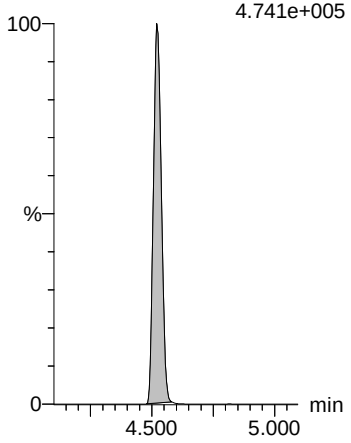


13C9-PFNA



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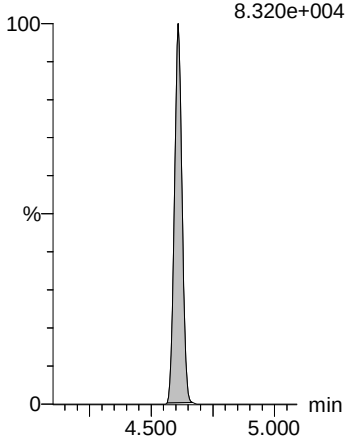

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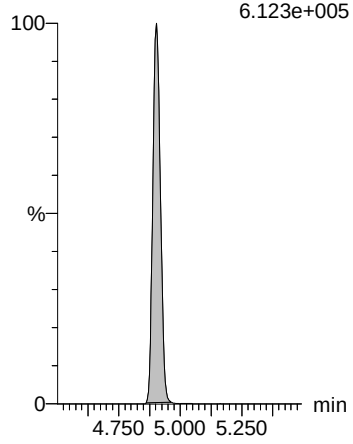
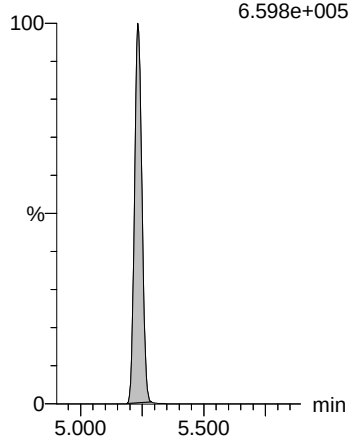


13C7-PFUdA



NY 7/16/2019

Sample Data – PFAS Isotope Dilution Method

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-36.qld

Last Altered: Monday, July 15, 2019 09:48:57 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:51:39 Pacific Daylight Time

Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		6.10e2	0.125		2.46						
2	7	PFHxA	313.0 > 269.0		2.86e3	0.125		2.97						
3	11	PFHpA	363.0 > 318.9		3.26e3	0.125		3.59						
4	13	L-PFHxS	398.9 > 79.6		1.39e3	0.125		3.74						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	1.39e3	0.125		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	6.10e2	5.72e2	0.125	1.035	2.46	2.46	13.3	103.0347	103.0		
7	52	13C2-PFHxA	315.0 > 270.0	2.86e3	9.67e3	0.125	0.792	2.96	2.97	3.70	37.3272	93.3		
8	53	13C4-PFHpA	367.2 > 321.8	3.26e3	9.67e3	0.125	0.391	3.58	3.59	4.22	86.2635	86.3		
9	54	13C3-PFHxS	401.8 > 79.9	1.39e3	5.72e2	0.125	2.547	3.74	3.74	30.4	95.5685	95.6		
10	54	13C3-PFHxS	401.8 > 79.9	1.39e3	5.72e2	0.125	2.547	3.74	3.74	30.4	95.5685	95.6		
11	-1													
12	16	L-PFOA	412.8 > 368.9		6.46e3	0.125		4.11						
13	81	Total PFOA	412.8 > 368.9	0.00e0	6.46e3	0.125		4.21		0.000				
14	21	PFNA	463.0 > 418.8	8.36e0	6.38e3	0.125		4.56	4.55	0.0164			24.507	YES
15	23	L-PFOS	498.9 > 79.9		1.08e3	0.125		4.64						
16	82	Total PFOS	498.9 > 79.9	0.00e0	1.08e3	0.125		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	6.46e3	1.45e4	0.125	0.564	4.11	4.11	5.56	78.7847	78.8		
18	58	13C2-PFOA	414.9 > 369.7	6.46e3	1.45e4	0.125	0.564	4.11	4.11	5.56	78.7847	78.8		
19	56	13C5-PFNA	468.2 > 422.9	6.38e3	8.35e3	0.125	0.983	4.56	4.56	9.55	77.7289	77.7		
20	59	13C8-PFOS	507.0 > 79.9	1.08e3	1.38e3	0.125	1.060	4.64	4.64	9.73	73.4587	73.5		
21	59	13C8-PFOS	507.0 > 79.9	1.08e3	1.38e3	0.125	1.060	4.64	4.64	9.73	73.4587	73.5		
22	-1													
23	26	PFDA	513 > 468.8		4.77e3	0.125		4.94						
24	29	L-MeFOSAA	570 > 419		1.01e3	0.125		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.01e3	0.125		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		7.52e3	0.125		5.27						
27	37	PFDoA	612.9 > 569.0		7.52e3	0.125		5.55						
28	60	13C2-PFDA	515.1 > 469.9	4.77e3	1.03e4	0.125	0.662	4.94	4.94	5.80	70.0682	70.1		
29	62	d3-N-MeFOSAA	573.3 > 419	1.01e3	1.23e4	0.125	0.129	5.09	5.08	1.03	63.5568	63.6		
30	62	d3-N-MeFOSAA	573.3 > 419	1.01e3	1.23e4	0.125	0.129	5.09	5.08	1.03	63.5568	63.6		
31	63	13C2-PFUdA	565 > 519.8	7.52e3	1.23e4	0.125	0.857	5.26	5.27	7.62	71.1167	71.1		
32	65	13C2-PFDoA	614.7 > 569.7	7.52e3	1.03e4	0.125	1.229	5.55	5.55	9.15	59.5502	59.6		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.18e3	0.125		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.18e3	0.125		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		7.52e3	0.125		5.80						

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-36.qld

Last Altered: Monday, July 15, 2019 09:48:57 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:51:39 Pacific Daylight Time

Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		2.94e3	0.125		6.03						
38	85	TDCA	498.3>106.9			0.125		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.18e3	1.23e4	0.125	0.147	5.24	5.25	1.20	65.1203	65.1		
40	64	d5-N-EtFOSAA	589.3 > 419	1.18e3	1.23e4	0.125	0.147	5.24	5.25	1.20	65.1203	65.1		
41	65	13C2-PFDoA	614.7 > 569.7	7.52e3	1.03e4	0.125	1.229	5.55	5.55	9.15	59.5502	59.6		
42	67	13C2-PFTeDA	715.1 > 669.7	2.94e3	1.23e4	0.125	0.511	6.02	6.03	2.98	46.6375	46.6		
43	59	13C8-PFOS	507.0 > 79.9	1.08e3	1.38e3	0.125	1.060	4.64	4.64	9.73	73.4587	73.5		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	9.67e3	9.67e3	0.125	1.000	2.96	2.97	12.5	100.0000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.45e4	1.45e4	0.125	1.000	4.11	4.11	12.5	100.0000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.72e2	5.72e2	0.125	1.000	3.74	3.74	12.5	100.0000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	8.35e3	8.35e3	0.125	1.000	4.55	4.56	12.5	100.0000	100.0		
49	77	13C4-PFOS	503 > 79.9	1.38e3	1.38e3	0.125	1.000	4.64	4.64	12.5	100.0000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.03e4	1.03e4	0.125	1.000	4.93	4.94	12.5	100.0000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.23e4	1.23e4	0.125	1.000	5.26	5.26	12.5	100.0000	100.0		

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-36.qld

Last Altered: Monday, July 15, 2019 09:48:57 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:51:39 Pacific Daylight Time

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Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

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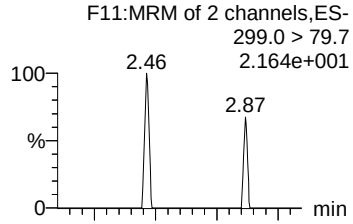

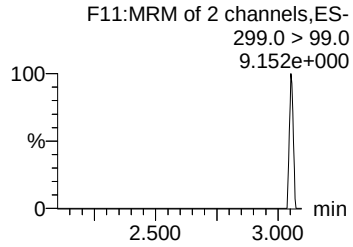

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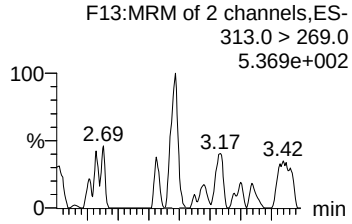

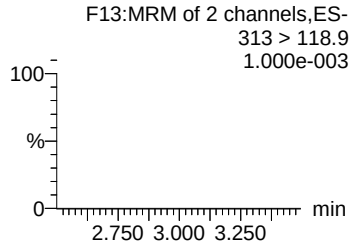

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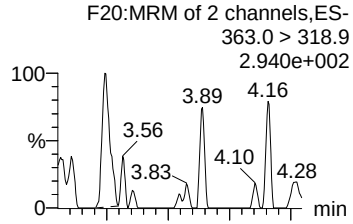

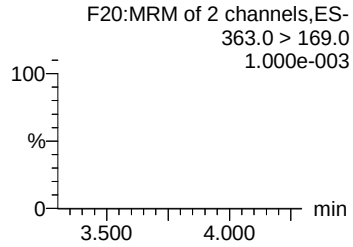

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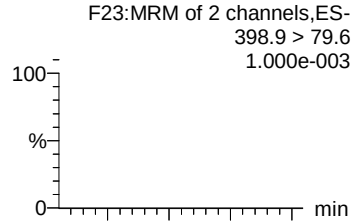

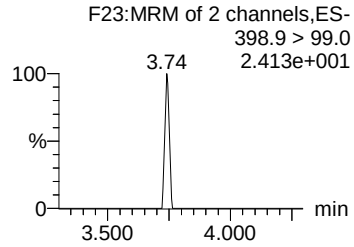

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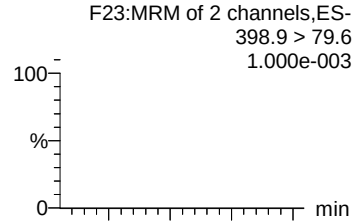

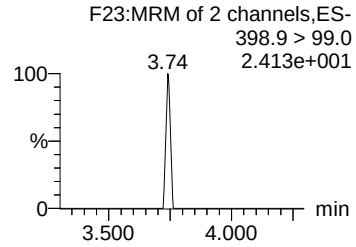

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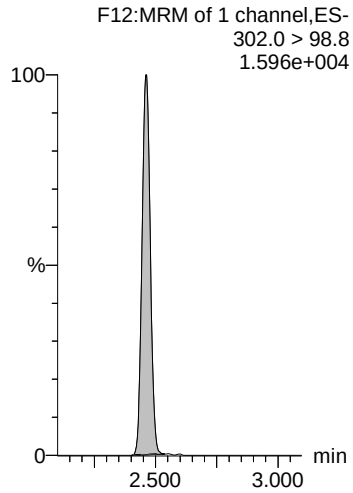

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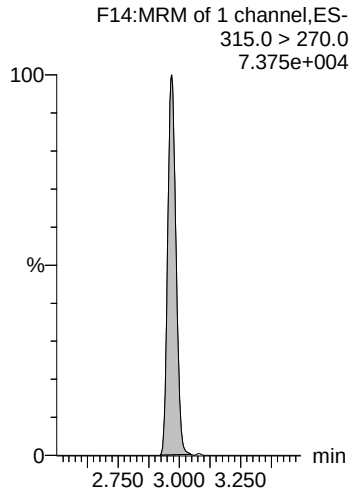

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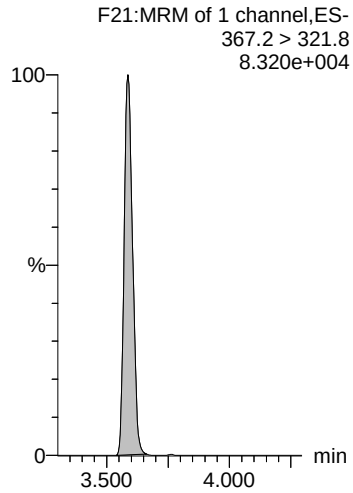

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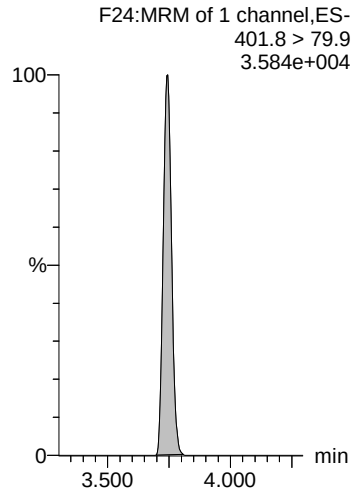

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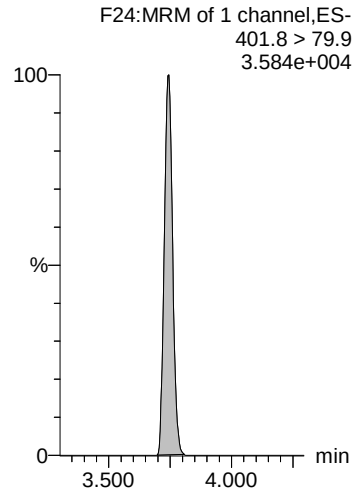

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Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-36.qld

Last Altered: Monday, July 15, 2019 09:48:57 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:51:39 Pacific Daylight Time

Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

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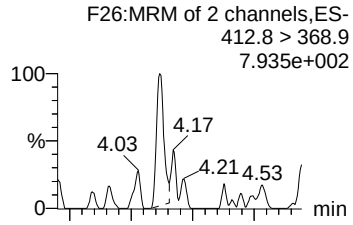

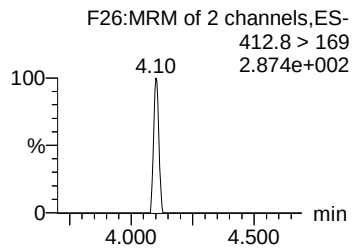

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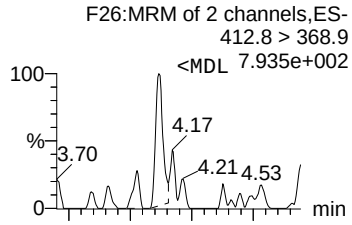

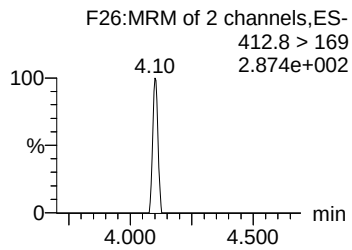

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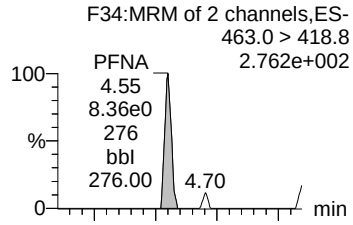

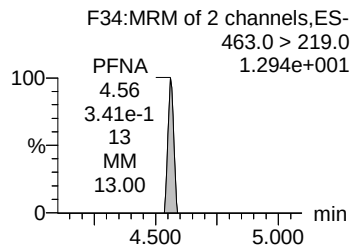

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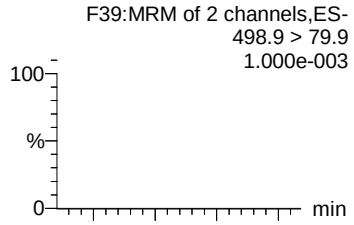

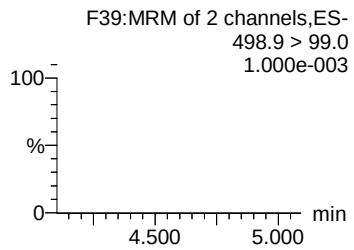

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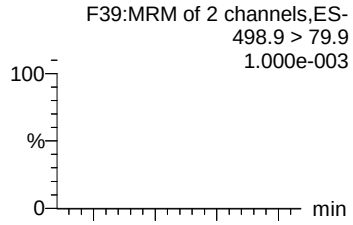

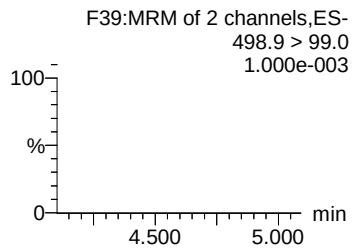

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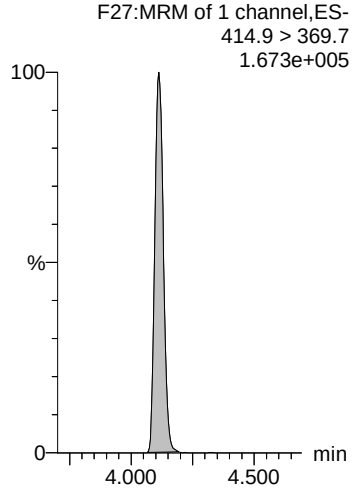

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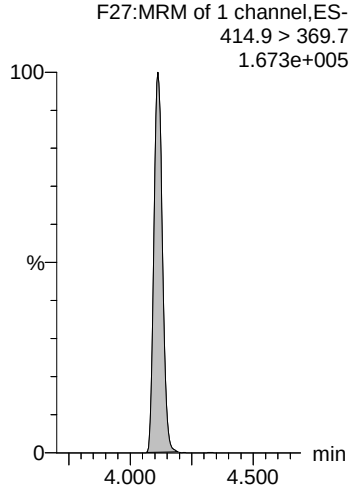

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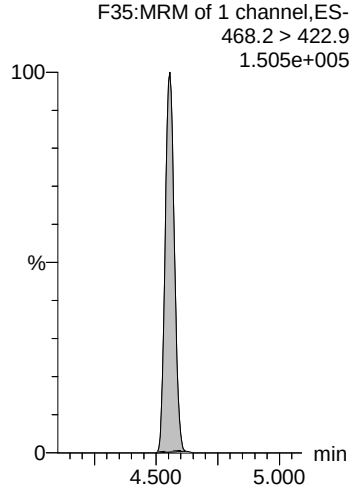

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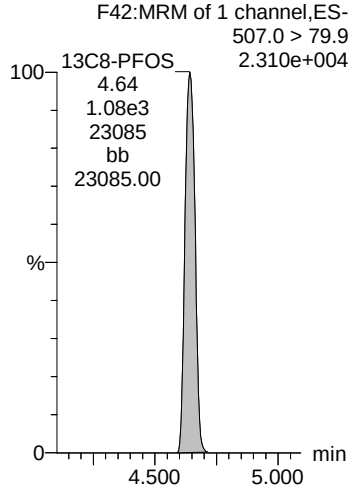

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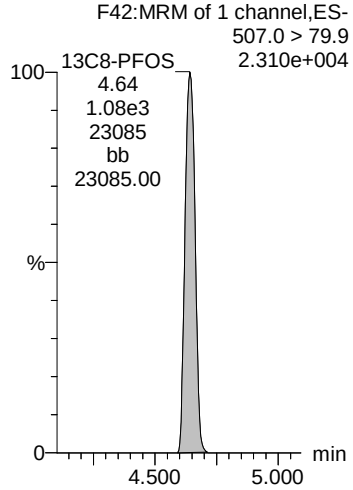

FBR 7/15/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-36.qld

Last Altered: Monday, July 15, 2019 09:48:57 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:51:39 Pacific Daylight Time

Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

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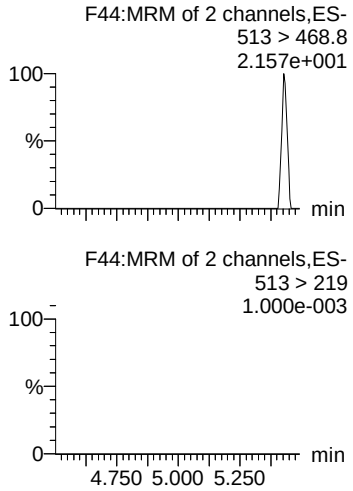
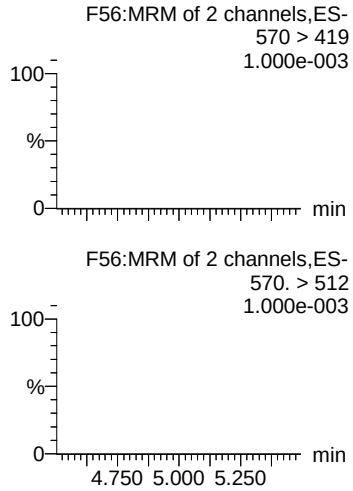
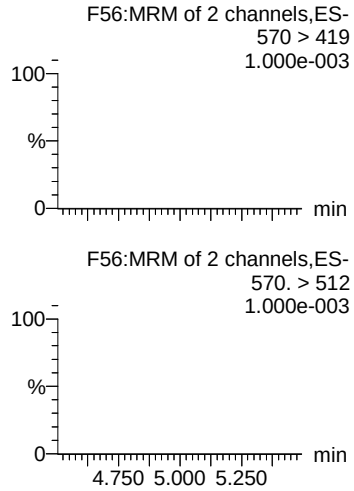


L-MeFOSAA



Total N-MeFOSAA



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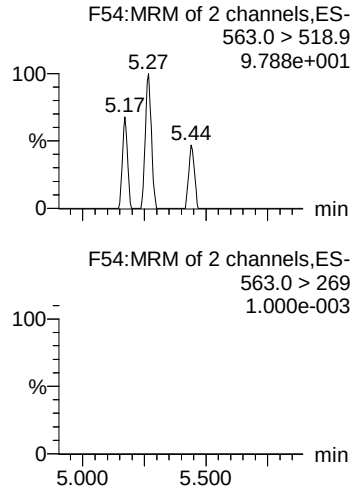
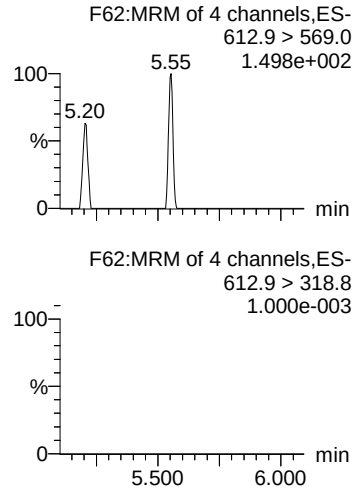


PFDoA



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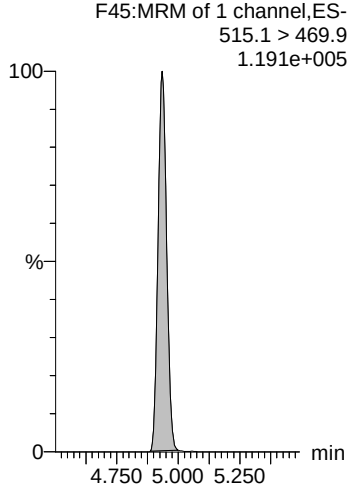

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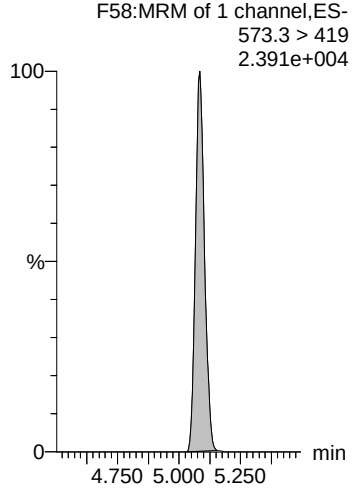

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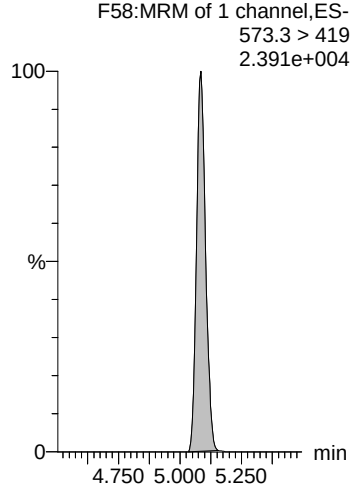

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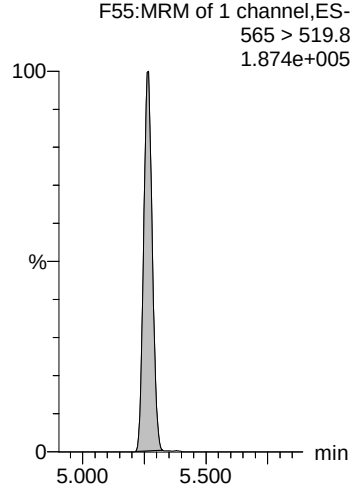

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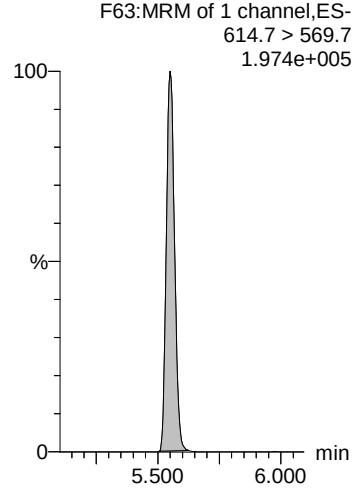

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-36.qld

Last Altered: Monday, July 15, 2019 09:48:57 Pacific Daylight Time
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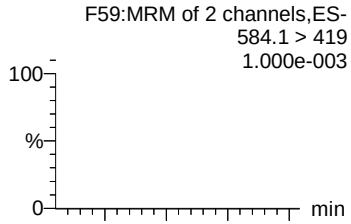
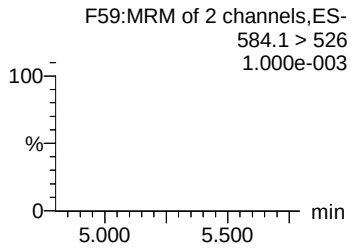
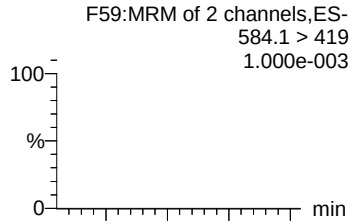
Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

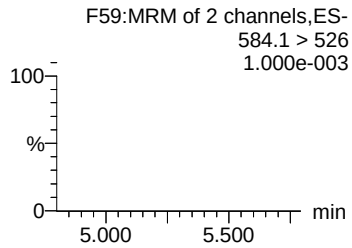
L-EtFOSAA



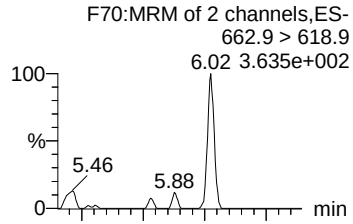


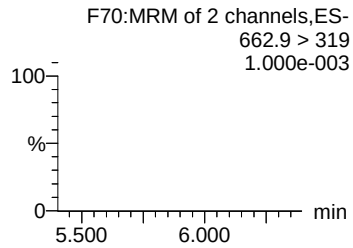
Total N-EtFOSAA





PFTrDA





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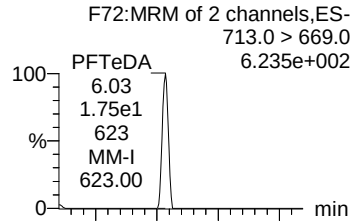

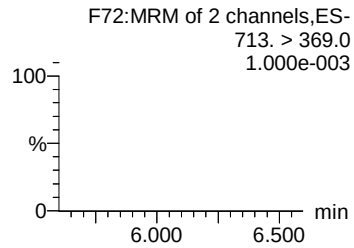

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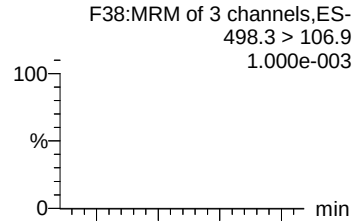

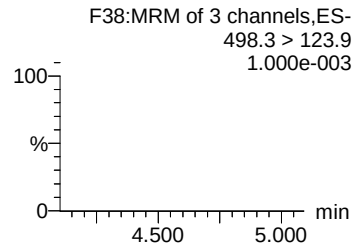

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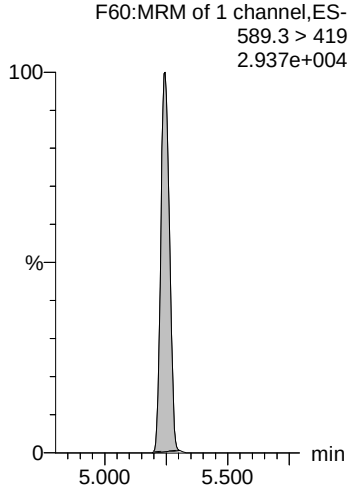

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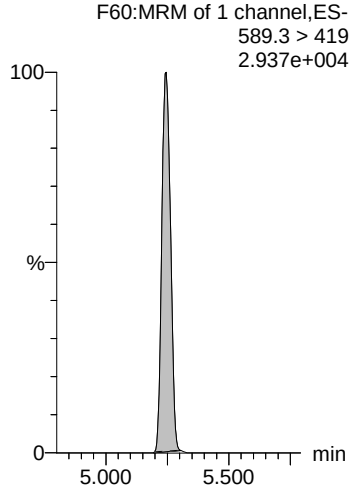
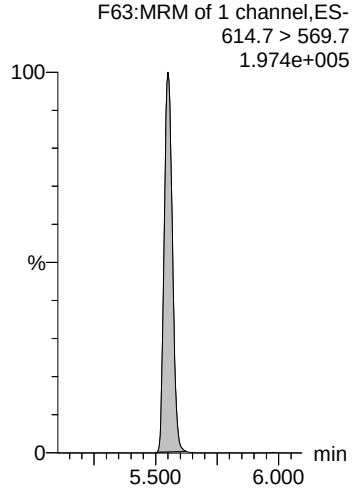
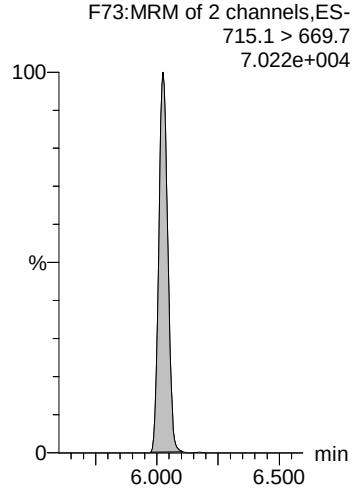


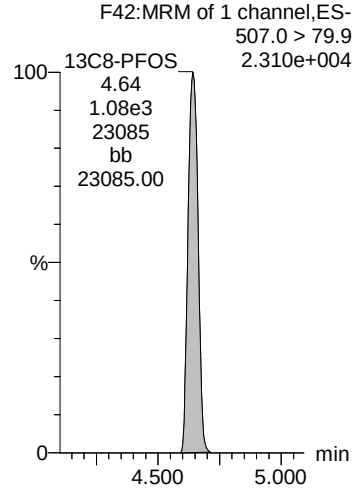
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



FBR 7/15/2019

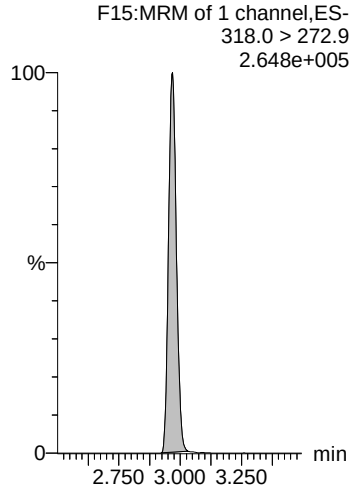
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-36.qld

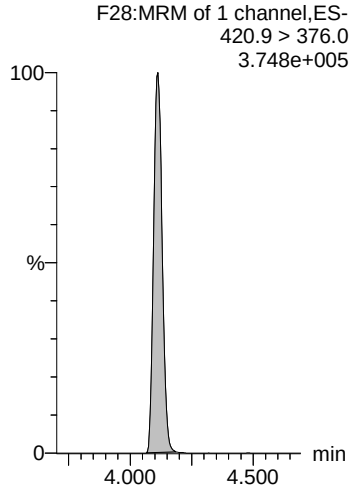
Last Altered: Monday, July 15, 2019 09:48:57 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:51:39 Pacific Daylight Time

Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

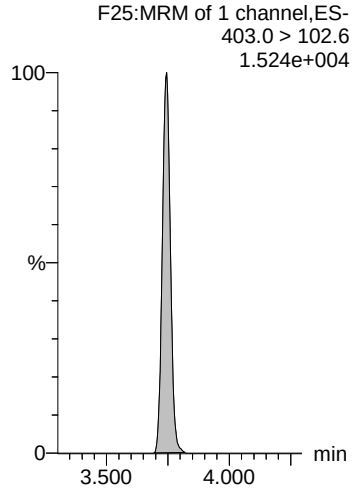
13C5-PFHxA



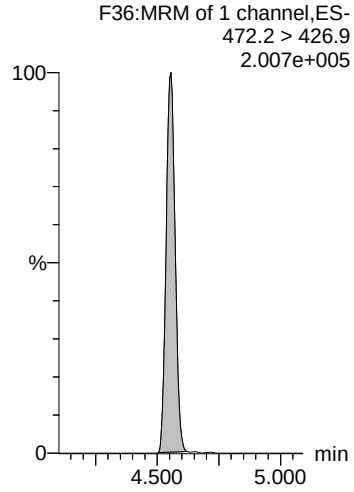
13C8-PFOA



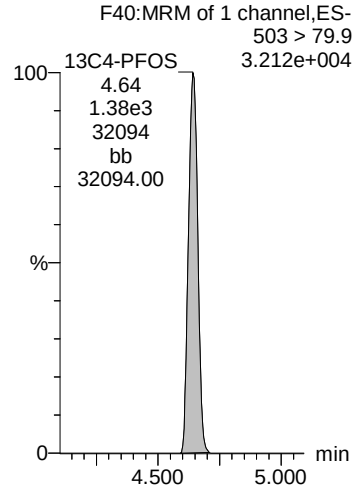
18O2-PFHxS



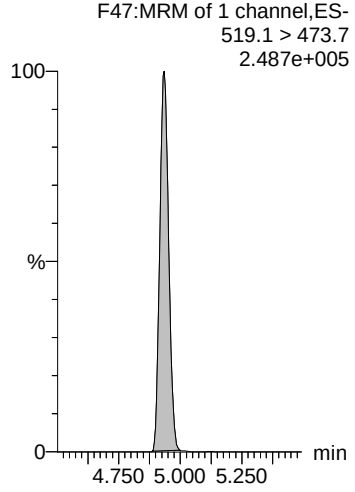
13C9-PFNA



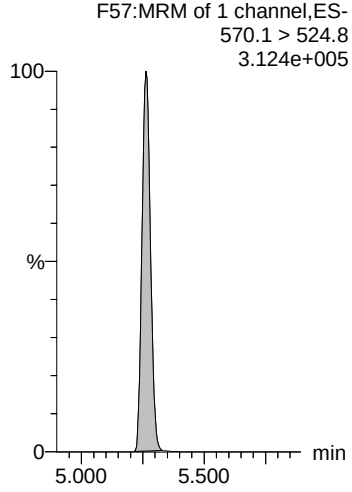
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-34.qld

Last Altered: Monday, July 15, 2019 09:20:25 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:34:34 Pacific Daylight Time

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.12e3	6.06e2	0.125		2.46	2.46	23.1	80.6279	100.8	2.625	NO
2	7	PFHxA	313.0 > 269.0	7.24e3	2.93e3	0.125		2.96	2.96	12.3	84.9841	106.2	13.650	NO
3	11	PFHpA	363.0 > 318.9	3.61e3	3.16e3	0.125		3.58	3.58	14.3	93.0186	116.3	5.367	NO
4	13	L-PFHxS	398.9 > 79.6	1.07e3	1.28e3	0.125		3.74	3.74	10.4	99.4572	124.3	2.100	NO
5	80	Total PFHxS	398.9 > 79.6	1.07e3	1.28e3	0.125		3.83		10.4	99.4572			
6	49	13C3-PFBS	302.0 > 98.8	6.06e2	6.11e2	0.125	1.035	2.46	2.46	12.4	95.7834	95.8		
7	52	13C2-PFHxA	315.0 > 270.0	2.93e3	9.48e3	0.125	0.792	2.96	2.96	3.86	39.0093	97.5		
8	53	13C4-PFHpA	367.2 > 321.8	3.16e3	9.48e3	0.125	0.391	3.58	3.58	4.16	85.1160	85.1		
9	54	13C3-PFHxS	401.8 > 79.9	1.28e3	6.11e2	0.125	2.547	3.74	3.74	26.2	82.4096	82.4		
10	54	13C3-PFHxS	401.8 > 79.9	1.28e3	6.11e2	0.125	2.547	3.74	3.74	26.2	82.4096	82.4		
11	-1													
12	16	L-PFOA	412.8 > 368.9	9.31e3	5.78e3	0.125		4.11	4.11	20.1	87.0351	108.8	3.506	NO
13	81	Total PFOA	412.8 > 368.9	9.31e3	5.78e3	0.125		4.21		20.1	87.0351			
14	21	PFNA	463.0 > 418.8	5.09e3	5.51e3	0.125		4.55	4.55	11.5	84.0315	105.0	2.839	NO
15	23	L-PFOS	498.9 > 79.9	1.12e3	1.02e3	0.125		4.64	4.64	13.8	87.9616	110.0	2.454	NO
16	82	Total PFOS	498.9 > 79.9	1.12e3	1.02e3	0.125		4.74		13.8	87.9616			
17	58	13C2-PFOA	414.9 > 369.7	5.78e3	1.24e4	0.125	0.564	4.11	4.11	5.84	82.7667	82.8		
18	58	13C2-PFOA	414.9 > 369.7	5.78e3	1.24e4	0.125	0.564	4.11	4.11	5.84	82.7667	82.8		
19	56	13C5-PFNA	468.2 > 422.9	5.51e3	7.11e3	0.125	0.983	4.56	4.55	9.69	78.9171	78.9		
20	59	13C8-PFOS	507.0 > 79.9	1.02e3	1.42e3	0.125	1.060	4.64	4.64	8.98	67.7766	67.8		
21	59	13C8-PFOS	507.0 > 79.9	1.02e3	1.42e3	0.125	1.060	4.64	4.64	8.98	67.7766	67.8		
22	-1													
23	26	PFDA	513 > 468.8	5.98e3	4.26e3	0.125		4.93	4.93	17.5	84.4337	105.5	4.949	NO
24	29	L-MeFOSAA	570 > 419	2.72e3	8.79e2	0.125		5.08	5.09	38.6	103.1149	128.9	2.657	NO
25	83	Total N-MeFOSAA	570. > 419	2.72e3	8.79e2	0.125		5.19		38.6	103.1149			
26	33	PFUdA	563.0 > 518.9	4.70e3	6.10e3	0.125		5.26	5.26	9.63	82.6629	103.3	6.352	NO
27	37	PFDoA	612.9 > 569.0	5.17e3	5.86e3	0.125		5.55	5.55	11.0	92.4785	115.6	7.877	NO
28	60	13C2-PFDA	515.1 > 469.9	4.26e3	9.08e3	0.125	0.662	4.94	4.93	5.87	70.9011	70.9		
29	62	d3-N-MeFOSAA	573.3 > 419	8.79e2	1.13e4	0.125	0.129	5.09	5.08	0.972	60.2513	60.3		
30	62	d3-N-MeFOSAA	573.3 > 419	8.79e2	1.13e4	0.125	0.129	5.09	5.08	0.972	60.2513	60.3		
31	63	13C2-PFUdA	565 > 519.8	6.10e3	1.13e4	0.125	0.857	5.26	5.26	6.75	62.9969	63.0		
32	65	13C2-PFDoA	614.7 > 569.7	5.86e3	9.08e3	0.125	1.229	5.55	5.55	8.07	52.5479	52.5		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	2.07e3	1.16e3	0.125		5.24	5.25	22.3	90.0928	112.6	1.573	NO
35	84	Total N-EtFOSAA	584.1 > 419	2.07e3	1.16e3	0.125		5.33		22.3	90.0928			
36	39	PFTrDA	662.9 > 618.9	5.40e3	5.86e3	0.125		5.80	5.80	11.5	86.8878	108.6	16.865	NO

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-34.qld

Last Altered: Monday, July 15, 2019 09:20:25 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:34:34 Pacific Daylight Time

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0	4.08e3	3.00e3	0.125		6.02	6.02	17.0	90.5921	113.2	13.511	NO
38	85	TDCA	498.3>106.9			0.125		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.16e3	1.13e4	0.125	0.147	5.24	5.24	1.28	69.5703	69.6		
40	64	d5-N-EtFOSAA	589.3 > 419	1.16e3	1.13e4	0.125	0.147	5.24	5.24	1.28	69.5703	69.6		
41	65	13C2-PFDoA	614.7 > 569.7	5.86e3	9.08e3	0.125	1.229	5.55	5.55	8.07	52.5479	52.5		
42	67	13C2-PFTeDA	715.1 > 669.7	3.00e3	1.13e4	0.125	0.511	6.02	6.02	3.32	51.9704	52.0		
43	59	13C8-PFOS	507.0 > 79.9	1.02e3	1.42e3	0.125	1.060	4.64	4.64	8.98	67.7766	67.8		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	9.48e3	9.48e3	0.125	1.000	2.96	2.96	12.5	100.0000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.24e4	1.24e4	0.125	1.000	4.11	4.11	12.5	100.0000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	6.11e2	6.11e2	0.125	1.000	3.74	3.74	12.5	100.0000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	7.11e3	7.11e3	0.125	1.000	4.55	4.55	12.5	100.0000	100.0		
49	77	13C4-PFOS	503 > 79.9	1.42e3	1.42e3	0.125	1.000	4.64	4.64	12.5	100.0000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	9.08e3	9.08e3	0.125	1.000	4.93	4.93	12.5	100.0000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.13e4	1.13e4	0.125	1.000	5.26	5.26	12.5	100.0000	100.0		

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

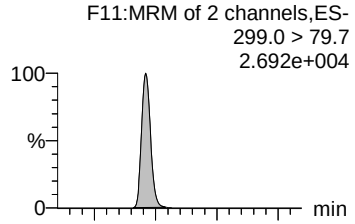
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-34.qld

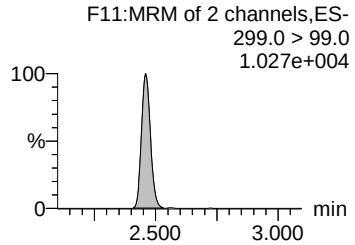
Last Altered: Monday, July 15, 2019 09:20:25 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:34:34 Pacific Daylight Time

Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

PFBS





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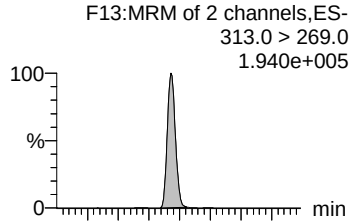

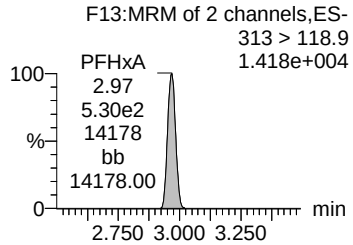

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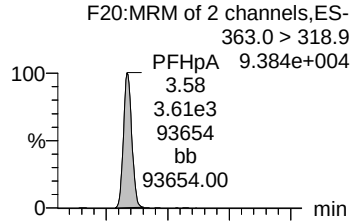
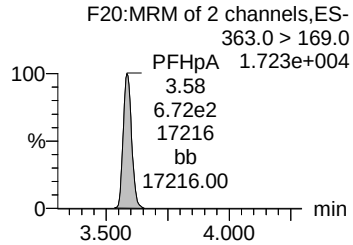
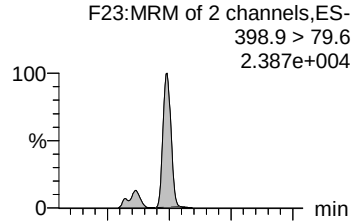
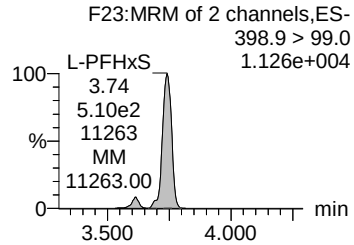


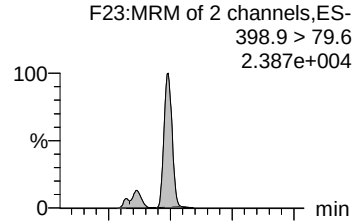


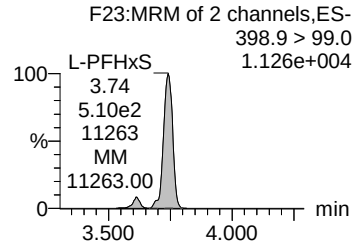
L-PFHxS



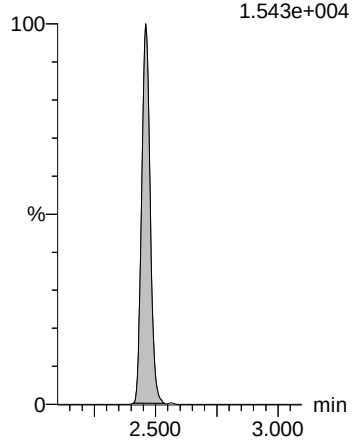


Total PFHxS

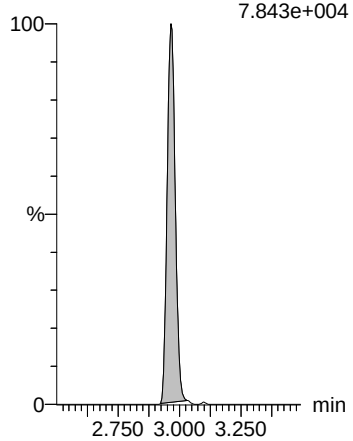




13C3-PFBS



13C2-PFHxA



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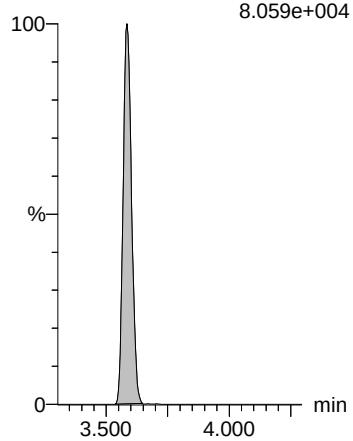

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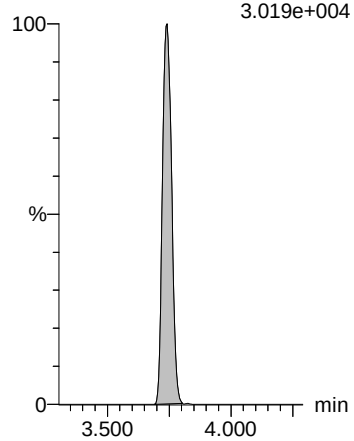

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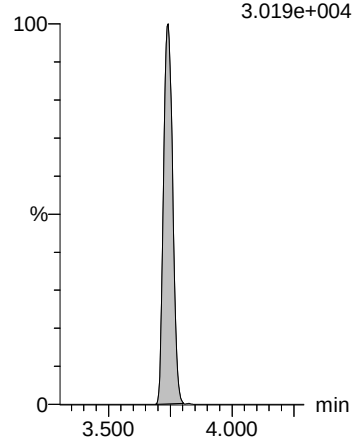


FBR 7/15/2019

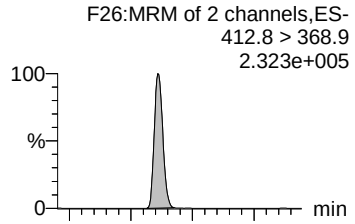
Review: AMR 7/16/2019

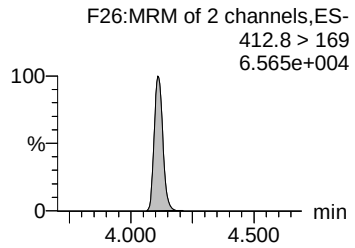
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-34.qld

Last Altered: Monday, July 15, 2019 09:20:25 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:34:34 Pacific Daylight Time

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

L-PFOA





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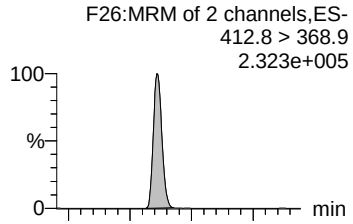

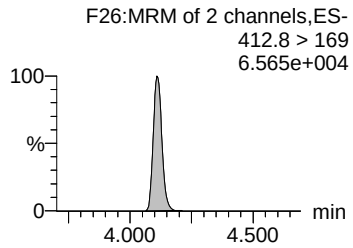

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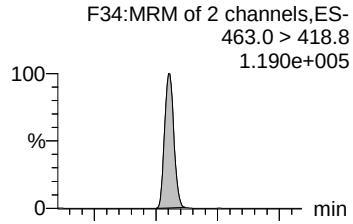
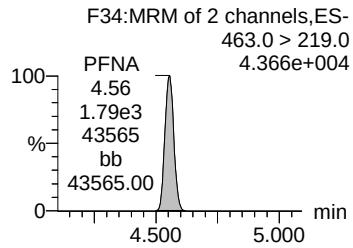
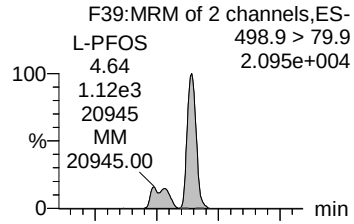
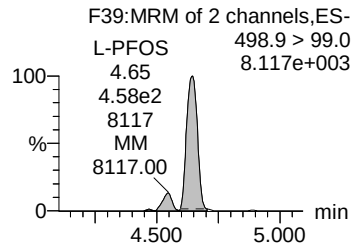


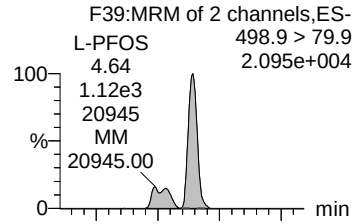


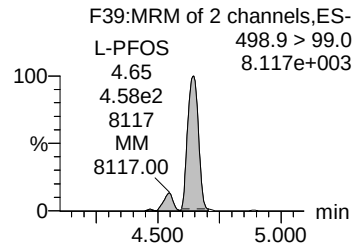
L-PFOS



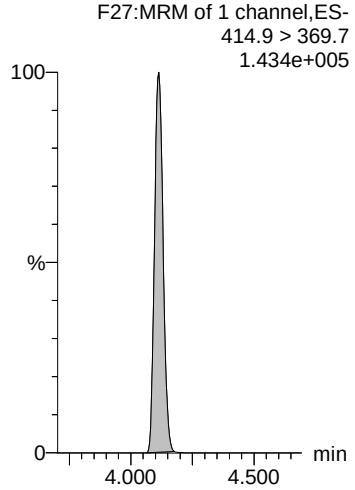


Total PFOS





13C2-PFOA



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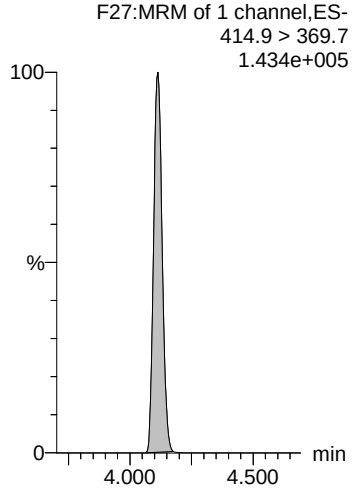
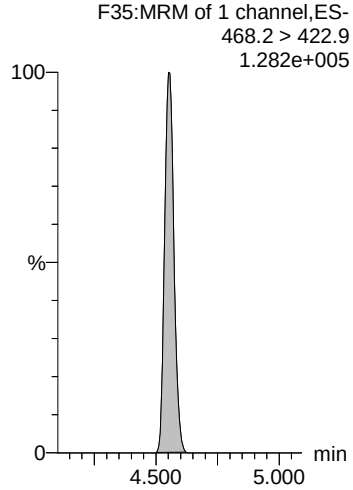
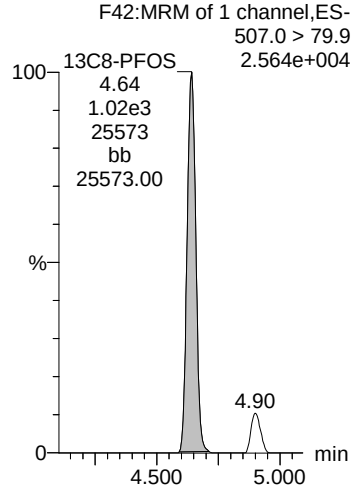


13C5-PFNA



13C8-PFOS



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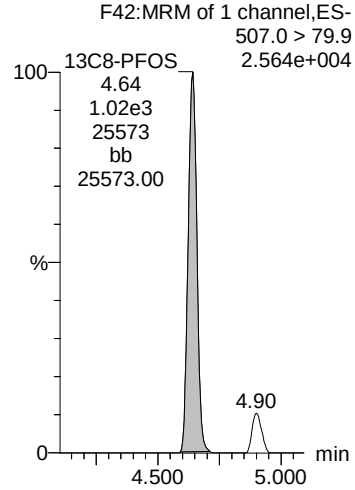

FBR 7/15/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-34.qld

Last Altered: Monday, July 15, 2019 09:20:25 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:34:34 Pacific Daylight Time

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

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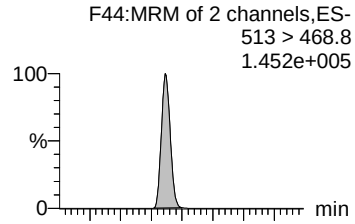
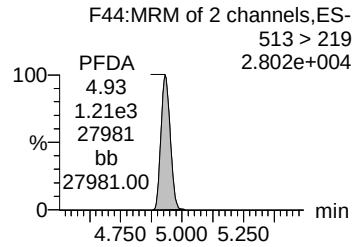
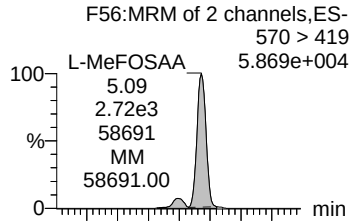
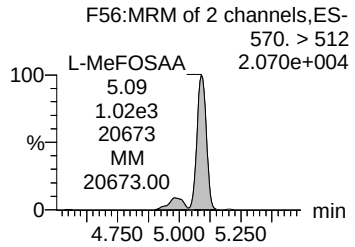




L-MeFOSAA





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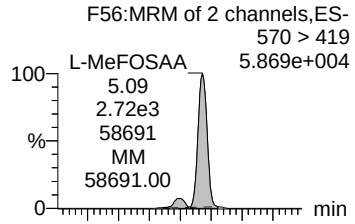

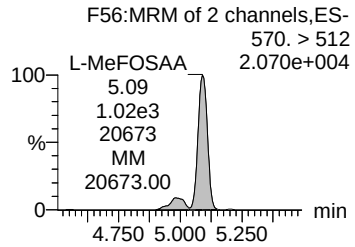

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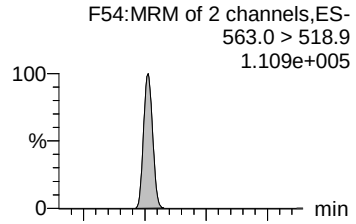
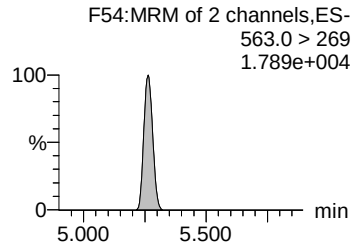
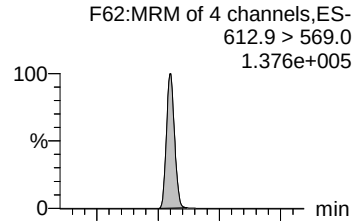
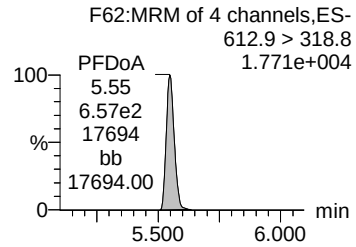


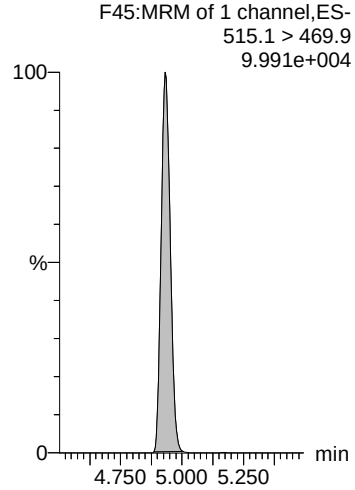


PFDoA

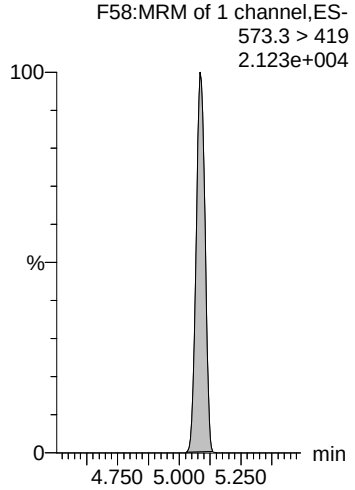




13C2-PFDA



d3-N-MeFOSAA



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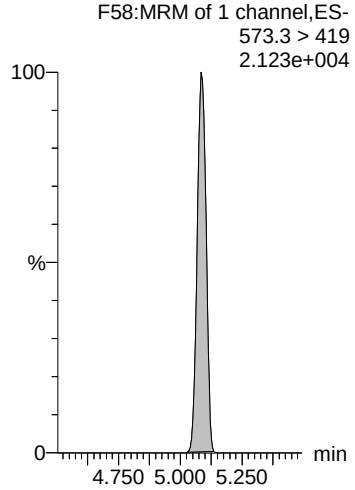

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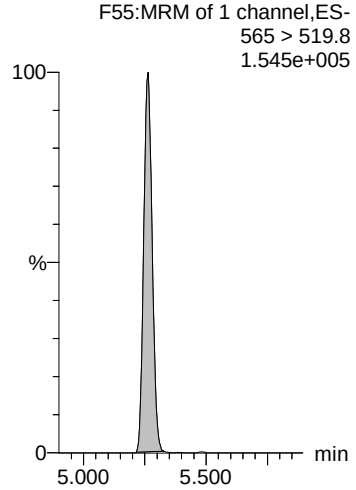

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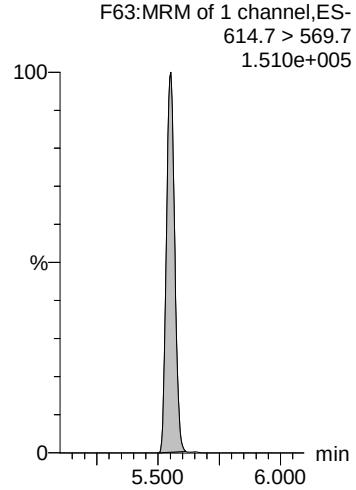

FBR 7/15/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-34.qld

Last Altered: Monday, July 15, 2019 09:20:25 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:34:34 Pacific Daylight Time

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

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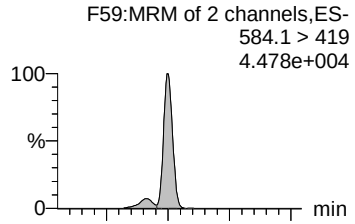
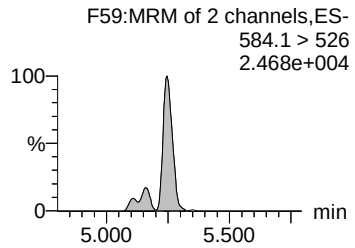
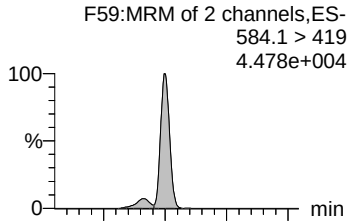
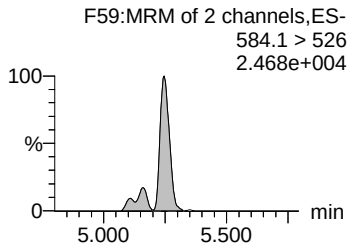




Total N-EtFOSAA





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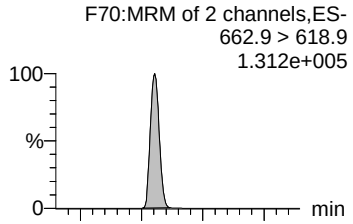

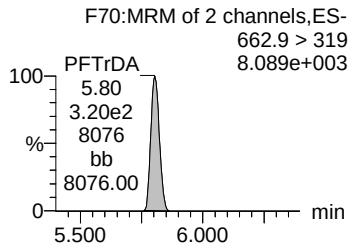

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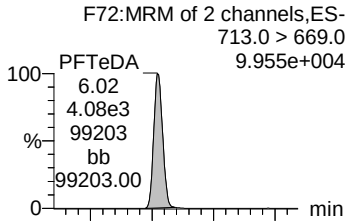

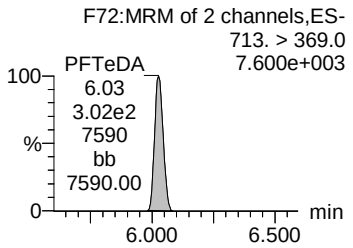

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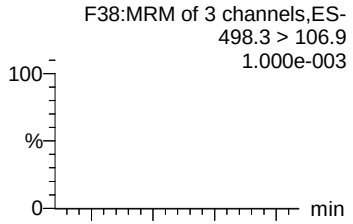
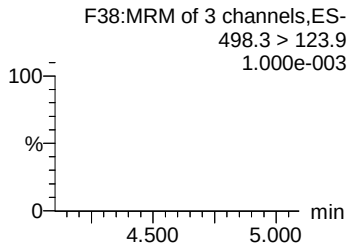
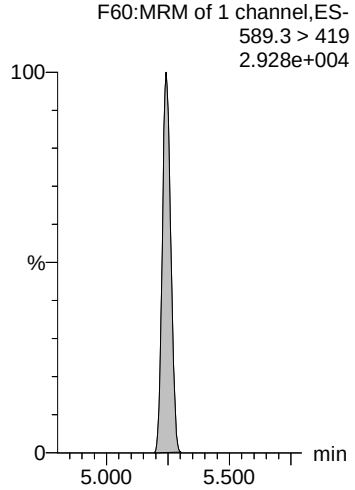
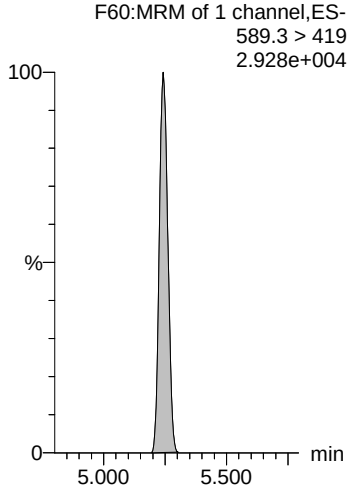




d5-N-EtFOSAA



d5-N-EtFOSAA



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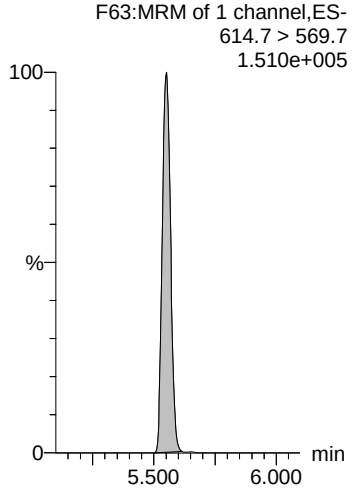

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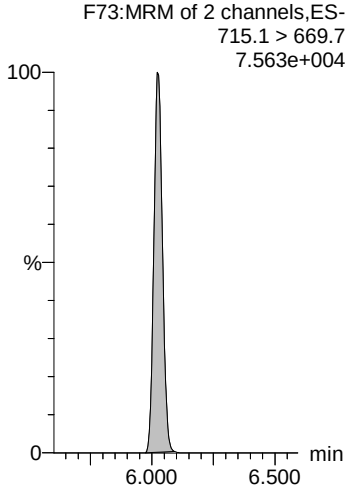

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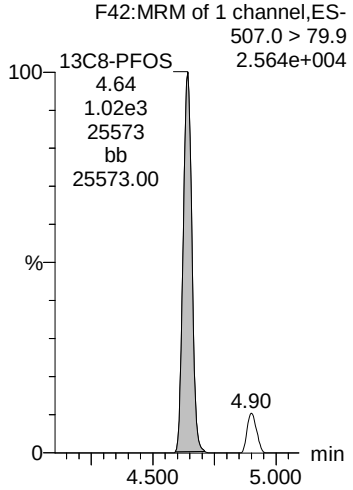

FBR 7/15/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-34.qld

Last Altered: Monday, July 15, 2019 09:20:25 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:34:34 Pacific Daylight Time

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

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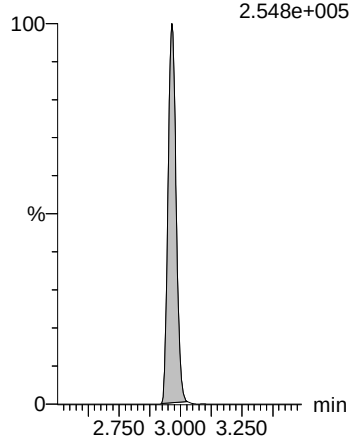

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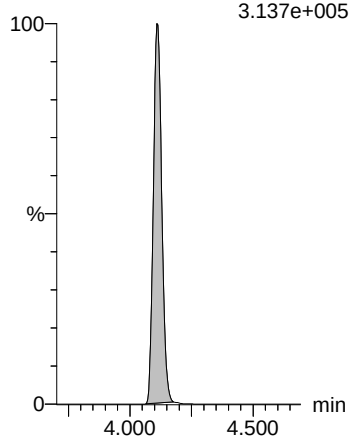
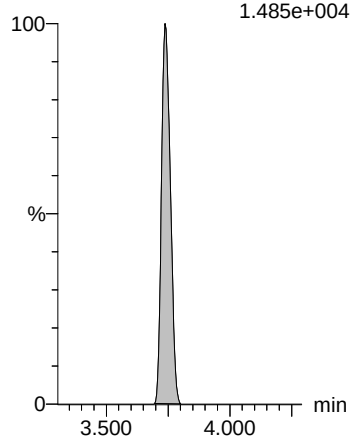
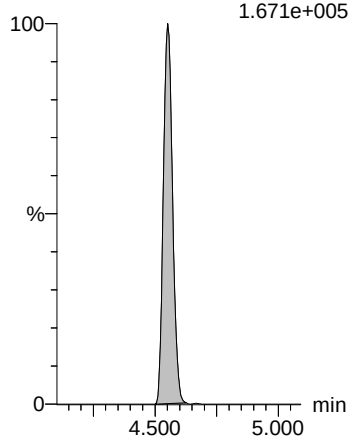


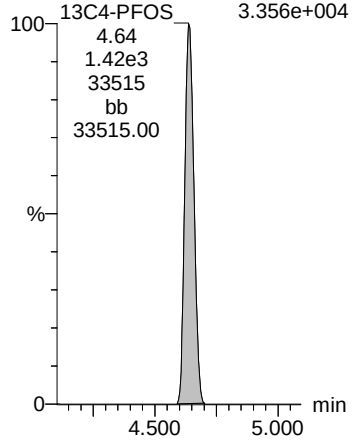
18O2-PFHxS



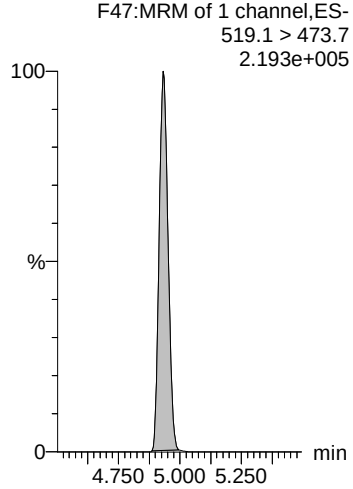
13C9-PFNA



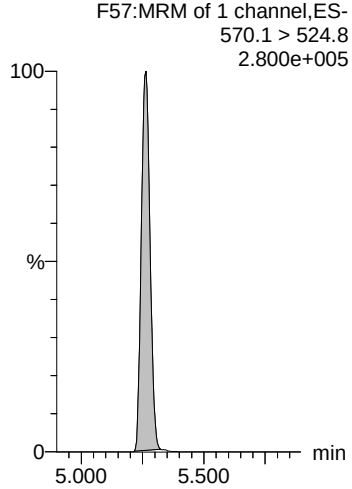
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-35.qld

Last Altered: Monday, July 15, 2019 09:40:54 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:43:10 Pacific Daylight Time

Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.16e3	6.16e2	0.125		2.46	2.46	23.4	81.6899	102.1	2.690	NO
2	7	PFHxA	313.0 > 269.0	7.76e3	3.00e3	0.125		2.96	2.96	12.9	89.0469	111.3	15.652	NO
3	11	PFHpA	363.0 > 318.9	3.70e3	3.61e3	0.125		3.58	3.58	12.8	83.4201	104.3	5.402	NO
4	13	L-PFHxS	398.9 > 79.6	9.53e2	1.27e3	0.125		3.74	3.74	9.36	89.3600	111.7	1.808	NO
5	80	Total PFHxS	398.9 > 79.6	9.53e2	1.27e3	0.125		3.83		9.36	89.3600			
6	49	13C3-PFBS	302.0 > 98.8	6.16e2	5.93e2	0.125	1.035	2.46	2.46	13.0	100.2958	100.3		
7	52	13C2-PFHxA	315.0 > 270.0	3.00e3	9.46e3	0.125	0.792	2.96	2.96	3.96	39.9947	100.0		
8	53	13C4-PFHpA	367.2 > 321.8	3.61e3	9.46e3	0.125	0.391	3.58	3.58	4.78	97.6880	97.7		
9	54	13C3-PFHxS	401.8 > 79.9	1.27e3	5.93e2	0.125	2.547	3.74	3.74	26.8	84.2328	84.2		
10	54	13C3-PFHxS	401.8 > 79.9	1.27e3	5.93e2	0.125	2.547	3.74	3.74	26.8	84.2328	84.2		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.00e4	6.42e3	0.125		4.11	4.11	19.6	84.5572	105.7	3.580	NO
13	81	Total PFOA	412.8 > 368.9	1.00e4	6.42e3	0.125		4.21		19.6	84.5572			
14	21	PFNA	463.0 > 418.8	5.44e3	5.96e3	0.125		4.55	4.55	11.4	83.0935	103.9	2.965	NO
15	23	L-PFOS	498.9 > 79.9	1.10e3	1.08e3	0.125		4.64	4.64	12.8	81.7420	102.2	1.968	NO
16	82	Total PFOS	498.9 > 79.9	1.10e3	1.08e3	0.125		4.74		12.8	81.7420			
17	58	13C2-PFOA	414.9 > 369.7	6.42e3	1.42e4	0.125	0.564	4.11	4.11	5.65	80.0370	80.0		
18	58	13C2-PFOA	414.9 > 369.7	6.42e3	1.42e4	0.125	0.564	4.11	4.11	5.65	80.0370	80.0		
19	56	13C5-PFNA	468.2 > 422.9	5.96e3	8.54e3	0.125	0.983	4.56	4.55	8.72	70.9977	71.0		
20	59	13C8-PFOS	507.0 > 79.9	1.08e3	1.39e3	0.125	1.060	4.64	4.64	9.65	72.8274	72.8		
21	59	13C8-PFOS	507.0 > 79.9	1.08e3	1.39e3	0.125	1.060	4.64	4.64	9.65	72.8274	72.8		
22	-1													
23	26	PFDA	513 > 468.8	6.03e3	4.49e3	0.125		4.93	4.93	16.8	80.8252	101.0	4.484	NO
24	29	L-MeFOSAA	570 > 419	2.80e3	1.11e3	0.125		5.08	5.09	31.6	84.5379	105.7	2.870	NO
25	83	Total N-MeFOSAA	570. > 419	2.80e3	1.11e3	0.125		5.19		31.6	84.5379			
26	33	PFUdA	563.0 > 518.9	5.09e3	6.35e3	0.125		5.26	5.26	10.0	86.0433	107.6	6.960	NO
27	37	PFDoA	612.9 > 569.0	4.69e3	5.70e3	0.125		5.55	5.55	10.3	86.1885	107.7	7.289	NO
28	60	13C2-PFDA	515.1 > 469.9	4.49e3	1.01e4	0.125	0.662	4.94	4.93	5.55	67.0208	67.0		
29	62	d3-N-MeFOSAA	573.3 > 419	1.11e3	1.26e4	0.125	0.129	5.09	5.08	1.10	68.3306	68.3		
30	62	d3-N-MeFOSAA	573.3 > 419	1.11e3	1.26e4	0.125	0.129	5.09	5.08	1.10	68.3306	68.3		
31	63	13C2-PFUdA	565 > 519.8	6.35e3	1.26e4	0.125	0.857	5.26	5.26	6.32	58.9557	59.0		
32	65	13C2-PFDoA	614.7 > 569.7	5.70e3	1.01e4	0.125	1.229	5.55	5.55	7.04	45.8324	45.8		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	1.99e3	1.10e3	0.125		5.24	5.25	22.6	91.0494	113.8	1.437	NO
35	84	Total N-EtFOSAA	584.1 > 419	1.99e3	1.10e3	0.125		5.33		22.6	91.0494			
36	39	PFTrDA	662.9 > 618.9	4.94e3	5.70e3	0.125		5.80	5.80	10.8	81.7354	102.2	13.117	NO

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-35.qld

Last Altered: Monday, July 15, 2019 09:40:54 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:43:10 Pacific Daylight Time

Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0	3.53e3	2.66e3	0.125		6.02	6.02	16.5	88.3182	110.4	12.150	NO
38	85	TDCA	498.3>106.9			0.125		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.10e3	1.26e4	0.125	0.147	5.24	5.24	1.09	59.2984	59.3		
40	64	d5-N-EtFOSAA	589.3 > 419	1.10e3	1.26e4	0.125	0.147	5.24	5.24	1.09	59.2984	59.3		
41	65	13C2-PFDoA	614.7 > 569.7	5.70e3	1.01e4	0.125	1.229	5.55	5.55	7.04	45.8324	45.8		
42	67	13C2-PFTeDA	715.1 > 669.7	2.66e3	1.26e4	0.125	0.511	6.02	6.02	2.65	41.4365	41.4		
43	59	13C8-PFOS	507.0 > 79.9	1.08e3	1.39e3	0.125	1.060	4.64	4.64	9.65	72.8274	72.8		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	9.46e3	9.46e3	0.125	1.000	2.96	2.96	12.5	100.0000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.42e4	1.42e4	0.125	1.000	4.11	4.11	12.5	100.0000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.93e2	5.93e2	0.125	1.000	3.74	3.74	12.5	100.0000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	8.54e3	8.54e3	0.125	1.000	4.55	4.55	12.5	100.0000	100.0		
49	77	13C4-PFOS	503 > 79.9	1.39e3	1.39e3	0.125	1.000	4.64	4.64	12.5	100.0000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.01e4	1.01e4	0.125	1.000	4.93	4.93	12.5	100.0000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.26e4	1.26e4	0.125	1.000	5.26	5.26	12.5	100.0000	100.0		

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-35.qld

Last Altered: Monday, July 15, 2019 09:40:54 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:43:10 Pacific Daylight Time

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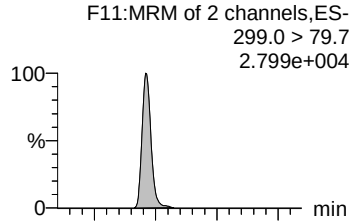
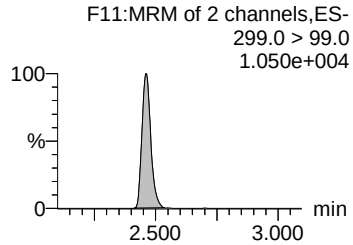
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

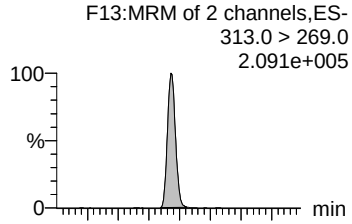
Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

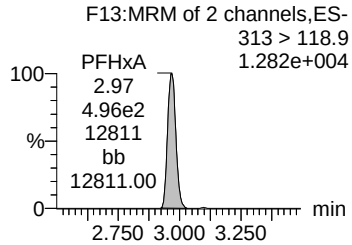
PFBS



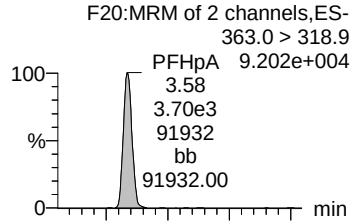


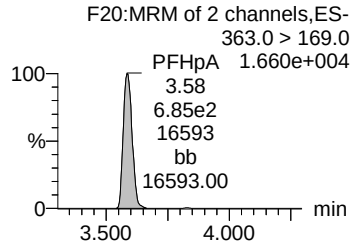
PFHxA



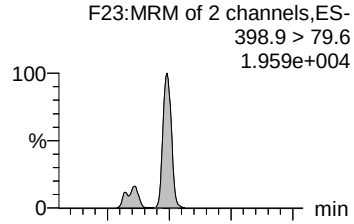


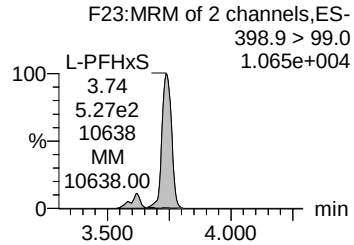
PFHpA



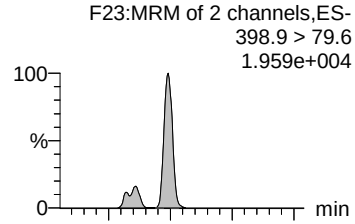


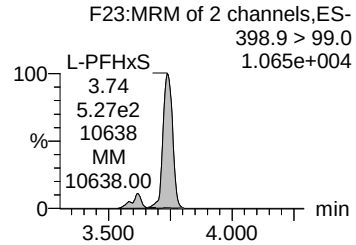
L-PFHxS



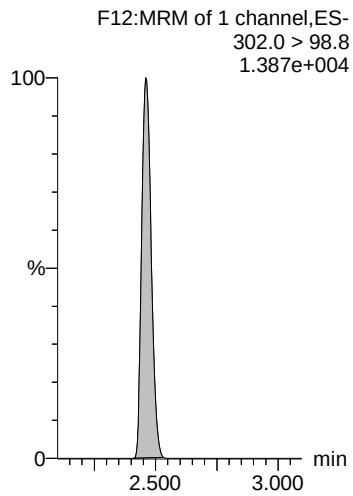


Total PFHxS

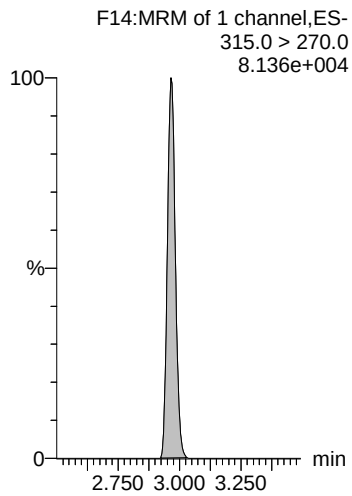




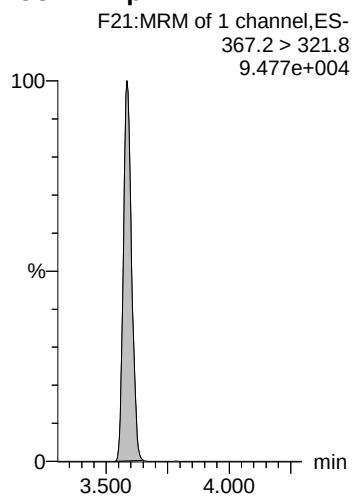
13C3-PFBS



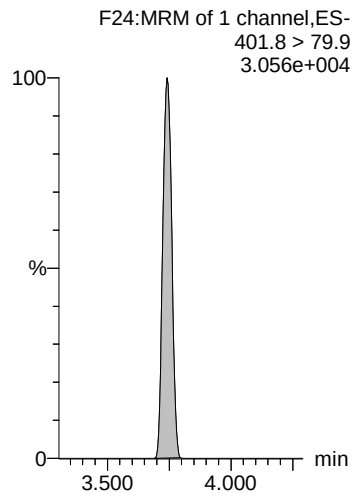
13C2-PFHxA



13C4-PFHpA



13C3-PFHxS



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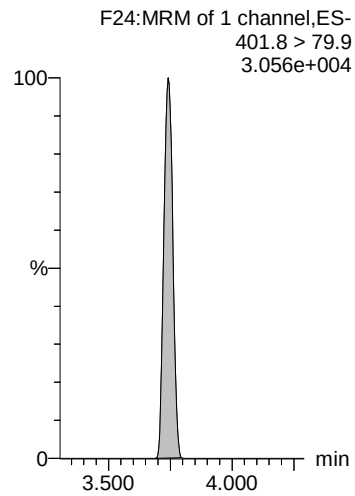

FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-35.qld

Last Altered: Monday, July 15, 2019 09:40:54 Pacific Daylight Time
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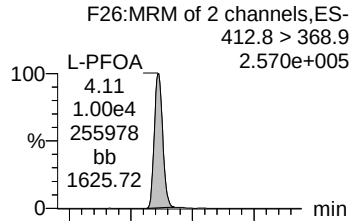
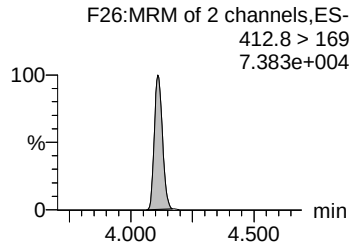
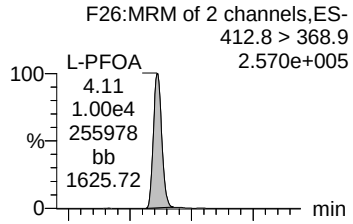
Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

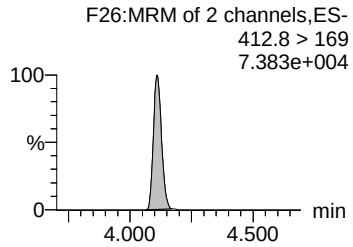
L-PFOA



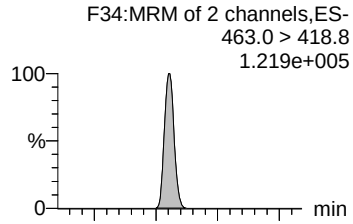


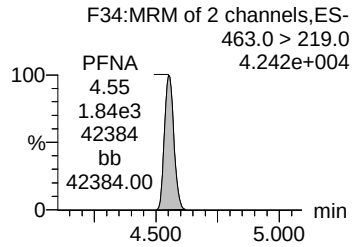
Total PFOA



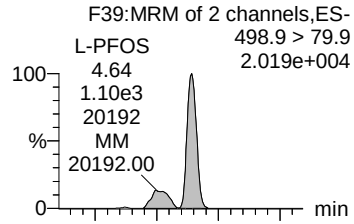


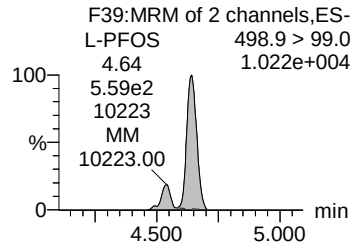
PFNA



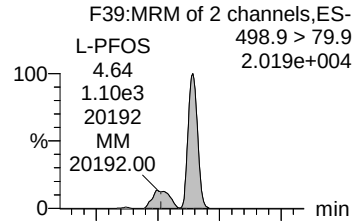


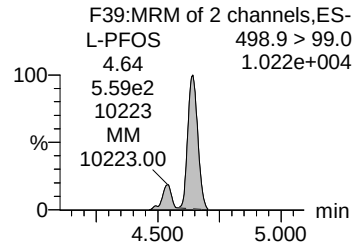
L-PFOS



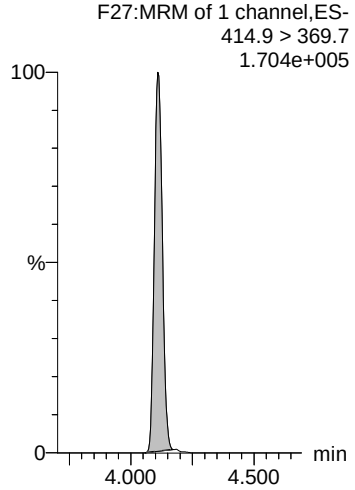


Total PFOS

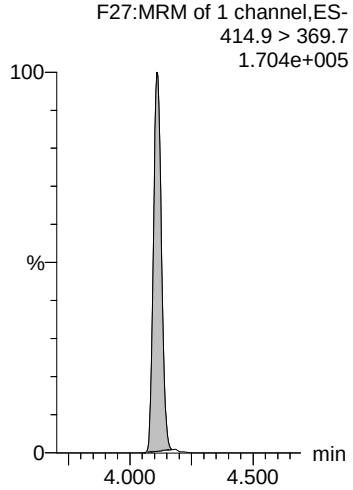




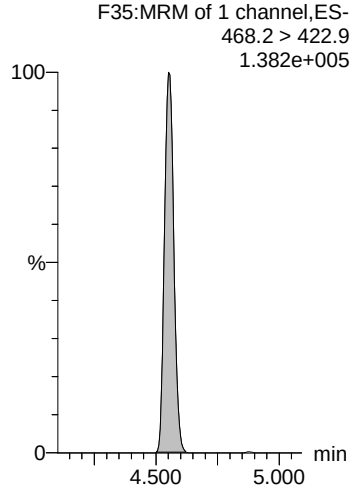
13C2-PFOA



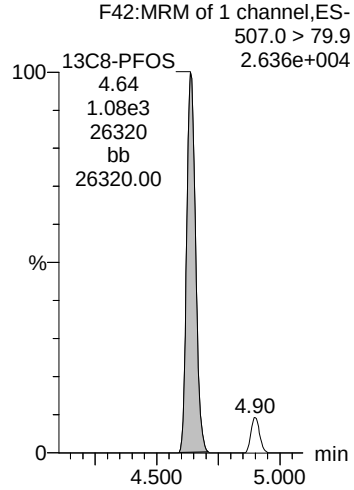
13C2-PFOA



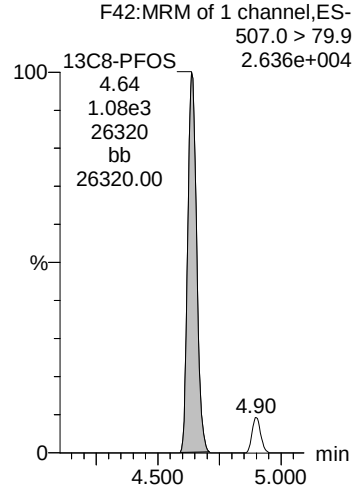
13C5-PFNA



13C8-PFOS



13C8-PFOS



FBR 7/15/2019

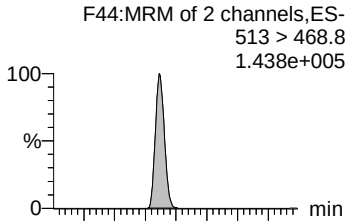
Review: AMR 7/16/2019

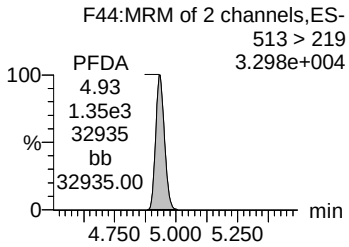
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-35.qld

Last Altered: Monday, July 15, 2019 09:40:54 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:43:10 Pacific Daylight Time

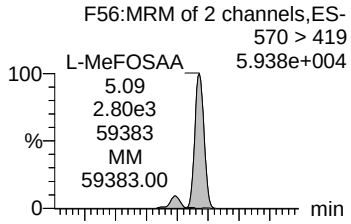
Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

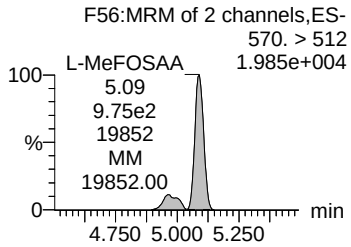
PFDA



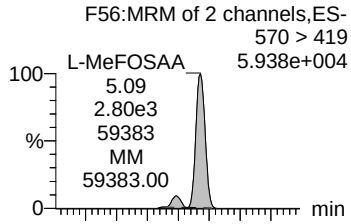


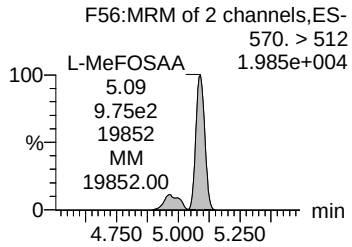
L-MeFOSAA



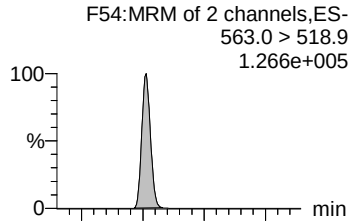


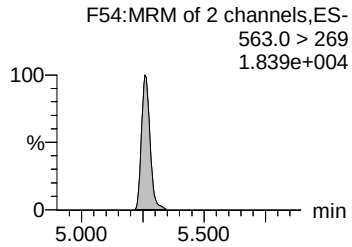
Total N-MeFOSAA



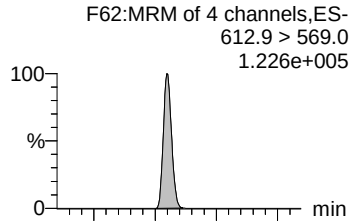


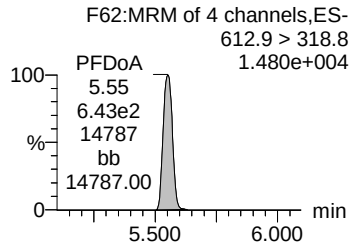
PFUdA



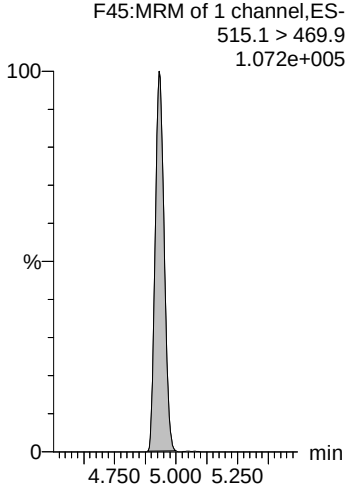


PFDoA

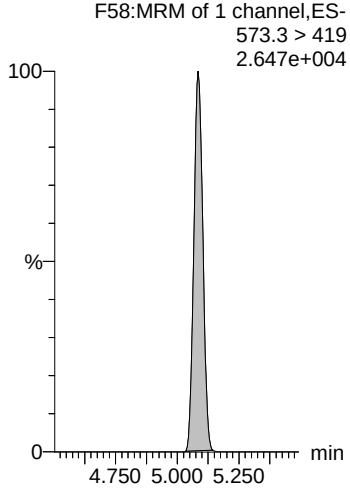




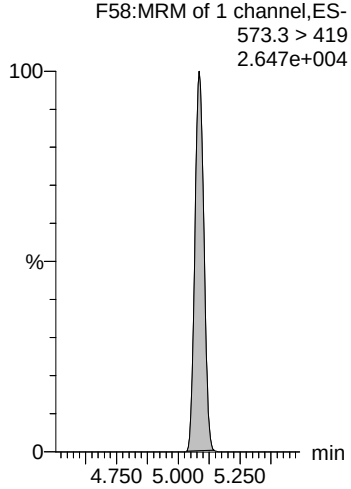
13C2-PFDA



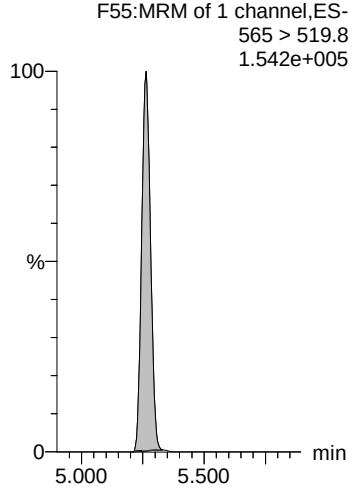
d3-N-MeFOSAA



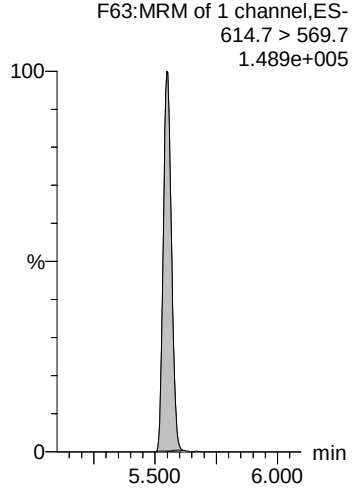
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



FBR 7/15/2019

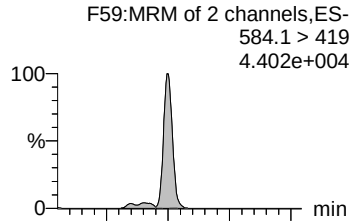
Review: AMR 7/16/2019

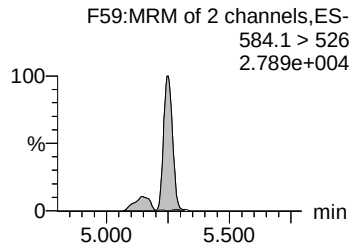
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-35.qld

Last Altered: Monday, July 15, 2019 09:40:54 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:43:10 Pacific Daylight Time

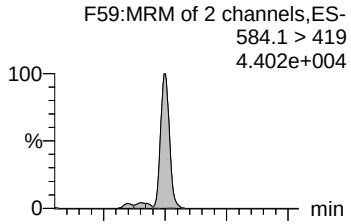
Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

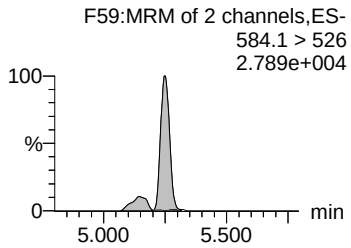
L-EtFOSAA



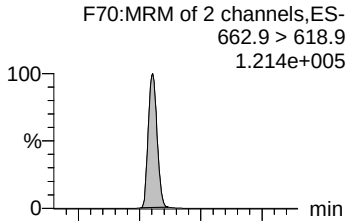


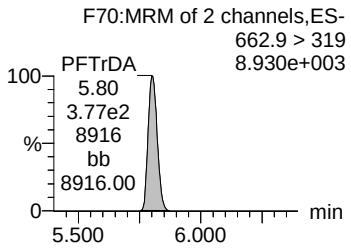
Total N-EtFOSAA



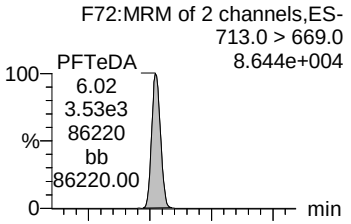


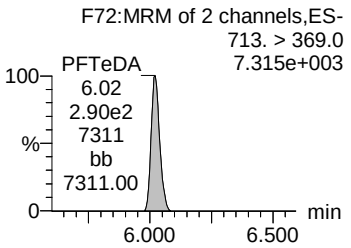
PFTrDA



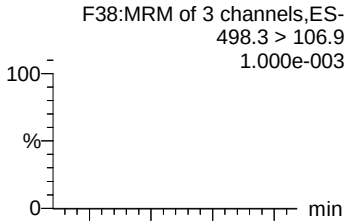


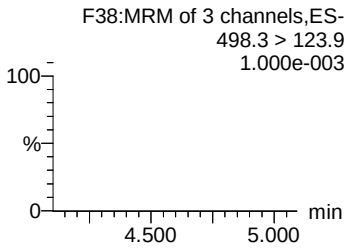
PFTeDA



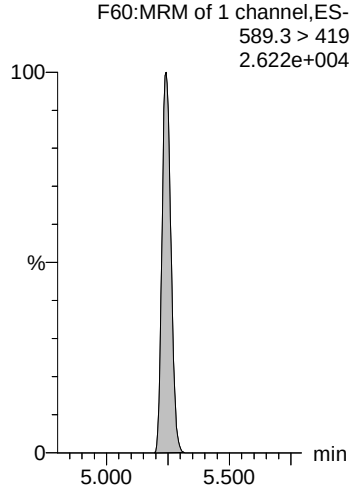


TDCA

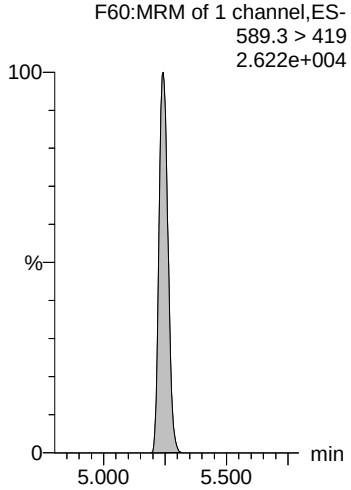




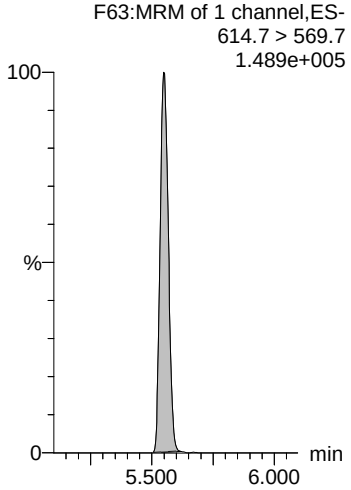
d5-N-EtFOSAA



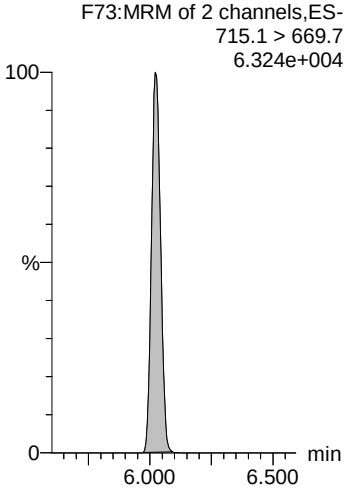
d5-N-EtFOSAA



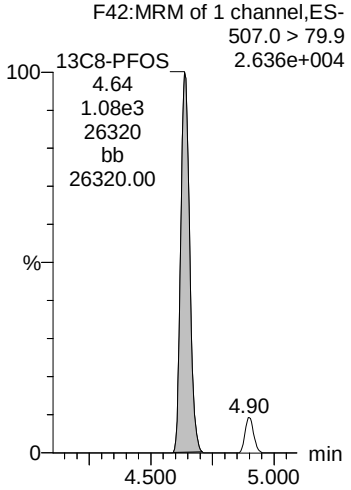
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



FBR 7/15/2019

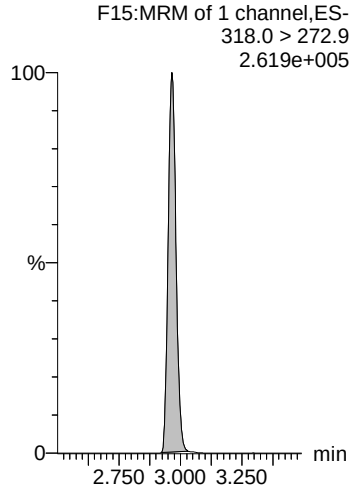
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-35.qld

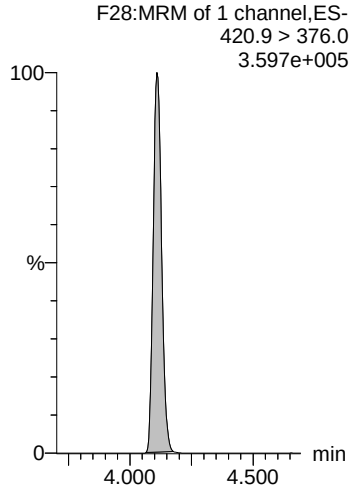
Last Altered: Monday, July 15, 2019 09:40:54 Pacific Daylight Time
Printed: Monday, July 15, 2019 09:43:10 Pacific Daylight Time

Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

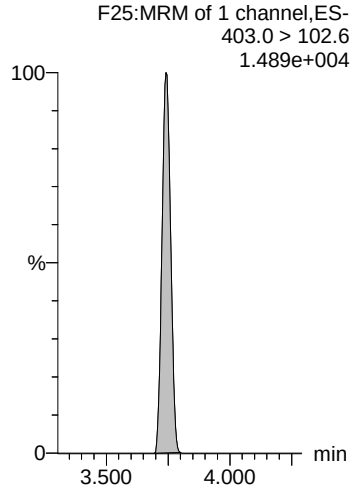
13C5-PFHxA



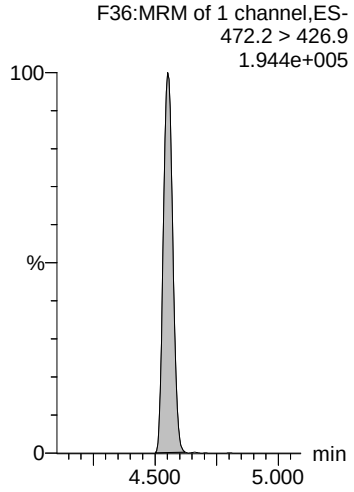
13C8-PFOA



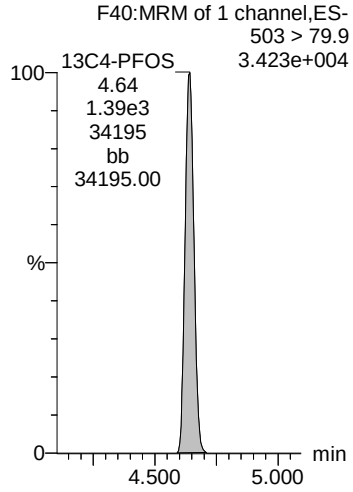
18O2-PFHxS



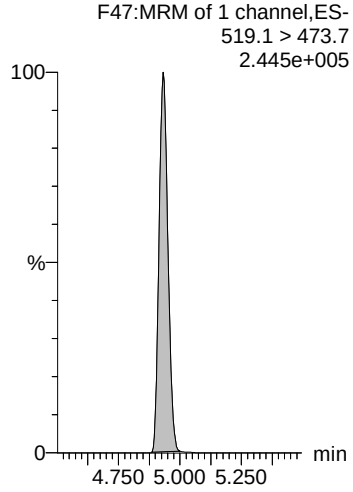
13C9-PFNA



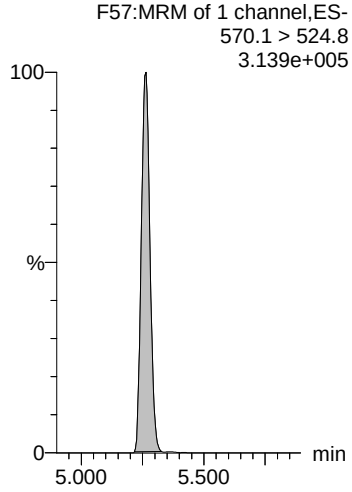
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/15/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-39.qld

Last Altered: Tuesday, July 16, 2019 13:27:10 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:27:41 Pacific Daylight Time

Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.12e2	4.76e2	0.133		2.46	2.46	2.94	10.3531		3.096	NO
2	7	PFHxA	313.0 > 269.0	2.31e3	1.91e3	0.133		2.96	2.96	6.05	39.1125		16.924	NO
3	11	PFHpA	363.0 > 318.9	2.87e2	2.15e3	0.133		3.59	3.59	1.66	10.4217		5.344	NO
4	13	L-PFHxS	398.9 > 79.6	4.59e2	9.74e2	0.133		3.74	3.74	5.89	53.2319		2.330	NO
5	80	Total PFHxS	398.9 > 79.6	4.59e2	9.74e2	0.133		3.83		5.89	53.2319			
6	49	13C3-PFBS	302.0 > 98.8	4.76e2	5.08e2	0.133	1.035	2.46	2.46	11.7	85.0517	90.6		
7	52	13C2-PFHxA	315.0 > 270.0	1.91e3	6.63e3	0.133	0.792	2.96	2.96	3.60	34.0772	90.8		
8	53	13C4-PFHpA	367.2 > 321.8	2.15e3	6.63e3	0.133	0.391	3.58	3.59	4.06	77.9190	83.0		
9	54	13C3-PFHxS	401.8 > 79.9	9.74e2	5.08e2	0.133	2.547	3.74	3.74	24.0	70.6559	75.3		
10	54	13C3-PFHxS	401.8 > 79.9	9.74e2	5.08e2	0.133	2.547	3.74	3.74	24.0	70.6559	75.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.59e3	4.59e3	0.133		4.11	4.11	4.34	17.4584		3.178	NO
13	81	Total PFOA	412.8 > 368.9	1.59e3	4.59e3	0.133		4.21		4.34	17.4584			
14	21	PFNA	463.0 > 418.8	1.31e2	4.59e3	0.133		4.56	4.55	0.356	2.2323		2.402	NO
15	23	L-PFOS	498.9 > 79.9	1.93e3	1.00e3	0.133		4.64	4.64	24.2	143.9573		2.431	NO
16	82	Total PFOS	498.9 > 79.9	1.93e3	1.00e3	0.133		4.74		24.2	143.9573			
17	58	13C2-PFOA	414.9 > 369.7	4.59e3	9.30e3	0.133	0.564	4.11	4.11	6.18	82.1849	87.6		
18	58	13C2-PFOA	414.9 > 369.7	4.59e3	9.30e3	0.133	0.564	4.11	4.11	6.18	82.1849	87.6		
19	56	13C5-PFNA	468.2 > 422.9	4.59e3	6.00e3	0.133	0.983	4.56	4.56	9.57	73.1318	77.9		
20	59	13C8-PFOS	507.0 > 79.9	1.00e3	9.76e2	0.133	1.060	4.64	4.64	12.8	90.7596	96.7		
21	59	13C8-PFOS	507.0 > 79.9	1.00e3	9.76e2	0.133	1.060	4.64	4.64	12.8	90.7596	96.7		
22	-1													
23	26	PFDA	513 > 468.8	1.76e2	4.02e3	0.133		4.93	4.93	0.548	2.9776		6.116	NO
24	29	L-MeFOSAA	570 > 419		7.72e2	0.133		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	7.72e2	0.133		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		6.22e3	0.133		5.26						
27	37	PFDoA	612.9 > 569.0	5.66e0	5.07e3	0.133		5.55	5.54	0.0140	0.3464		1.875	YES
28	60	13C2-PFDA	515.1 > 469.9	4.02e3	7.57e3	0.133	0.662	4.94	4.93	6.64	75.2948	80.2		
29	62	d3-N-MeFOSAA	573.3 > 419	7.72e2	9.39e3	0.133	0.129	5.09	5.08	1.03	59.7841	63.7		
30	62	d3-N-MeFOSAA	573.3 > 419	7.72e2	9.39e3	0.133	0.129	5.09	5.08	1.03	59.7841	63.7		
31	63	13C2-PFUdA	565 > 519.8	6.22e3	9.39e3	0.133	0.857	5.26	5.26	8.28	72.5702	77.3		
32	65	13C2-PFDoA	614.7 > 569.7	5.07e3	7.57e3	0.133	1.229	5.55	5.55	8.37	51.1414	54.5		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		8.04e2	0.133		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	8.04e2	0.133		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		5.07e3	0.133		5.80						

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-39.qld

Last Altered: Tuesday, July 16, 2019 13:27:10 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:27:41 Pacific Daylight Time

Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		2.12e3	0.133		6.03						
38	85	TDCA	498.3>106.9			0.133		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	8.04e2	9.39e3	0.133	0.147	5.24	5.25	1.07	54.5526	58.1		
40	64	d5-N-EtFOSAA	589.3 > 419	8.04e2	9.39e3	0.133	0.147	5.24	5.25	1.07	54.5526	58.1		
41	65	13C2-PFDoA	614.7 > 569.7	5.07e3	7.57e3	0.133	1.229	5.55	5.55	8.37	51.1414	54.5		
42	67	13C2-PFTeDA	715.1 > 669.7	2.12e3	9.39e3	0.133	0.511	6.02	6.03	2.82	41.3858	44.1		
43	59	13C8-PFOS	507.0 > 79.9	1.00e3	9.76e2	0.133	1.060	4.64	4.64	12.8	90.7596	96.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	6.63e3	6.63e3	0.133	1.000	2.96	2.96	12.5	93.8579	100.0		
46	75	13C8-PFOA	420.9 > 376.0	9.30e3	9.30e3	0.133	1.000	4.11	4.11	12.5	93.8579	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.08e2	5.08e2	0.133	1.000	3.74	3.74	12.5	93.8579	100.0		
48	76	13C9-PFNA	472.2 > 426.9	6.00e3	6.00e3	0.133	1.000	4.55	4.56	12.5	93.8579	100.0		
49	77	13C4-PFOS	503 > 79.9	9.76e2	9.76e2	0.133	1.000	4.64	4.64	12.5	93.8579	100.0		
50	78	13C6-PFDA	519.1 > 473.7	7.57e3	7.57e3	0.133	1.000	4.93	4.93	12.5	93.8579	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	9.39e3	9.39e3	0.133	1.000	5.26	5.26	12.5	93.8579	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

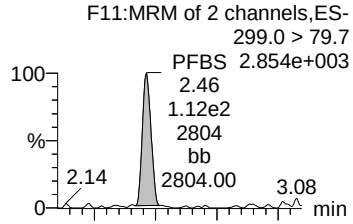
Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-39.qld

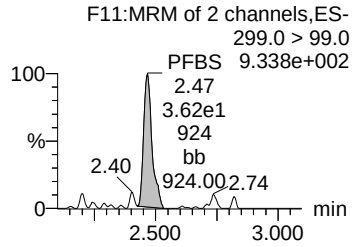
Last Altered: Tuesday, July 16, 2019 13:27:10 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:27:41 Pacific Daylight Time

Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

PFBS





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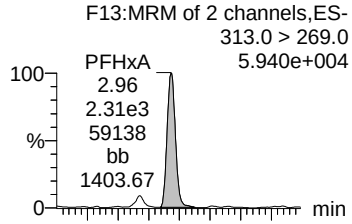

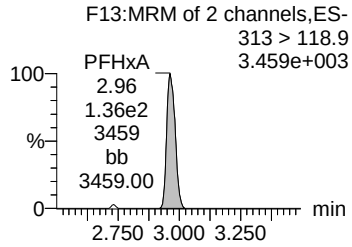

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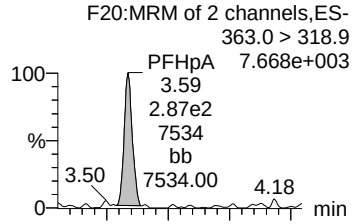

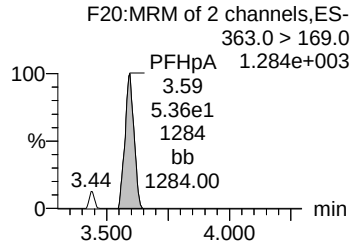

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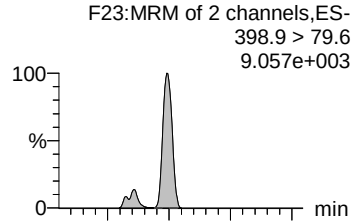

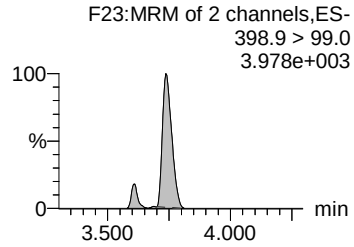

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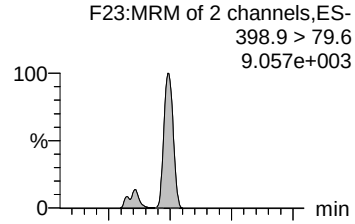

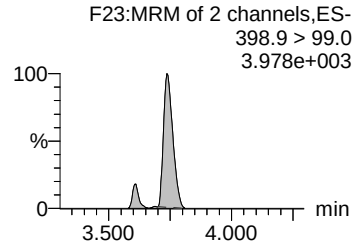

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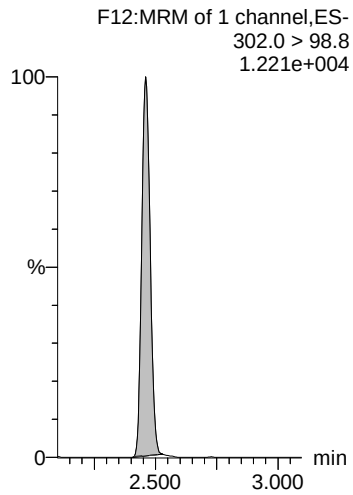

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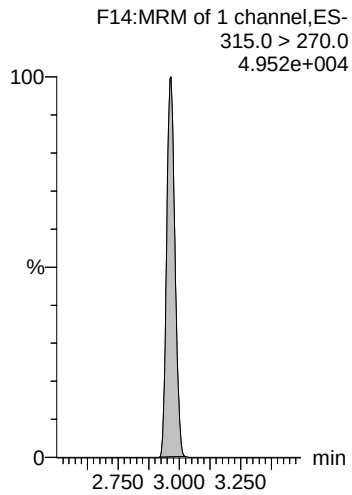

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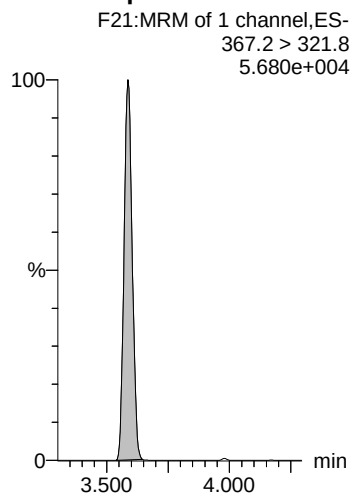

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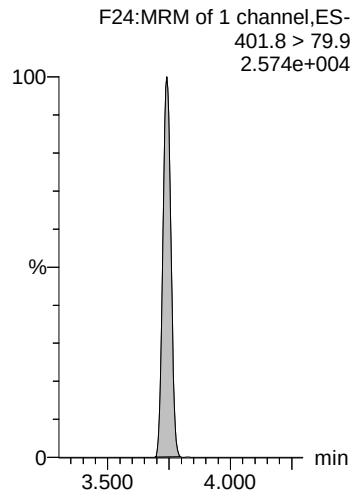

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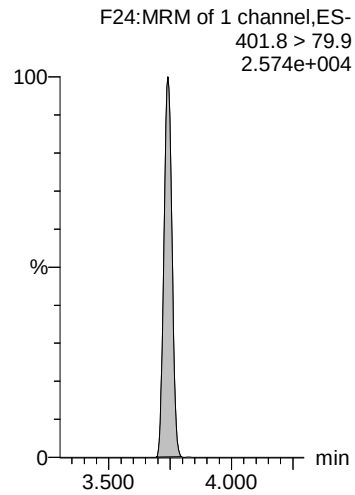


Vista Analytical Laboratory L14

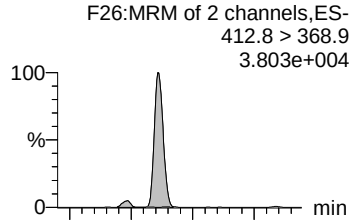
Review: AMR 7/16/2019

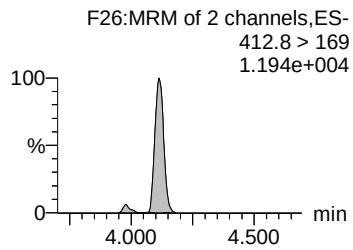
Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-39.qld

Last Altered: Tuesday, July 16, 2019 13:27:10 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:27:41 Pacific Daylight Time

Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

L-PFOA





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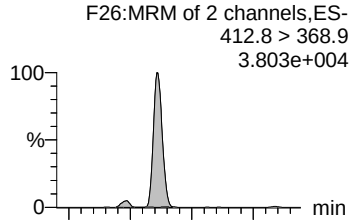

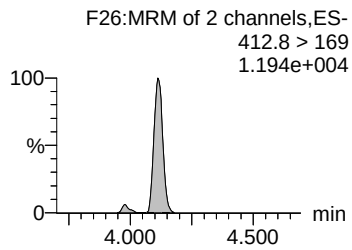

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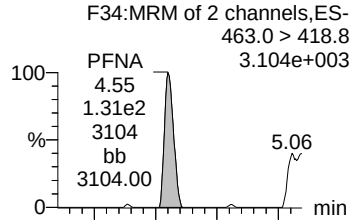
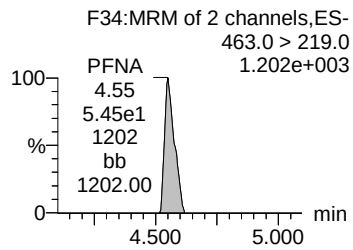
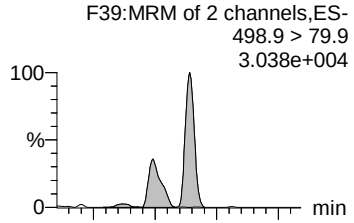
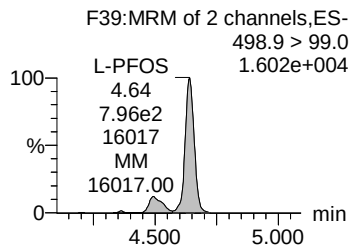


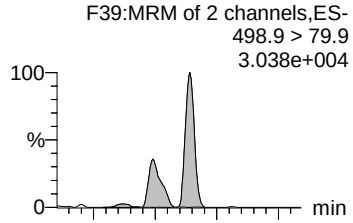


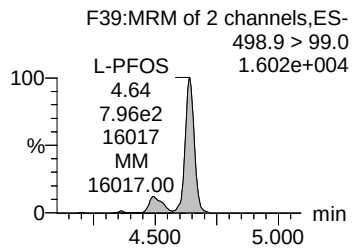
L-PFOS





Total PFOS





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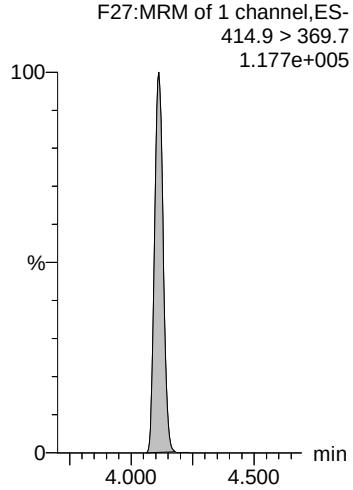

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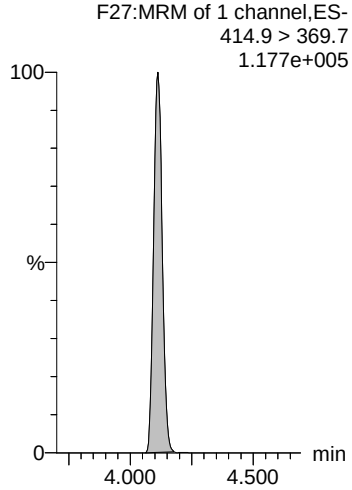

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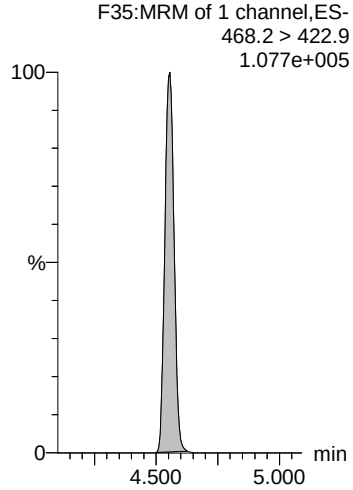

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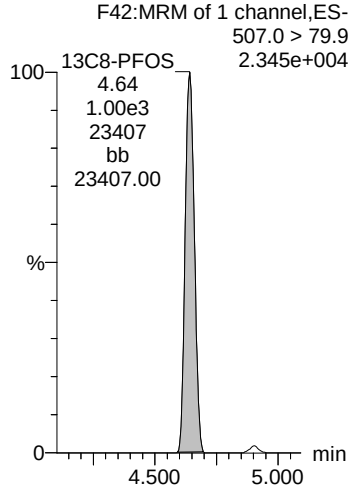

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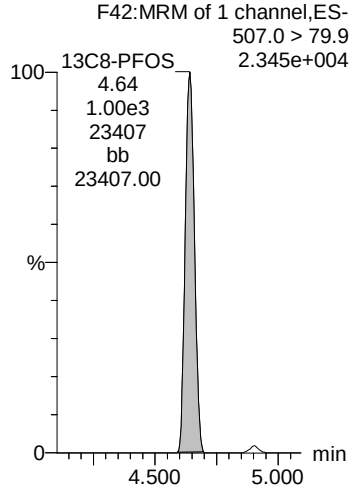
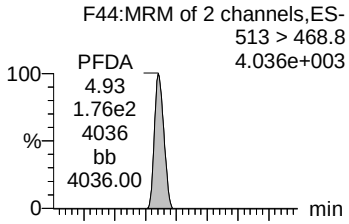


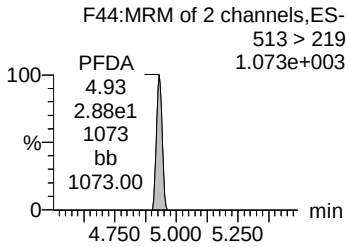
Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-39.qld

Last Altered: Tuesday, July 16, 2019 13:27:10 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:27:41 Pacific Daylight Time

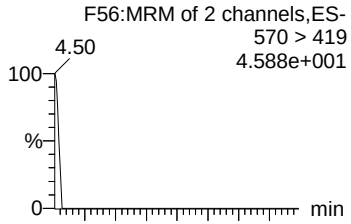
Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

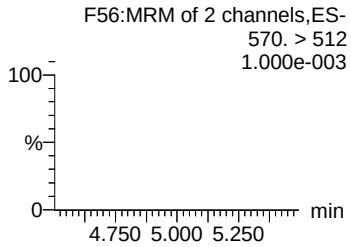
PFDA



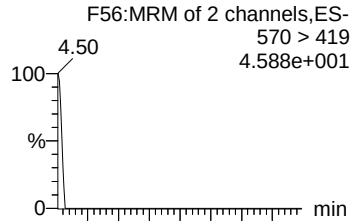


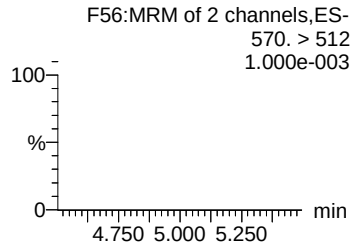
L-MeFOSAA





Total N-MeFOSAA





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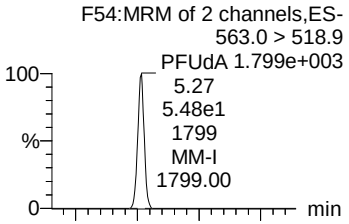

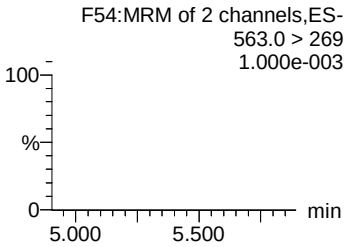

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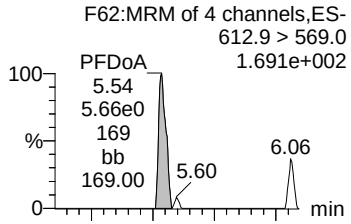

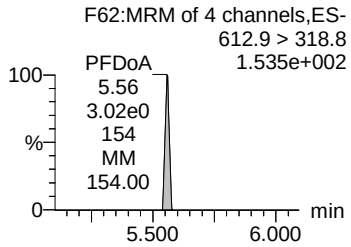

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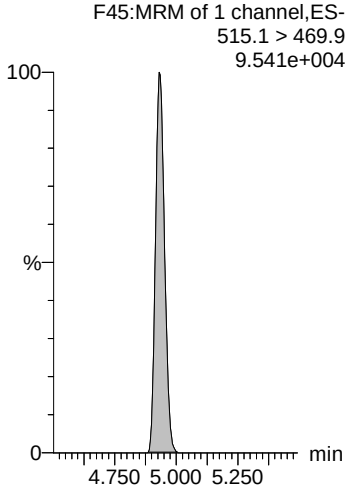
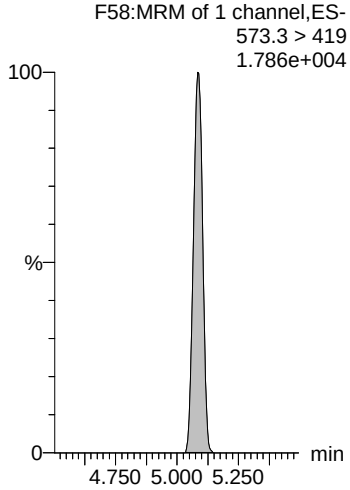
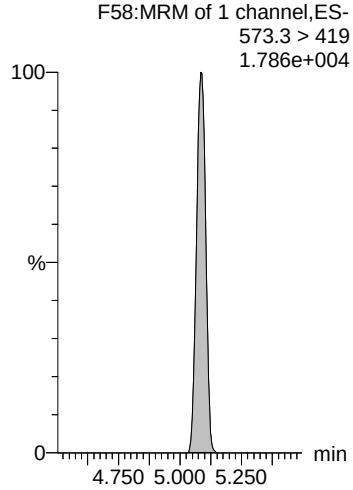


d3-N-MeFOSAA



d3-N-MeFOSAA



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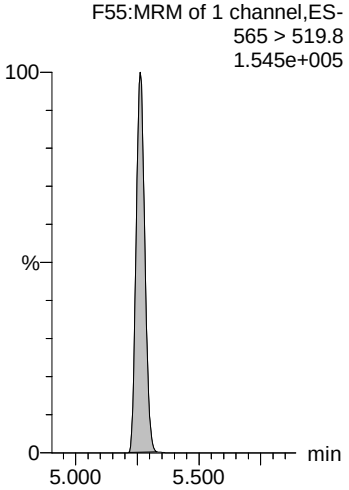
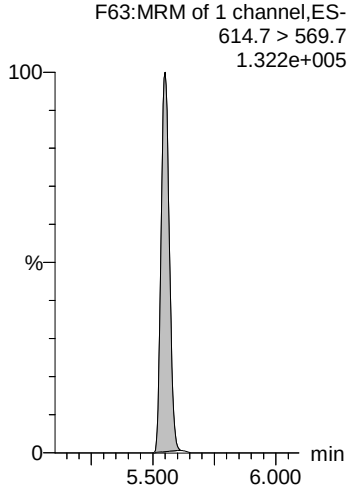


13C2-PFDoA



Vista Analytical Laboratory L14

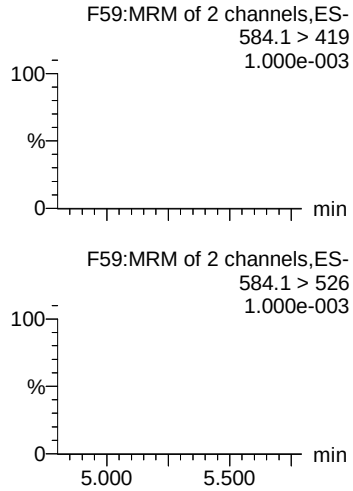
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-39.qld

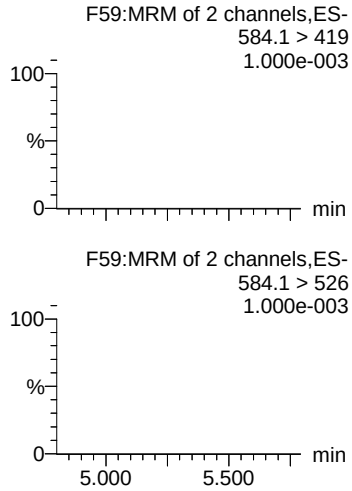
Last Altered: Tuesday, July 16, 2019 13:27:10 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:27:41 Pacific Daylight Time

Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

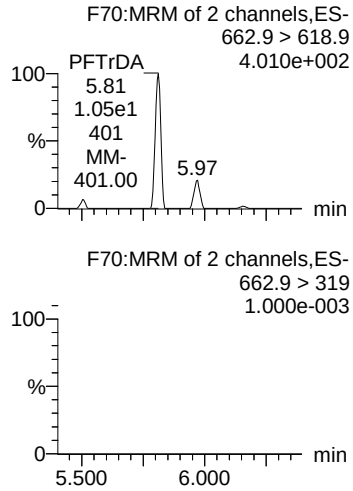
L-EtFOSAA



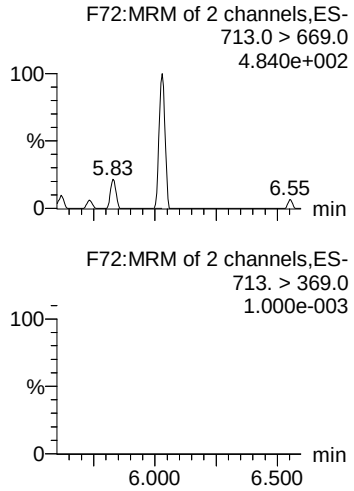
Total N-EtFOSAA



PFTrDA



PFTeDA



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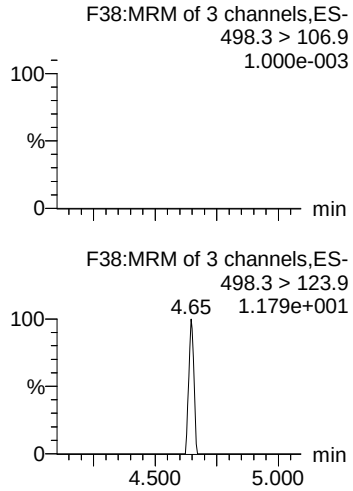
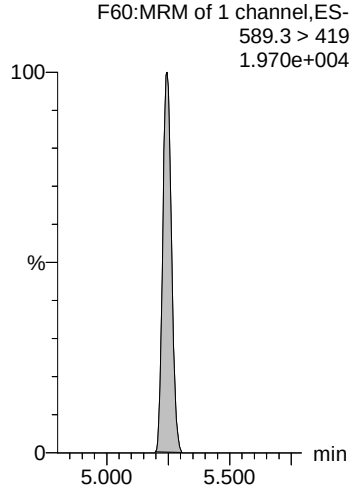


d5-N-EtFOSAA



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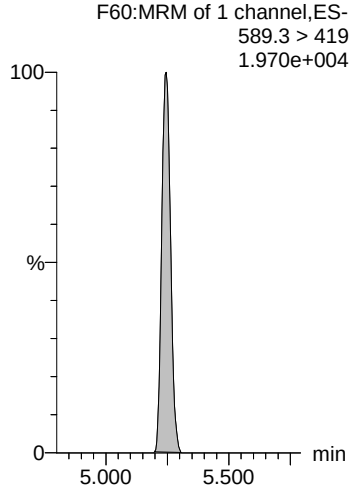
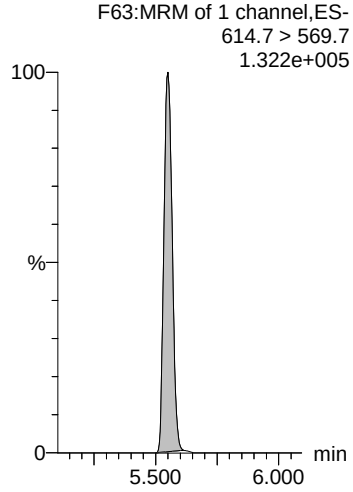
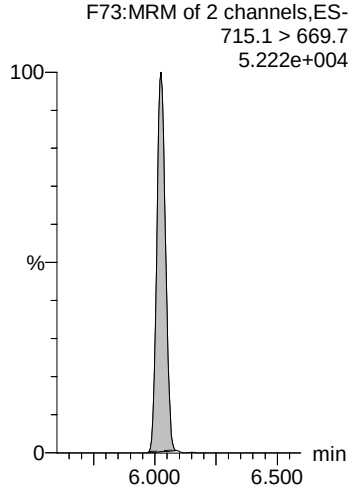


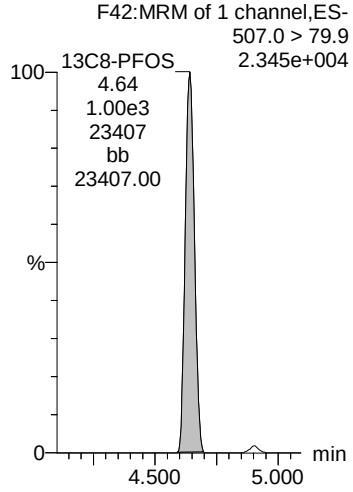
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



NY 7/16/2019

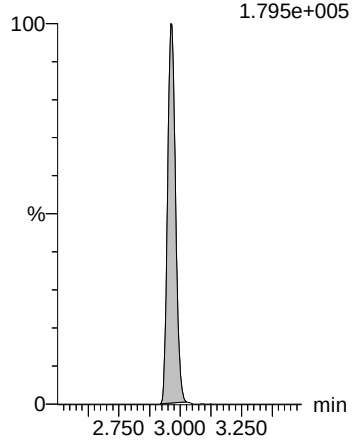
Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-39.qld

Last Altered: Tuesday, July 16, 2019 13:27:10 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:27:41 Pacific Daylight Time

Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

13C5-PFHxA



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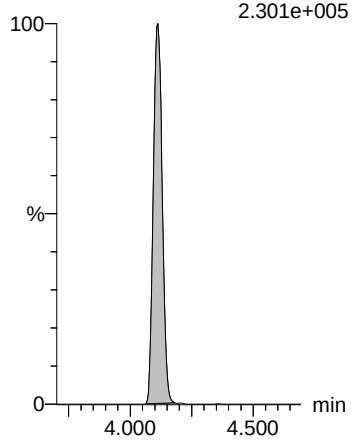

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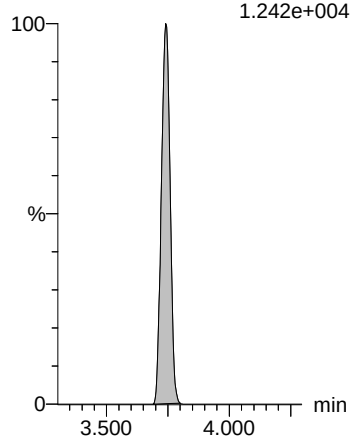
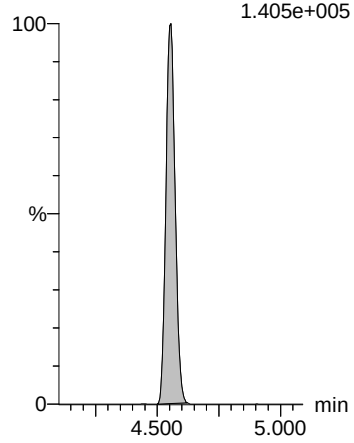
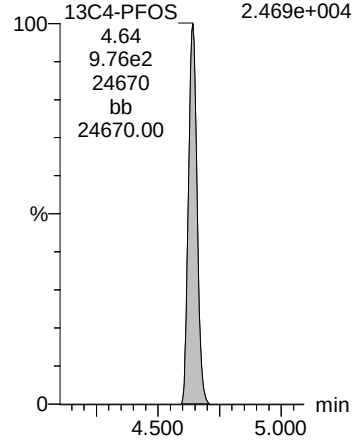


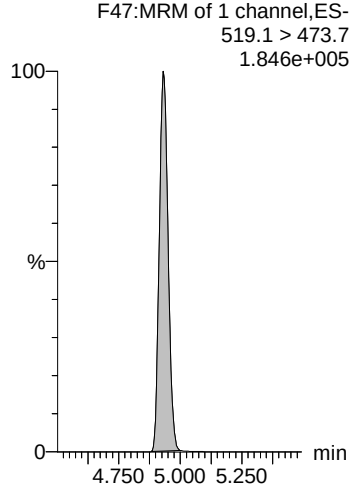
13C9-PFNA



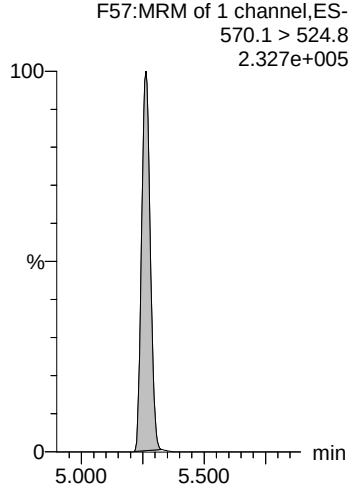
13C4-PFOS



13C6-PFDA



13C7-PFUdA



NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-40.qld

Last Altered: Tuesday, July 16, 2019 08:02:21 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:18:37 Pacific Daylight Time

Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		5.67e2	0.114		2.46						
2	7	PFHxA	313.0 > 269.0		2.50e3	0.114		2.97						
3	11	PFHpA	363.0 > 318.9		2.95e3	0.114		3.59						
4	13	L-PFHxS	398.9 > 79.6	1.17e0	1.34e3	0.114		3.74	3.74	0.0109	0.8524		0.344	YES
5	80	Total PFHxS	398.9 > 79.6	1.17e0	1.34e3	0.114		3.83		0.0109	0.8524			
6	49	13C3-PFBS	302.0 > 98.8	5.67e2	5.44e2	0.114	1.035	2.46	2.46	13.0	110.1645	100.7		
7	52	13C2-PFHxA	315.0 > 270.0	2.50e3	8.48e3	0.114	0.792	2.96	2.97	3.68	40.6501	92.9		
8	53	13C4-PFHpA	367.2 > 321.8	2.95e3	8.48e3	0.114	0.391	3.58	3.59	4.34	97.1511	88.8		
9	54	13C3-PFHxS	401.8 > 79.9	1.34e3	5.44e2	0.114	2.547	3.74	3.74	30.9	106.1015	97.0		
10	54	13C3-PFHxS	401.8 > 79.9	1.34e3	5.44e2	0.114	2.547	3.74	3.74	30.9	106.1015	97.0		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.29e2	6.60e3	0.114		4.11	4.12	0.245	0.9770		6.337	YES
13	81	Total PFOA	412.8 > 368.9	1.29e2	6.60e3	0.114		4.21		0.245	0.9770			
14	21	PFNA	463.0 > 418.8	4.38e1	6.99e3	0.114		4.55	4.56	0.0783	0.3839		2.496	NO
15	23	L-PFOS	498.9 > 79.9	1.27e2	1.19e3	0.114		4.64	4.65	1.33	10.3446		4.685	YES
16	82	Total PFOS	498.9 > 79.9	1.27e2	1.19e3	0.114		4.74		1.33	10.3446			
17	58	13C2-PFOA	414.9 > 369.7	6.60e3	1.28e4	0.114	0.564	4.11	4.11	6.46	100.1855	91.6		
18	58	13C2-PFOA	414.9 > 369.7	6.60e3	1.28e4	0.114	0.564	4.11	4.11	6.46	100.1855	91.6		
19	56	13C5-PFNA	468.2 > 422.9	6.99e3	8.42e3	0.114	0.983	4.56	4.55	10.4	92.4615	84.5		
20	59	13C8-PFOS	507.0 > 79.9	1.19e3	1.34e3	0.114	1.060	4.64	4.64	11.1	91.7213	83.9		
21	59	13C8-PFOS	507.0 > 79.9	1.19e3	1.34e3	0.114	1.060	4.64	4.64	11.1	91.7213	83.9		
22	-1													
23	26	PFDA	513 > 468.8	2.83e2	5.03e3	0.114		4.93	4.93	0.703	4.2805		25.854	YES
24	29	L-MeFOSAA	570 > 419		1.12e3	0.114		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.12e3	0.114		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		8.19e3	0.114		5.26						
27	37	PFDoA	612.9 > 569.0	9.71e1	8.90e3	0.114		5.55	5.55	0.136	1.5182		166.556	YES
28	60	13C2-PFDA	515.1 > 469.9	5.03e3	9.41e3	0.114	0.662	4.94	4.93	6.68	88.2459	80.7		
29	62	d3-N-MeFOSAA	573.3 > 419	1.12e3	1.22e4	0.114	0.129	5.09	5.09	1.15	77.7543	71.1		
30	62	d3-N-MeFOSAA	573.3 > 419	1.12e3	1.22e4	0.114	0.129	5.09	5.09	1.15	77.7543	71.1		
31	63	13C2-PFUdA	565 > 519.8	8.19e3	1.22e4	0.114	0.857	5.26	5.26	8.38	85.5006	78.2		
32	65	13C2-PFDoA	614.7 > 569.7	8.90e3	9.41e3	0.114	1.229	5.55	5.55	11.8	84.1454	76.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.28e3	0.114		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.28e3	0.114		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		8.90e3	0.114		5.80						

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-40.qld

Last Altered: Tuesday, July 16, 2019 08:02:21 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:18:37 Pacific Daylight Time

Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		4.72e3	0.114		6.03						
38	85	TDCA	498.3>106.9			0.114		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.28e3	1.22e4	0.114	0.147	5.24	5.25	1.31	77.9717	71.3		
40	64	d5-N-EtFOSAA	589.3 > 419	1.28e3	1.22e4	0.114	0.147	5.24	5.25	1.31	77.9717	71.3		
41	65	13C2-PFDoA	614.7 > 569.7	8.90e3	9.41e3	0.114	1.229	5.55	5.55	11.8	84.1454	76.9		
42	67	13C2-PFTeDA	715.1 > 669.7	4.72e3	1.22e4	0.114	0.511	6.02	6.03	4.82	82.5494	75.5		
43	59	13C8-PFOS	507.0 > 79.9	1.19e3	1.34e3	0.114	1.060	4.64	4.64	11.1	91.7213	83.9		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	8.48e3	8.48e3	0.114	1.000	2.96	2.97	12.5	109.3709	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.28e4	1.28e4	0.114	1.000	4.11	4.11	12.5	109.3709	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.44e2	5.44e2	0.114	1.000	3.74	3.74	12.5	109.3709	100.0		
48	76	13C9-PFNA	472.2 > 426.9	8.42e3	8.42e3	0.114	1.000	4.55	4.55	12.5	109.3709	100.0		
49	77	13C4-PFOS	503 > 79.9	1.34e3	1.34e3	0.114	1.000	4.64	4.64	12.5	109.3709	100.0		
50	78	13C6-PFDA	519.1 > 473.7	9.41e3	9.41e3	0.114	1.000	4.93	4.93	12.5	109.3709	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.22e4	1.22e4	0.114	1.000	5.26	5.26	12.5	109.3709	100.0		

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

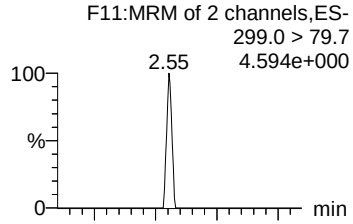
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-40.qld

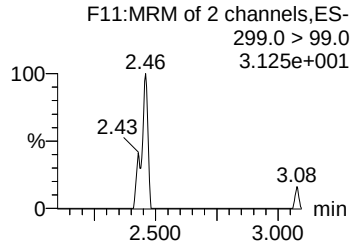
Last Altered: Tuesday, July 16, 2019 08:02:21 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:18:37 Pacific Daylight Time

Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

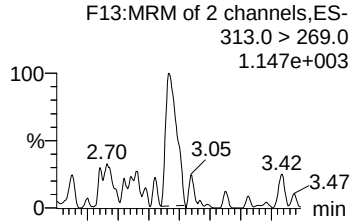
Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

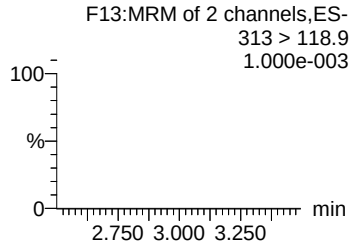
PFBS





PFHxA





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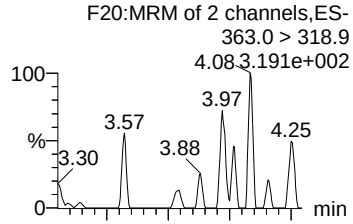
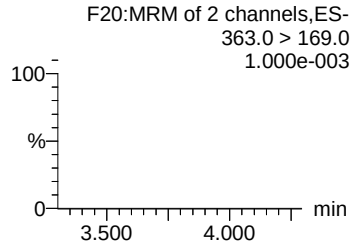
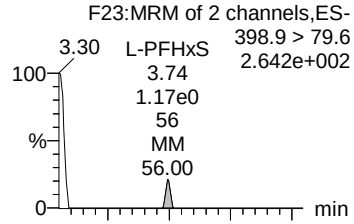
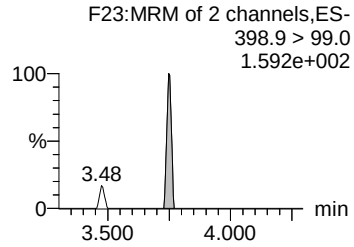


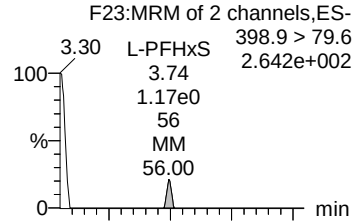


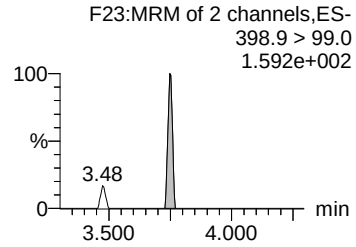
L-PFHxS



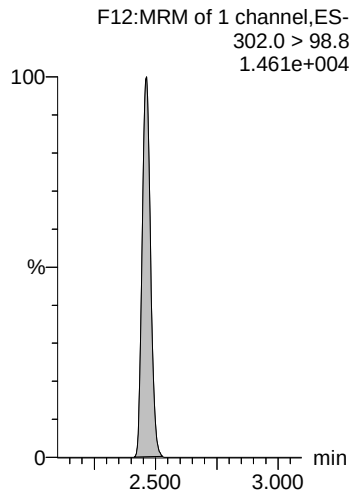


Total PFHxS

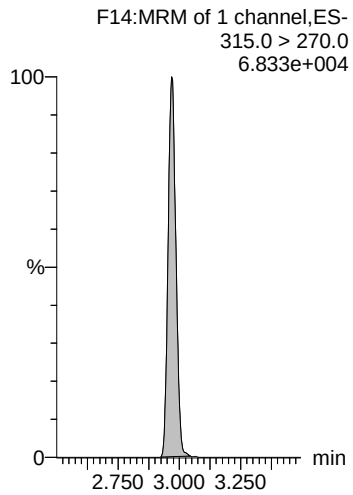




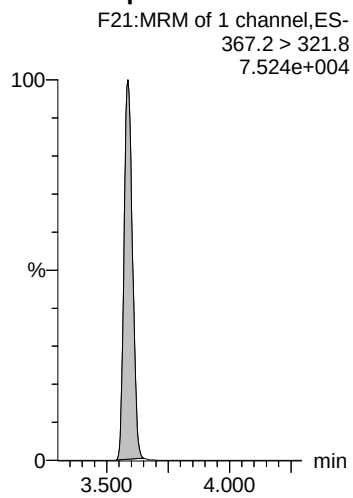
13C3-PFBS



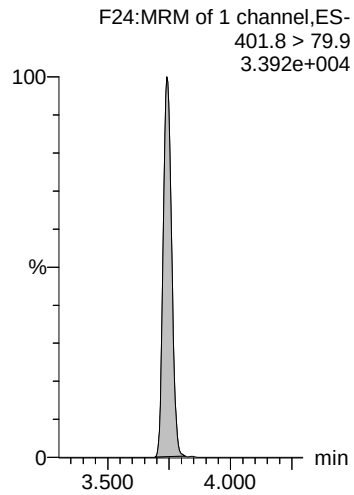
13C2-PFHxA



13C4-PFHpA



13C3-PFHxS



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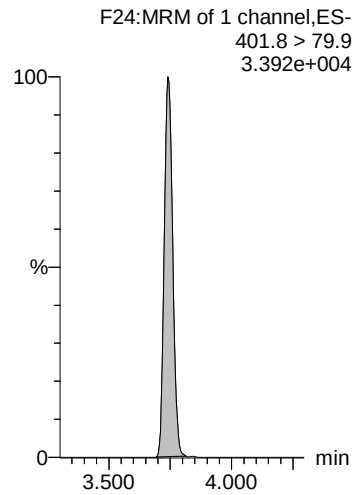


FBR 7/16/2019

Vista Analytical Laboratory L14

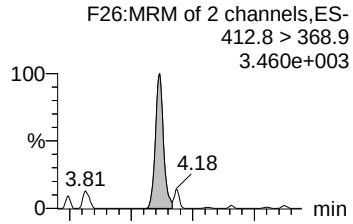
Review: AMR 7/16/2019

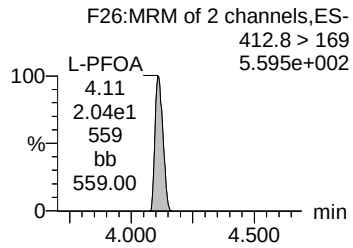
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-40.qld

Last Altered: Tuesday, July 16, 2019 08:02:21 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:18:37 Pacific Daylight Time

Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

L-PFOA





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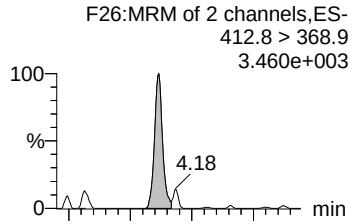

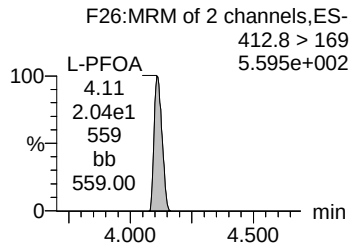

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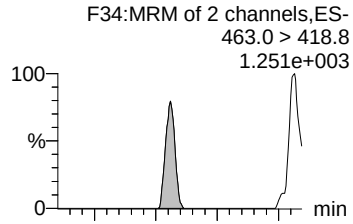
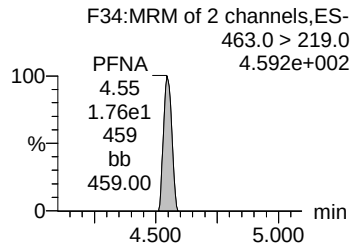
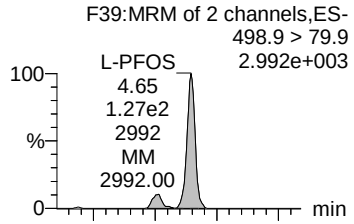
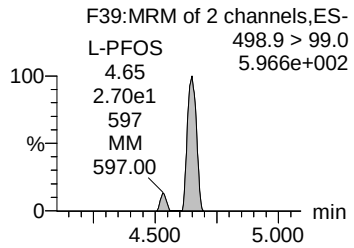


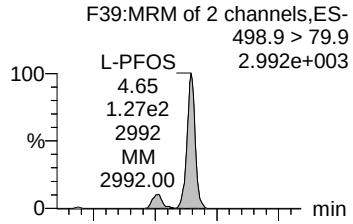


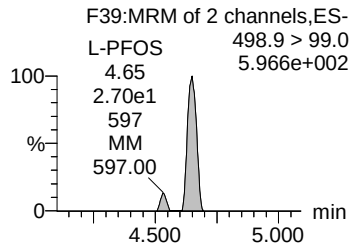
L-PFOS



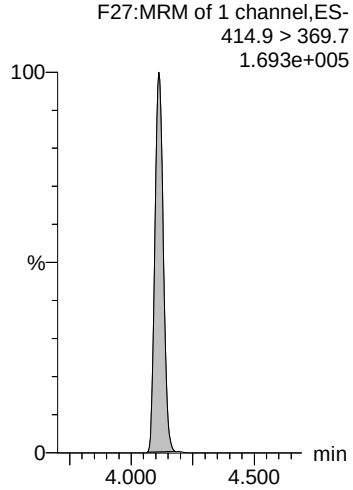


Total PFOS





13C2-PFOA



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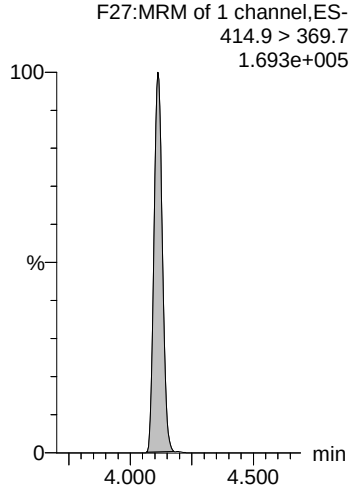

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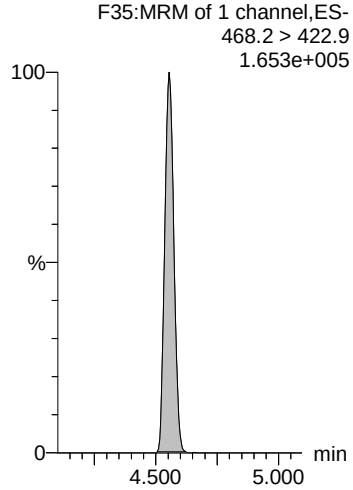
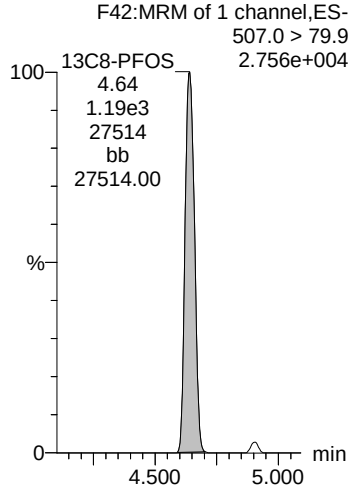


13C8-PFOS



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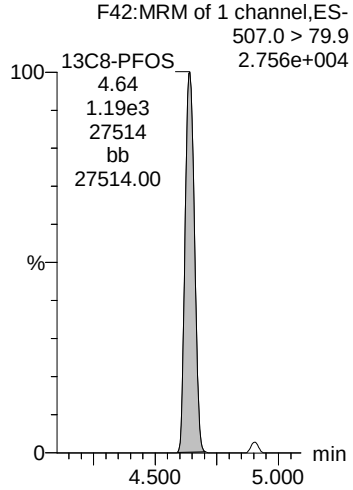


FBR 7/16/2019

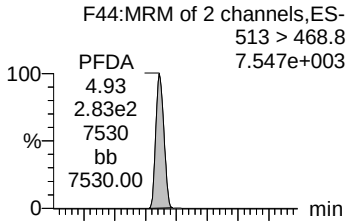
Review: AMR 7/16/2019

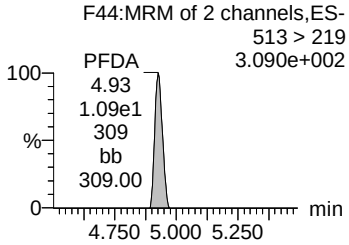
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-40.qld

Last Altered: Tuesday, July 16, 2019 08:02:21 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:18:37 Pacific Daylight Time

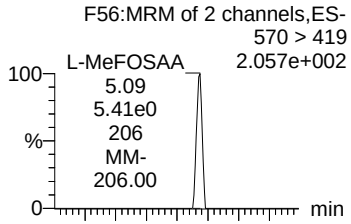
Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

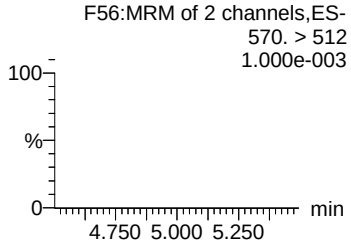
PFDA





L-MeFOSAA





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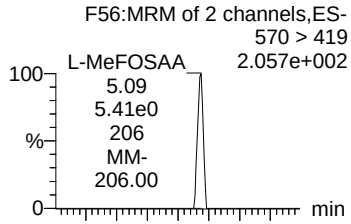

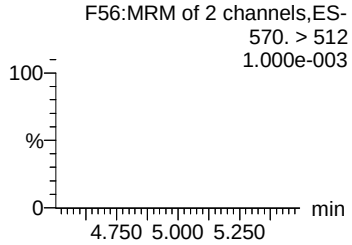

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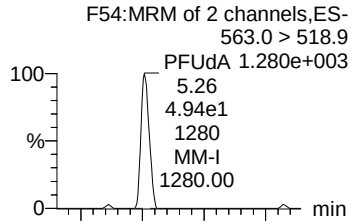
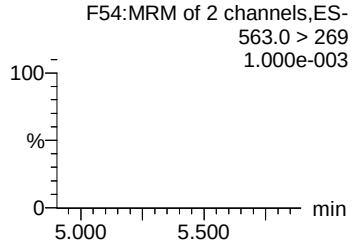
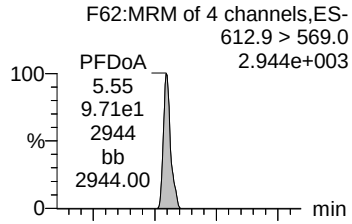
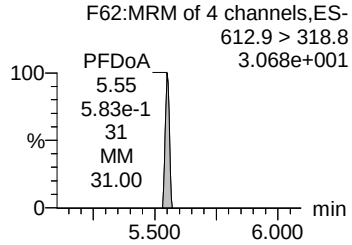




PFDoA





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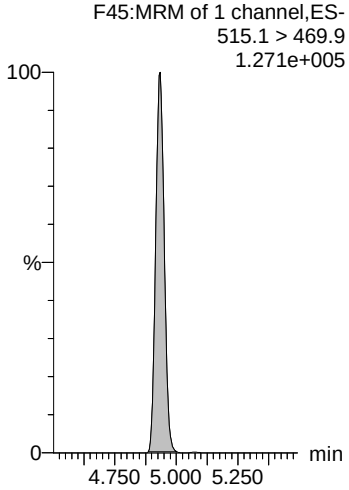
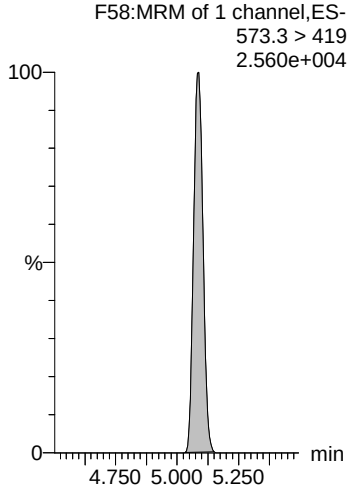


d3-N-MeFOSAA



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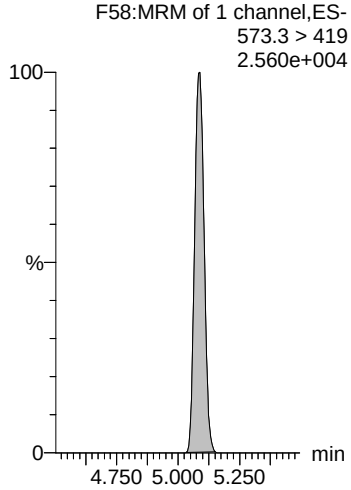

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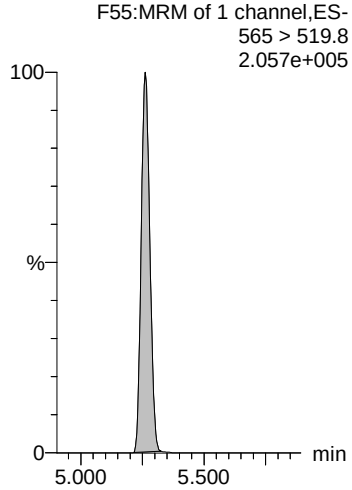

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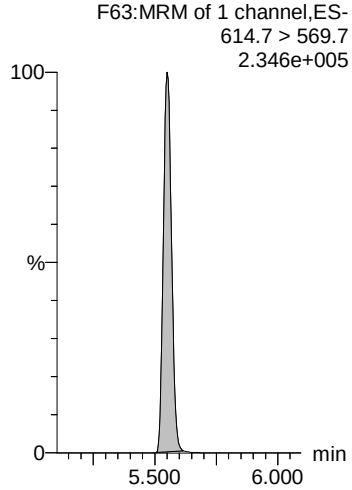


FBR 7/16/2019

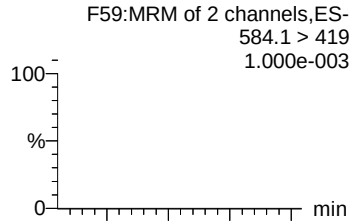
Review: AMR 7/16/2019

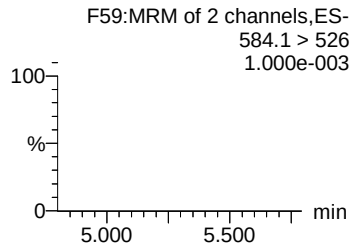
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-40.qld

Last Altered: Tuesday, July 16, 2019 08:02:21 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:18:37 Pacific Daylight Time

Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

L-EtFOSAA





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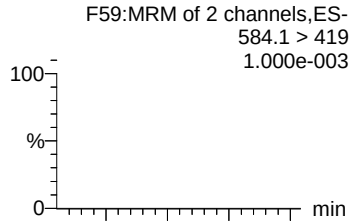

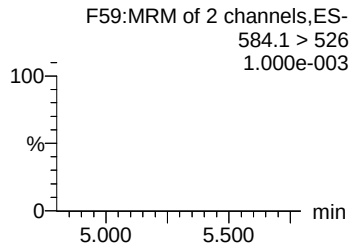

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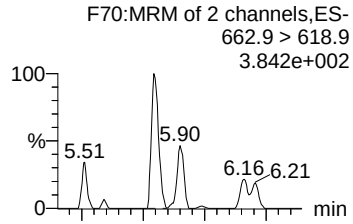

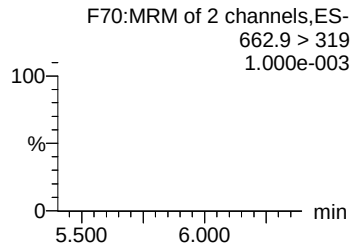

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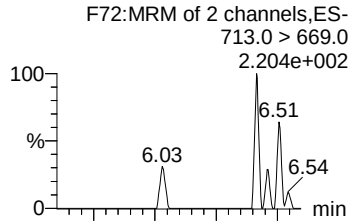
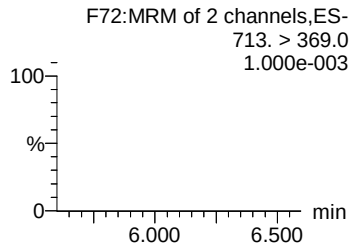
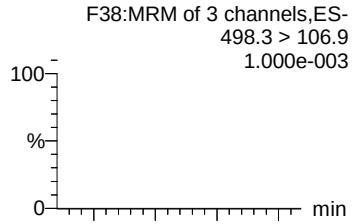
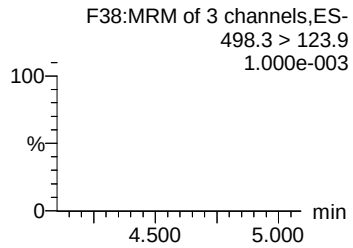


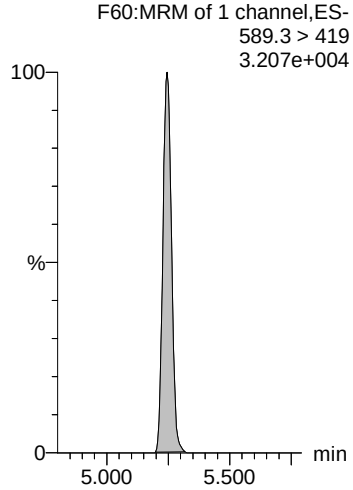


TDCA





d5-N-EtFOSAA



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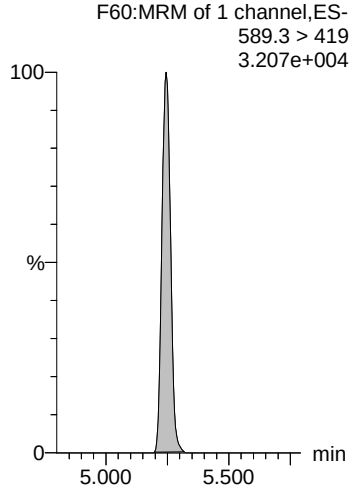

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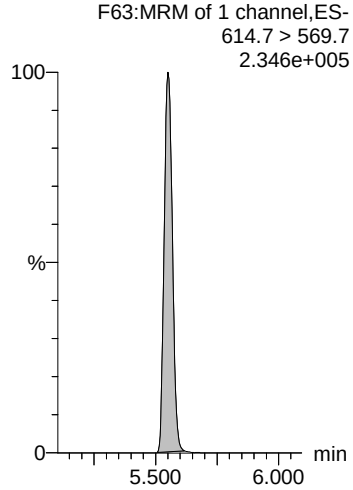

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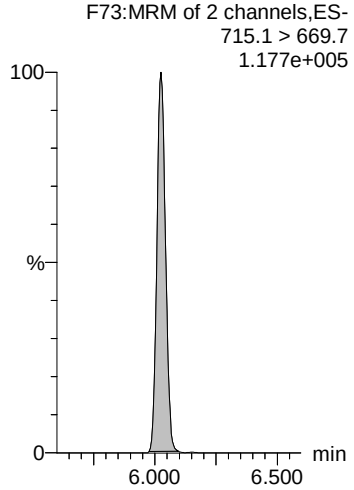
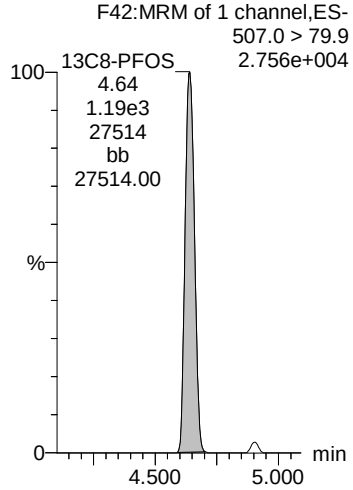


13C8-PFOS



FBR 7/16/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-40.qld

Last Altered: Tuesday, July 16, 2019 08:02:21 Pacific Daylight Time
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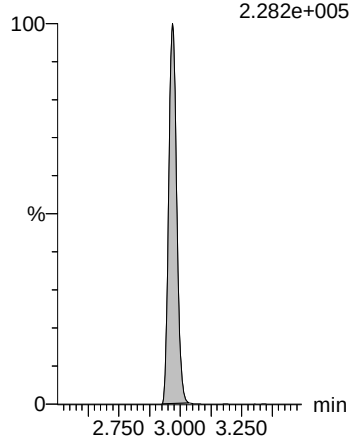
Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

13C5-PFHxA



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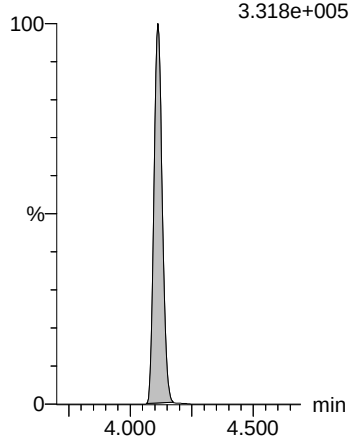
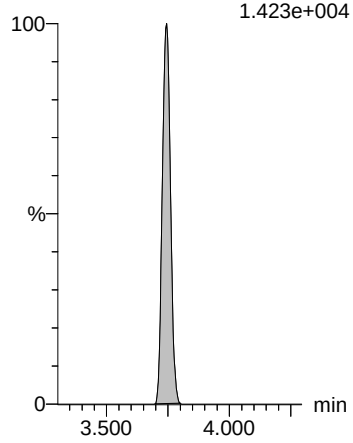
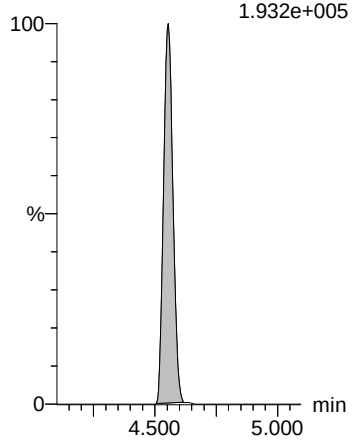


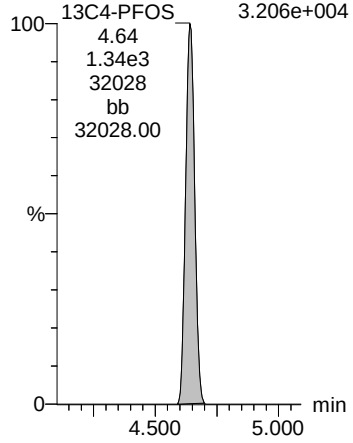
18O2-PFHxS



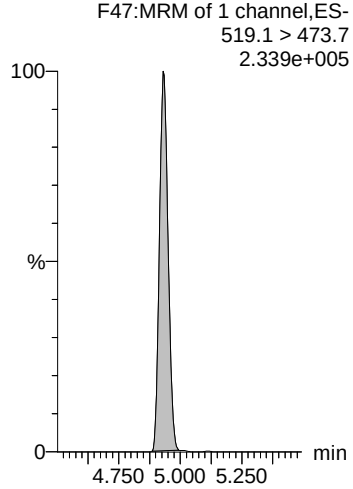
13C9-PFNA



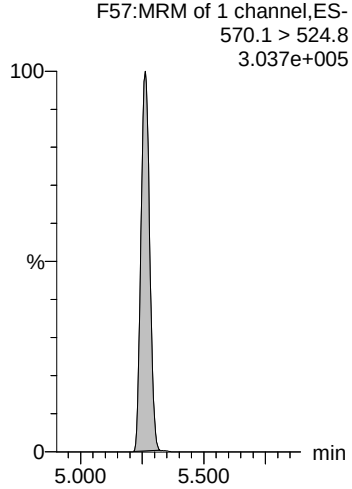
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-41.qld

Last Altered: Tuesday, July 16, 2019 08:22:56 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:25:17 Pacific Daylight Time

Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		5.58e2	0.116		2.46						
2	7	PFHxA	313.0 > 269.0		2.71e3	0.116		2.96						
3	11	PFHpA	363.0 > 318.9		3.25e3	0.116		3.59						
4	13	L-PFHxS	398.9 > 79.6		1.26e3	0.116		3.74						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	1.26e3	0.116		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	5.58e2	5.69e2	0.116	1.035	2.46	2.46	12.3	102.2510	94.7		
7	52	13C2-PFHxA	315.0 > 270.0	2.71e3	9.33e3	0.116	0.792	2.96	2.96	3.63	39.5376	91.5		
8	53	13C4-PFHpA	367.2 > 321.8	3.25e3	9.33e3	0.116	0.391	3.58	3.59	4.35	96.0155	88.9		
9	54	13C3-PFHxS	401.8 > 79.9	1.26e3	5.69e2	0.116	2.547	3.74	3.74	27.6	93.7332	86.8		
10	54	13C3-PFHxS	401.8 > 79.9	1.26e3	5.69e2	0.116	2.547	3.74	3.74	27.6	93.7332	86.8		
11	-1													
12	16	L-PFOA	412.8 > 368.9	3.19e1	6.06e3	0.116		4.11	4.12	0.0659	0.1278		9.848	YES
13	81	Total PFOA	412.8 > 368.9	3.19e1	6.06e3	0.116		4.21		0.0659	0.1278			
14	21	PFNA	463.0 > 418.8		6.08e3	0.116		4.55						
15	23	L-PFOS	498.9 > 79.9		1.17e3	0.116		4.64						
16	82	Total PFOS	498.9 > 79.9	0.00e0	1.17e3	0.116		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	6.06e3	1.31e4	0.116	0.564	4.11	4.11	5.80	88.7494	82.2		
18	58	13C2-PFOA	414.9 > 369.7	6.06e3	1.31e4	0.116	0.564	4.11	4.11	5.80	88.7494	82.2		
19	56	13C5-PFNA	468.2 > 422.9	6.08e3	7.85e3	0.116	0.983	4.56	4.55	9.68	85.1087	78.8		
20	59	13C8-PFOS	507.0 > 79.9	1.17e3	1.32e3	0.116	1.060	4.64	4.64	11.1	90.4283	83.7		
21	59	13C8-PFOS	507.0 > 79.9	1.17e3	1.32e3	0.116	1.060	4.64	4.64	11.1	90.4283	83.7		
22	-1													
23	26	PFDA	513 > 468.8		4.81e3	0.116		4.93						
24	29	L-MeFOSAA	570 > 419		1.02e3	0.116		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.02e3	0.116		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		7.92e3	0.116		5.26						
27	37	PFDoA	612.9 > 569.0		8.61e3	0.116		5.55						
28	60	13C2-PFDA	515.1 > 469.9	4.81e3	9.53e3	0.116	0.662	4.94	4.93	6.30	82.2366	76.2		
29	62	d3-N-MeFOSAA	573.3 > 419	1.02e3	1.17e4	0.116	0.129	5.09	5.08	1.09	72.9221	67.5		
30	62	d3-N-MeFOSAA	573.3 > 419	1.02e3	1.17e4	0.116	0.129	5.09	5.08	1.09	72.9221	67.5		
31	63	13C2-PFUdA	565 > 519.8	7.92e3	1.17e4	0.116	0.857	5.26	5.26	8.44	85.0351	78.7		
32	65	13C2-PFDoA	614.7 > 569.7	8.61e3	9.53e3	0.116	1.229	5.55	5.55	11.3	79.3586	73.5		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.20e3	0.116		5.24						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.20e3	0.116		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		8.61e3	0.116		5.80						

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-41.qld

Last Altered: Tuesday, July 16, 2019 08:22:56 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:25:17 Pacific Daylight Time

Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		4.99e3	0.116		6.03						
38	85	TDCA	498.3>106.9			0.116		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.20e3	1.17e4	0.116	0.147	5.24	5.24	1.28	75.1685	69.6		
40	64	d5-N-EtFOSAA	589.3 > 419	1.20e3	1.17e4	0.116	0.147	5.24	5.24	1.28	75.1685	69.6		
41	65	13C2-PFDoA	614.7 > 569.7	8.61e3	9.53e3	0.116	1.229	5.55	5.55	11.3	79.3586	73.5		
42	67	13C2-PFTeDA	715.1 > 669.7	4.99e3	1.17e4	0.116	0.511	6.02	6.03	5.32	89.8349	83.2		
43	59	13C8-PFOS	507.0 > 79.9	1.17e3	1.32e3	0.116	1.060	4.64	4.64	11.1	90.4283	83.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	9.33e3	9.33e3	0.116	1.000	2.96	2.97	12.5	107.9820	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.31e4	1.31e4	0.116	1.000	4.11	4.11	12.5	107.9820	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.69e2	5.69e2	0.116	1.000	3.74	3.74	12.5	107.9820	100.0		
48	76	13C9-PFNA	472.2 > 426.9	7.85e3	7.85e3	0.116	1.000	4.55	4.55	12.5	107.9820	100.0		
49	77	13C4-PFOS	503 > 79.9	1.32e3	1.32e3	0.116	1.000	4.64	4.64	12.5	107.9820	100.0		
50	78	13C6-PFDA	519.1 > 473.7	9.53e3	9.53e3	0.116	1.000	4.93	4.93	12.5	107.9820	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.17e4	1.17e4	0.116	1.000	5.26	5.26	12.5	107.9820	100.0		

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-41.qld

Last Altered: Tuesday, July 16, 2019 08:22:56 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:25:17 Pacific Daylight Time

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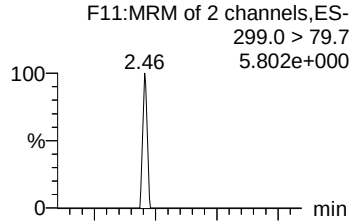
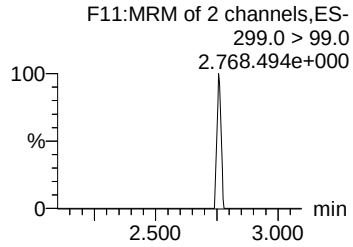
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

PFBS





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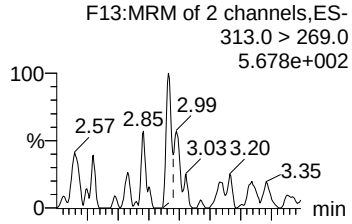

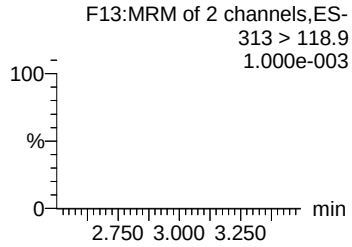

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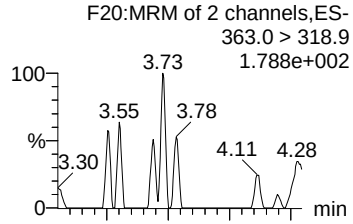

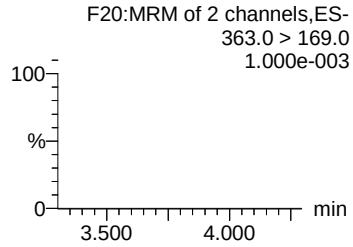

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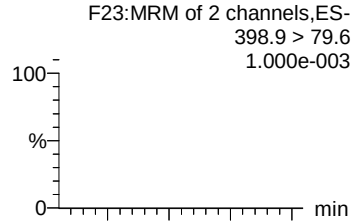

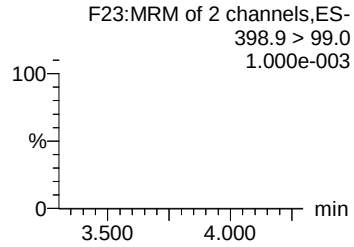

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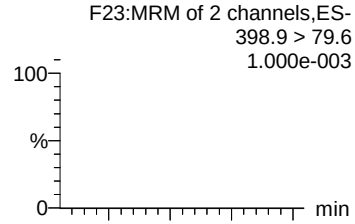

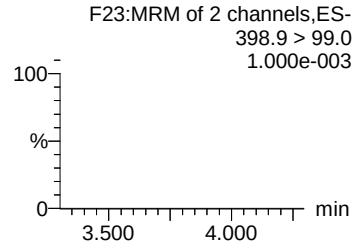

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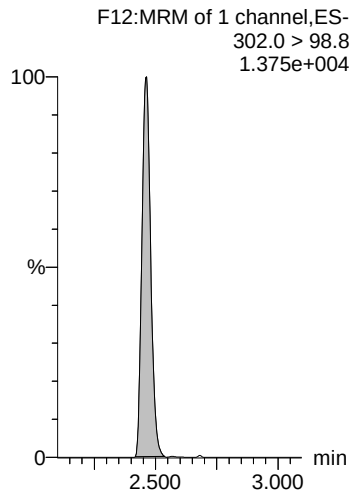

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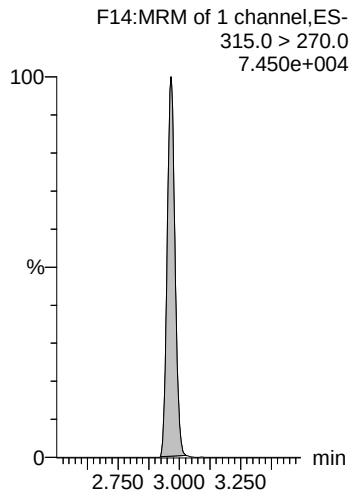
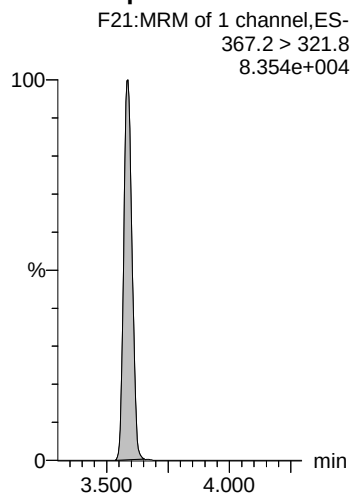


13C4-PFHpA



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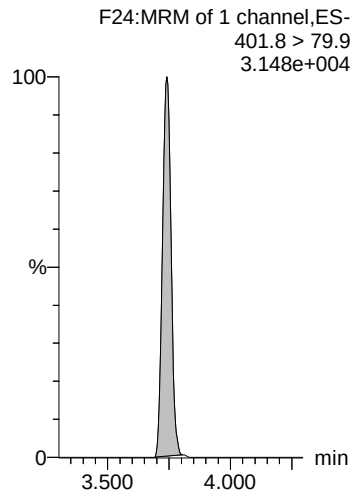

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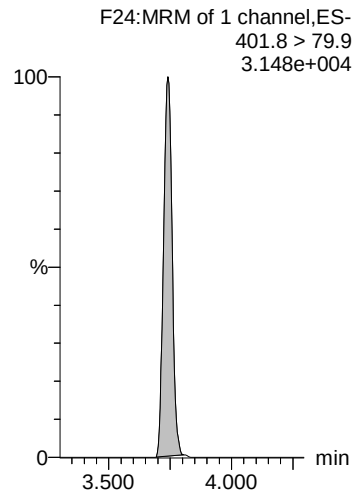

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-41.qld

Last Altered: Tuesday, July 16, 2019 08:22:56 Pacific Daylight Time
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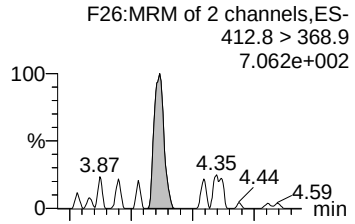
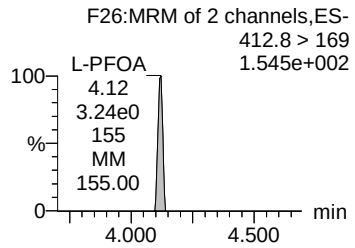
Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

L-PFOA





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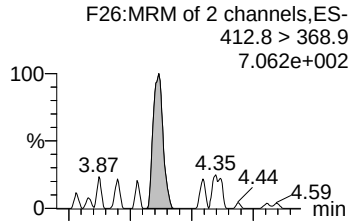

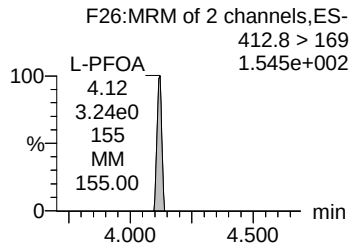

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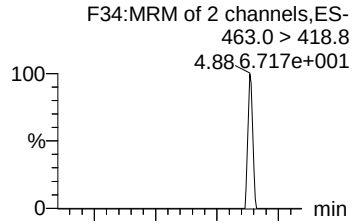
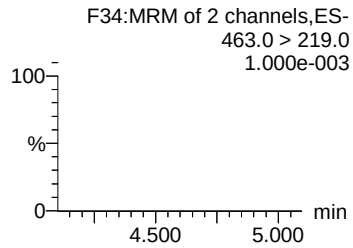
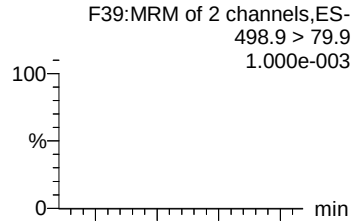
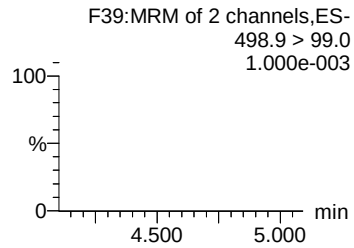


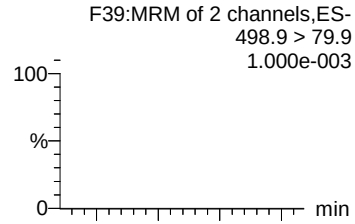


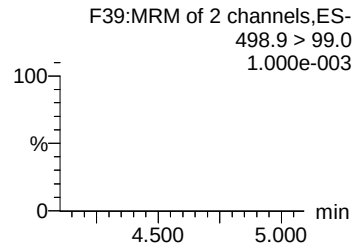
L-PFOS





Total PFOS





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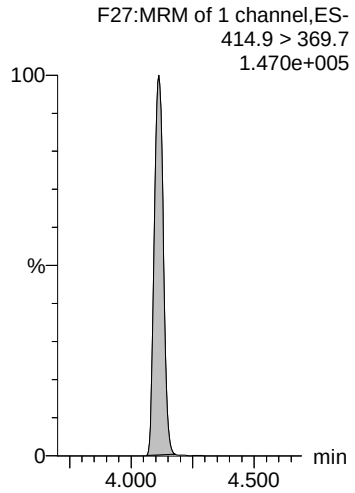

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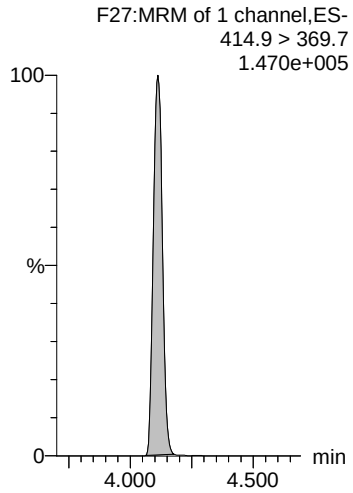

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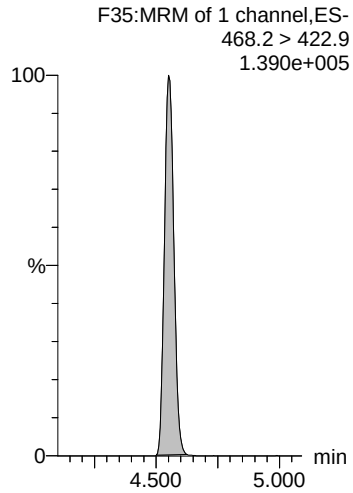
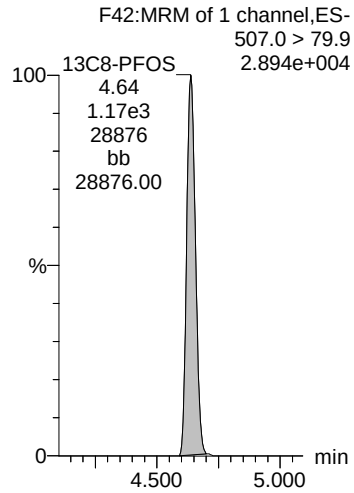
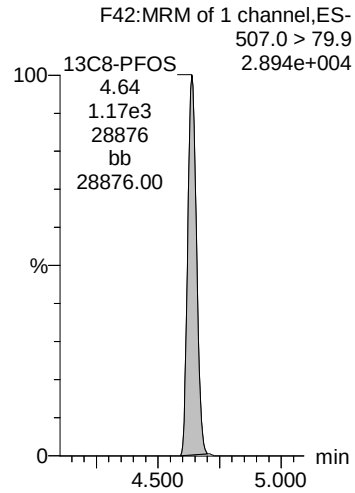


13C8-PFOS



13C8-PFOS



FBR 7/16/2019

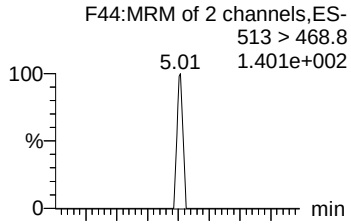
Review: AMR 7/16/2019

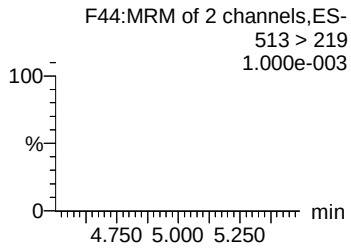
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-41.qld

Last Altered: Tuesday, July 16, 2019 08:22:56 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:25:17 Pacific Daylight Time

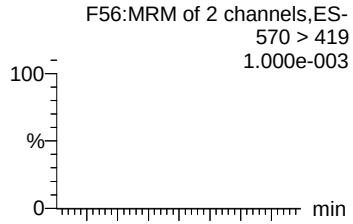
Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

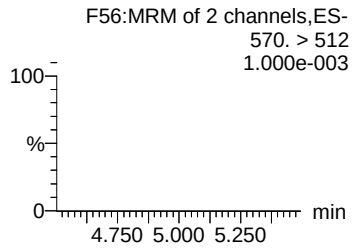
PFDA



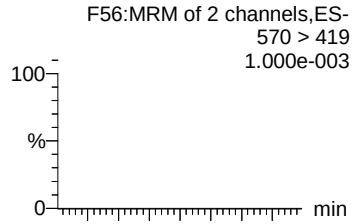


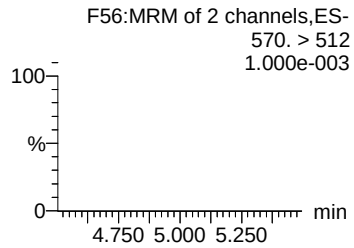
L-MeFOSAA



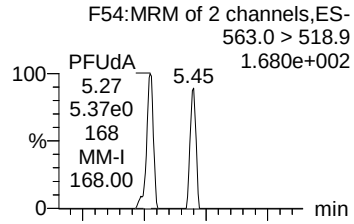


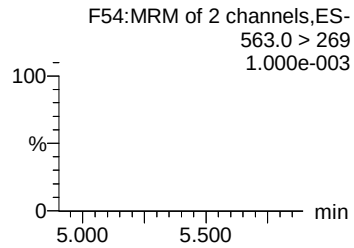
Total N-MeFOSAA



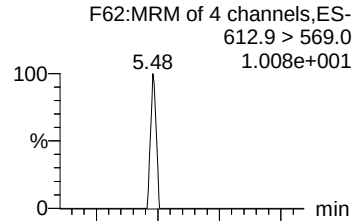


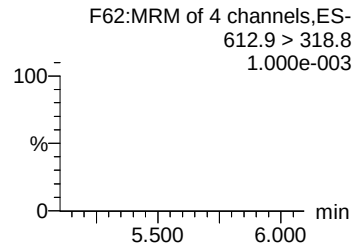
PFUdA



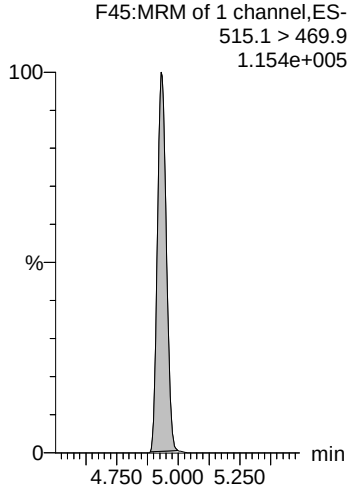


PFDoA

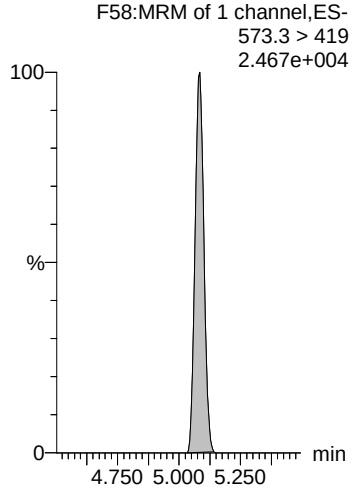




13C2-PFDA



d3-N-MeFOSAA



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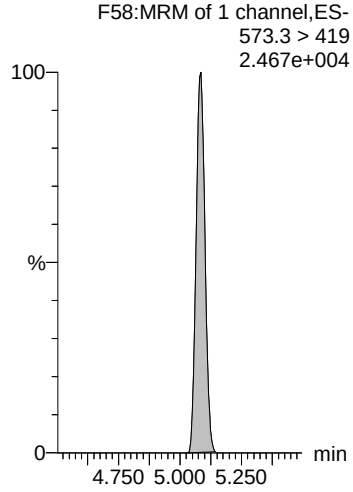
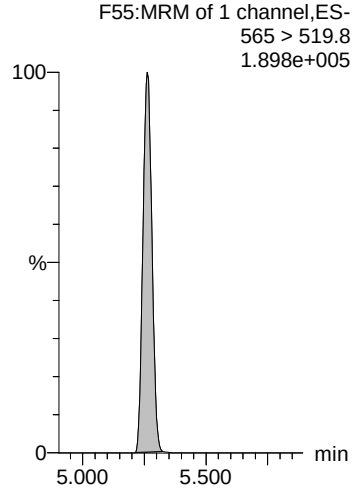
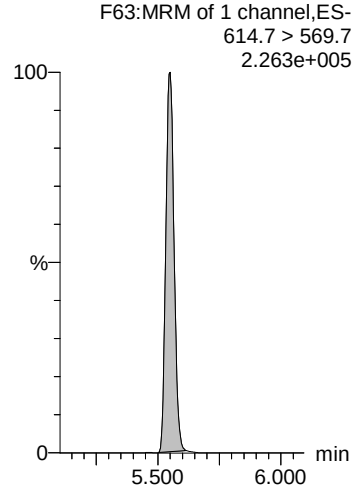


13C2-PFUdA



13C2-PFDoA



FBR 7/16/2019

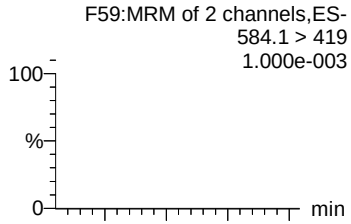
Review: AMR 7/16/2019

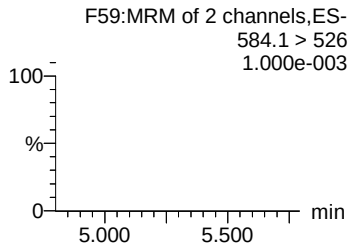
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-41.qld

Last Altered: Tuesday, July 16, 2019 08:22:56 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:25:17 Pacific Daylight Time

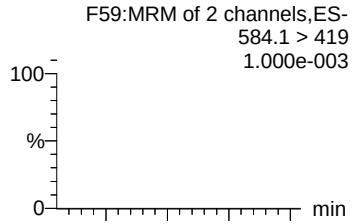
Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

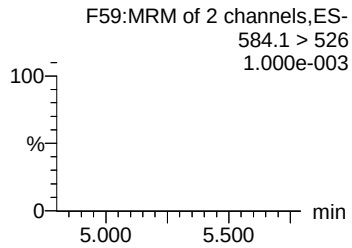
L-EtFOSAA



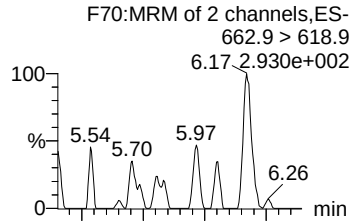


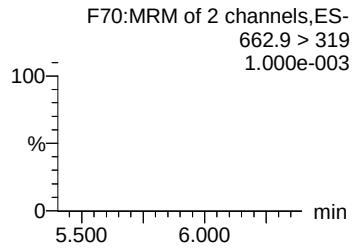
Total N-EtFOSAA



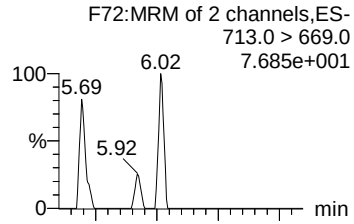


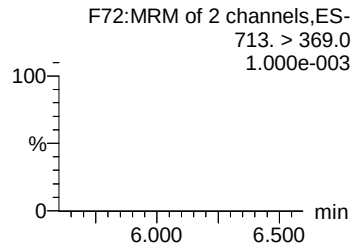
PFTrDA



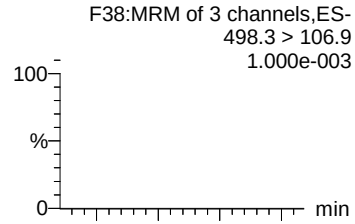


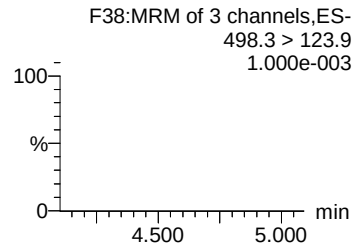
PFTeDA



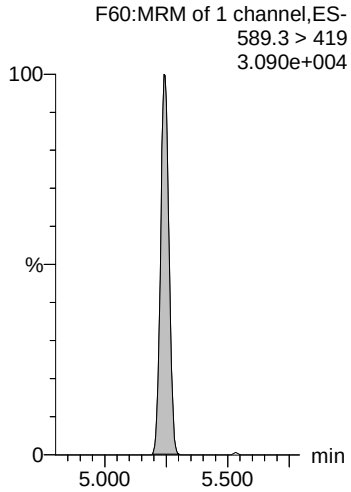


TDCA

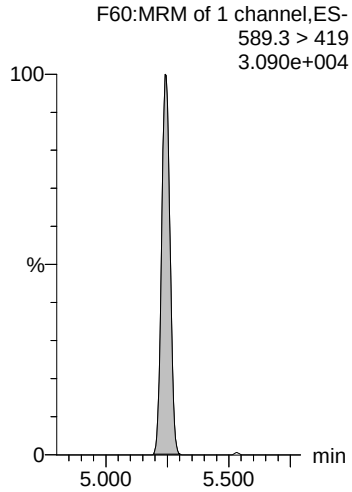




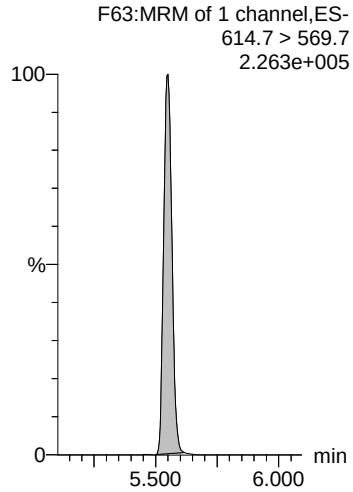
d5-N-EtFOSAA



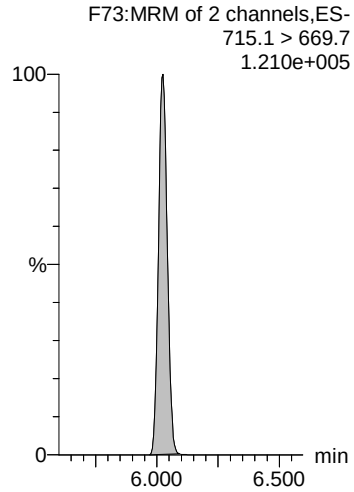
d5-N-EtFOSAA



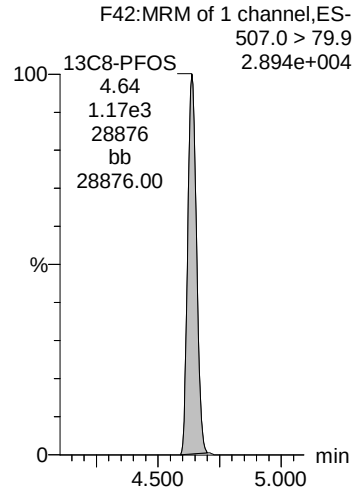
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



FBR 7/16/2019

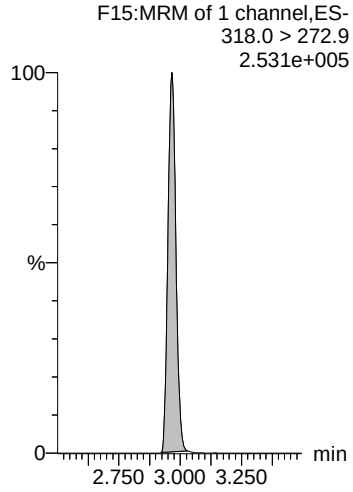
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-41.qld

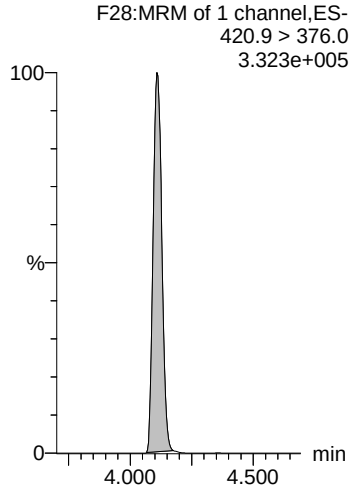
Last Altered: Tuesday, July 16, 2019 08:22:56 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:25:17 Pacific Daylight Time

Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

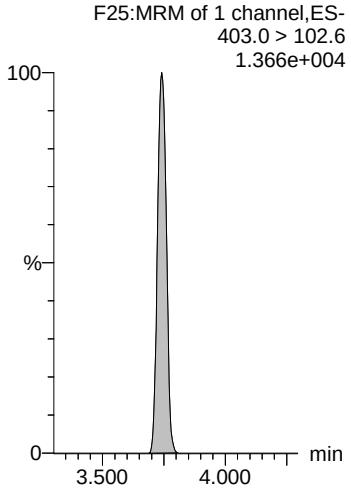
13C5-PFHxA



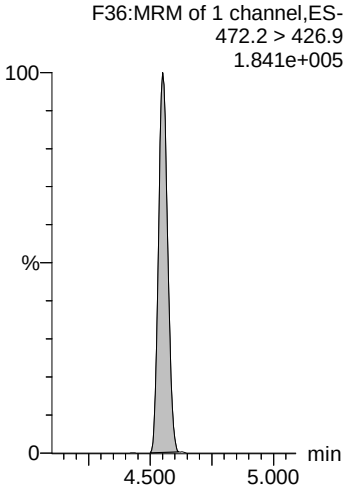
13C8-PFOA



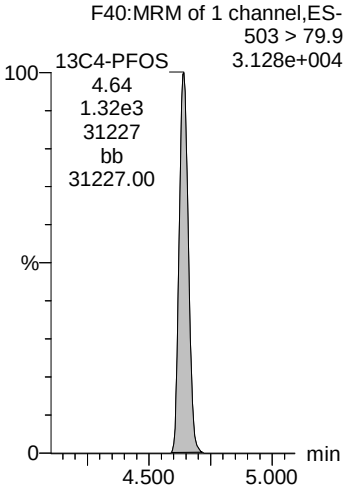
18O2-PFHxS



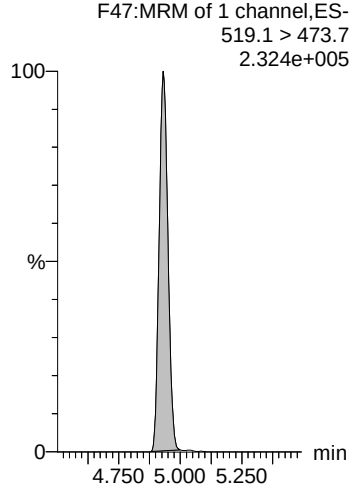
13C9-PFNA



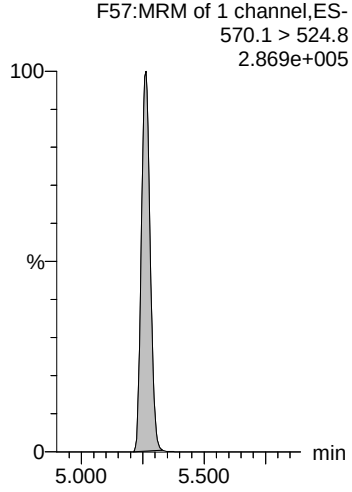
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-42.qld

Last Altered: Tuesday, July 16, 2019 13:29:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:30:24 Pacific Daylight Time

Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	8.94e1	5.93e2	0.122		2.46	2.45	1.88	7.5783		3.553	NO
2	7	PFHxA	313.0 > 269.0	1.06e3	2.10e3	0.122		2.96	2.96	2.52	17.7859		14.046	NO
3	11	PFHpA	363.0 > 318.9	5.17e1	2.72e3	0.122		3.59	3.58	0.237	1.8772		39.459	YES
4	13	L-PFHxS	398.9 > 79.6	4.38e1	1.31e3	0.122		3.74	3.74	0.416	4.7791		1.408	NO
5	80	Total PFHxS	398.9 > 79.6	4.38e1	1.31e3	0.122		3.83		0.416	4.7791			
6	49	13C3-PFBS	302.0 > 98.8	5.93e2	4.90e2	0.122	1.035	2.46	2.46	15.1	119.7116	116.9		
7	52	13C2-PFHxA	315.0 > 270.0	2.10e3	7.04e3	0.122	0.792	2.96	2.96	3.73	38.5388	94.1		
8	53	13C4-PFHpA	367.2 > 321.8	2.72e3	7.04e3	0.122	0.391	3.58	3.59	4.83	101.2364	98.8		
9	54	13C3-PFHxS	401.8 > 79.9	1.31e3	4.90e2	0.122	2.547	3.74	3.74	33.5	107.8073	105.3		
10	54	13C3-PFHxS	401.8 > 79.9	1.31e3	4.90e2	0.122	2.547	3.74	3.74	33.5	107.8073	105.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.48e2	5.54e3	0.122		4.11	4.11	0.335	1.3126		6.360	YES
13	81	Total PFOA	412.8 > 368.9	1.48e2	5.54e3	0.122		4.21		0.335	1.3126			
14	21	PFNA	463.0 > 418.8	4.12e1	5.84e3	0.122		4.56	4.55	0.0882	0.4329		67.029	YES
15	23	L-PFOS	498.9 > 79.9	1.77e2	1.23e3	0.122		4.64	4.64	1.80	12.7387		1.915	NO
16	82	Total PFOS	498.9 > 79.9	1.77e2	1.23e3	0.122		4.74		1.80	12.7387			
17	58	13C2-PFOA	414.9 > 369.7	5.54e3	9.84e3	0.122	0.564	4.11	4.11	7.04	102.2731	99.9		
18	58	13C2-PFOA	414.9 > 369.7	5.54e3	9.84e3	0.122	0.564	4.11	4.11	7.04	102.2731	99.9		
19	56	13C5-PFNA	468.2 > 422.9	5.84e3	6.43e3	0.122	0.983	4.56	4.56	11.4	94.6788	92.4		
20	59	13C8-PFOS	507.0 > 79.9	1.23e3	1.32e3	0.122	1.060	4.64	4.64	11.6	89.8112	87.7		
21	59	13C8-PFOS	507.0 > 79.9	1.23e3	1.32e3	0.122	1.060	4.64	4.64	11.6	89.8112	87.7		
22	-1													
23	26	PFDA	513 > 468.8	4.36e1	4.78e3	0.122		4.93	4.93	0.114	1.1254		10.353	YES
24	29	L-MeFOSAA	570 > 419		1.04e3	0.122		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.04e3	0.122		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	2.86e1	7.48e3	0.122		5.26	5.26	0.0477	0.3071		7.141	NO
27	37	PFDoA	612.9 > 569.0		7.03e3	0.122		5.55						
28	60	13C2-PFDA	515.1 > 469.9	4.78e3	8.26e3	0.122	0.662	4.94	4.93	7.23	89.4640	87.3		
29	62	d3-N-MeFOSAA	573.3 > 419	1.04e3	1.04e4	0.122	0.129	5.09	5.08	1.26	79.9268	78.0		
30	62	d3-N-MeFOSAA	573.3 > 419	1.04e3	1.04e4	0.122	0.129	5.09	5.08	1.26	79.9268	78.0		
31	63	13C2-PFUdA	565 > 519.8	7.48e3	1.04e4	0.122	0.857	5.26	5.26	9.03	86.3214	84.3		
32	65	13C2-PFDoA	614.7 > 569.7	7.03e3	8.26e3	0.122	1.229	5.55	5.55	10.6	70.8671	69.2		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.23e3	0.122		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.23e3	0.122		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		7.03e3	0.122		5.80						

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-42.qld

Last Altered: Tuesday, July 16, 2019 13:29:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:30:24 Pacific Daylight Time

Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		2.84e3	0.122		6.03						
38	85	TDCA	498.3>106.9			0.122		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.23e3	1.04e4	0.122	0.147	5.24	5.25	1.48	82.2404	80.3		
40	64	d5-N-EtFOSAA	589.3 > 419	1.23e3	1.04e4	0.122	0.147	5.24	5.25	1.48	82.2404	80.3		
41	65	13C2-PFDoA	614.7 > 569.7	7.03e3	8.26e3	0.122	1.229	5.55	5.55	10.6	70.8671	69.2		
42	67	13C2-PFTeDA	715.1 > 669.7	2.84e3	1.04e4	0.122	0.511	6.02	6.03	3.42	54.8690	53.6		
43	59	13C8-PFOS	507.0 > 79.9	1.23e3	1.32e3	0.122	1.060	4.64	4.64	11.6	89.8112	87.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	7.04e3	7.04e3	0.122	1.000	2.96	2.96	12.5	102.4254	100.0		
46	75	13C8-PFOA	420.9 > 376.0	9.84e3	9.84e3	0.122	1.000	4.11	4.11	12.5	102.4254	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	4.90e2	4.90e2	0.122	1.000	3.74	3.74	12.5	102.4254	100.0		
48	76	13C9-PFNA	472.2 > 426.9	6.43e3	6.43e3	0.122	1.000	4.55	4.55	12.5	102.4254	100.0		
49	77	13C4-PFOS	503 > 79.9	1.32e3	1.32e3	0.122	1.000	4.64	4.64	12.5	102.4254	100.0		
50	78	13C6-PFDA	519.1 > 473.7	8.26e3	8.26e3	0.122	1.000	4.93	4.94	12.5	102.4254	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.04e4	1.04e4	0.122	1.000	5.26	5.26	12.5	102.4254	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

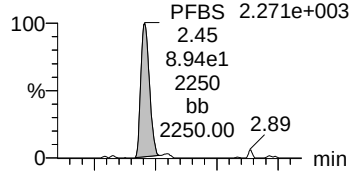
Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-42.qld

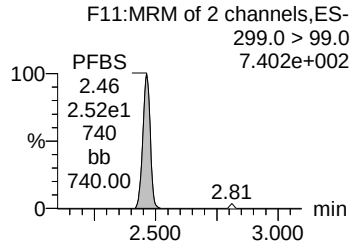
Last Altered: Tuesday, July 16, 2019 13:29:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:30:24 Pacific Daylight Time

Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

PFBS





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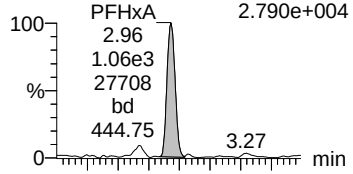

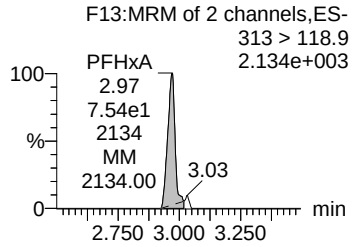

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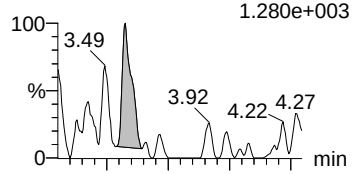

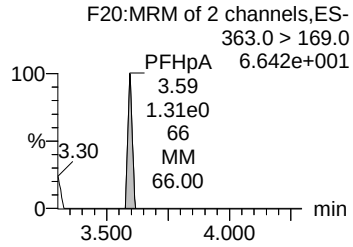

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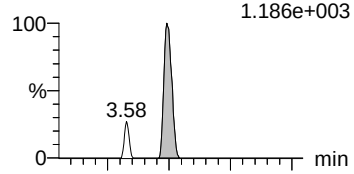
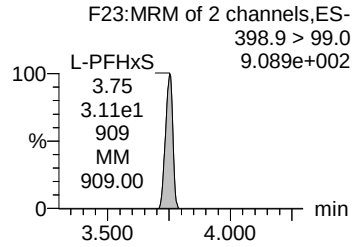
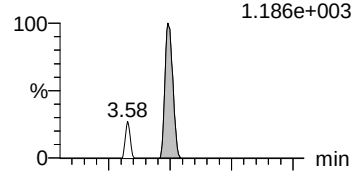
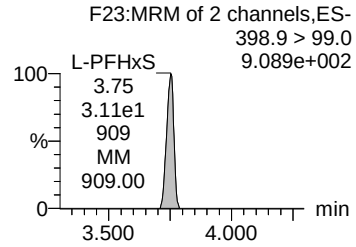




Total PFHxS





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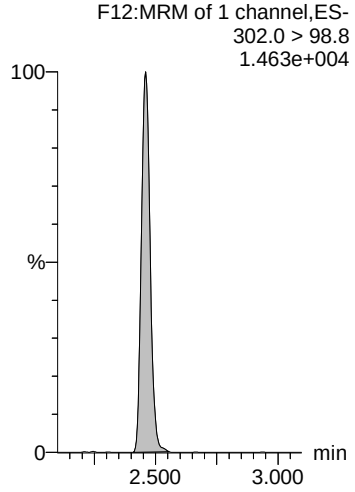

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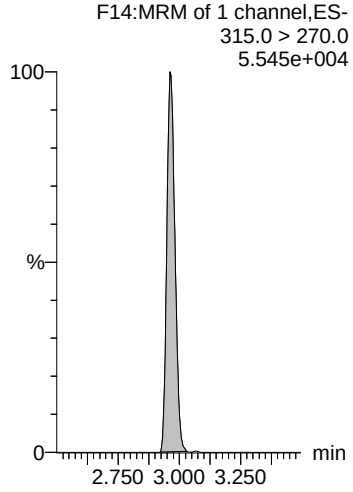

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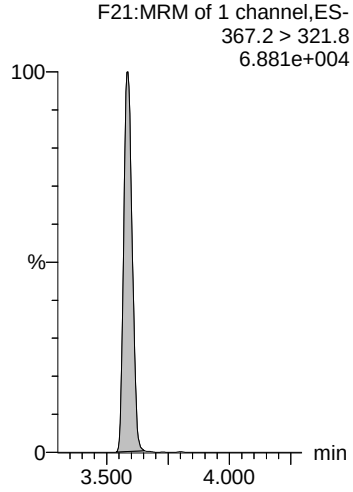

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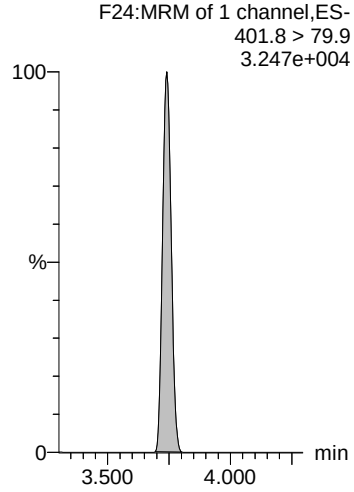

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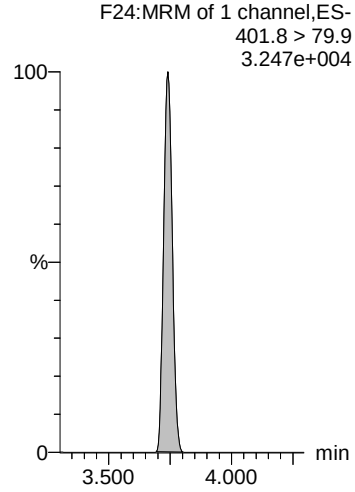


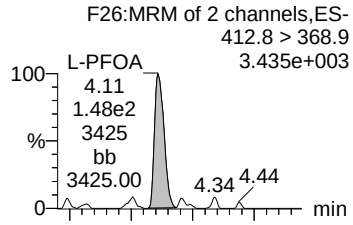
NY 7/16/2019

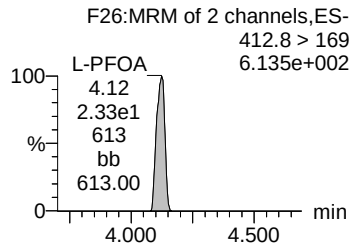
Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-42.qld

Last Altered: Tuesday, July 16, 2019 13:29:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:30:24 Pacific Daylight Time

Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

L-PFOA





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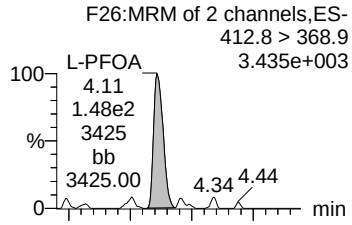

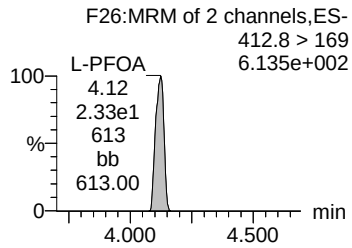

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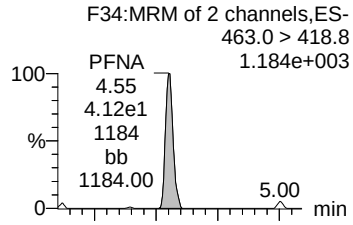
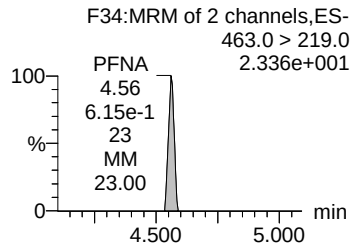
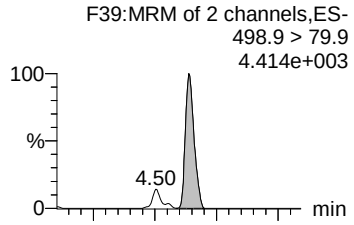
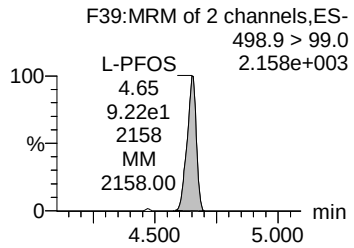




L-PFOS





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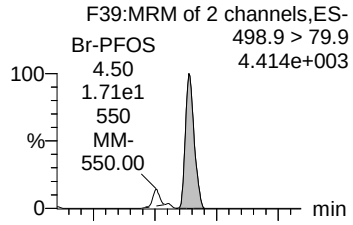

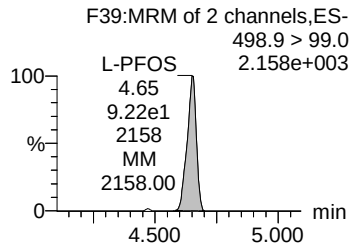

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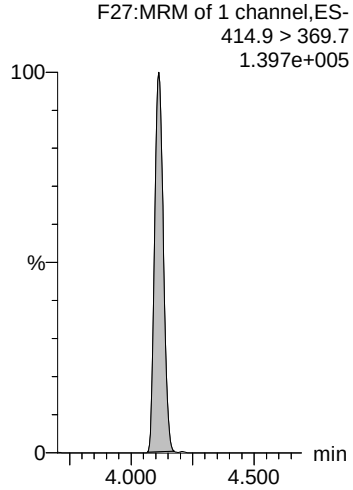

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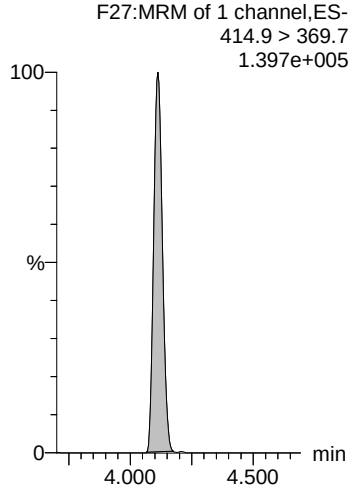

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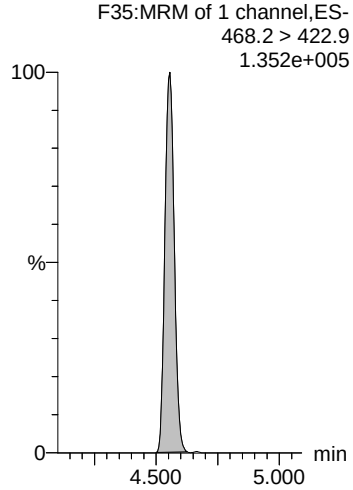

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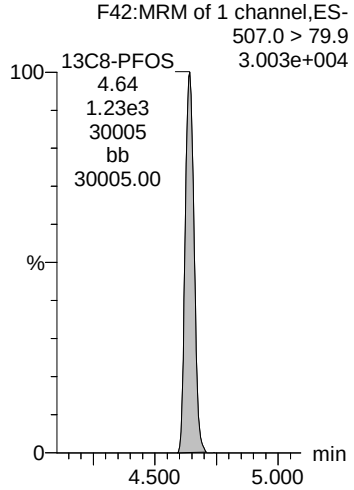

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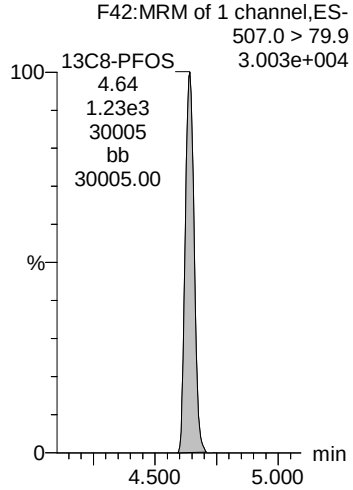
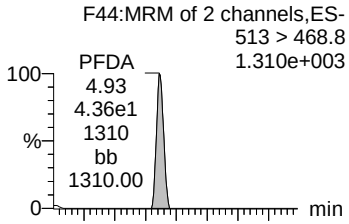


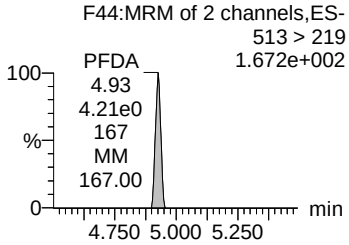
Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-42.qld

Last Altered: Tuesday, July 16, 2019 13:29:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:30:24 Pacific Daylight Time

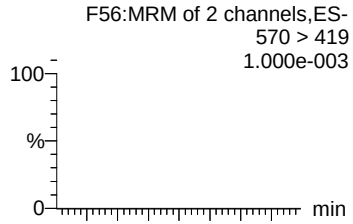
Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

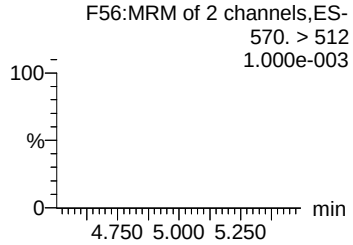
PFDA





L-MeFOSAA





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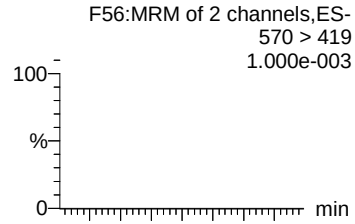

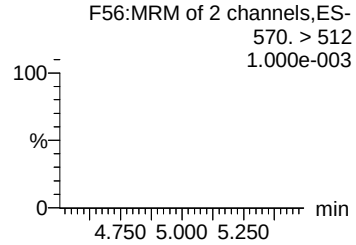

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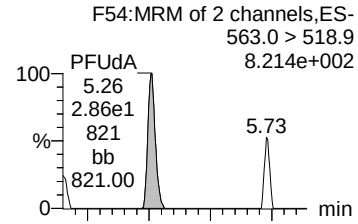

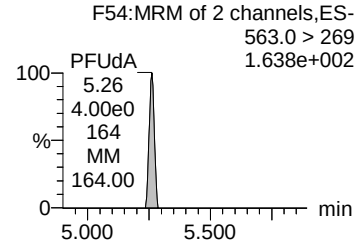

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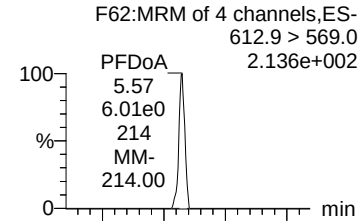

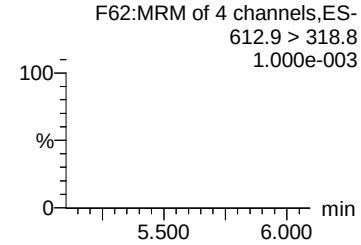

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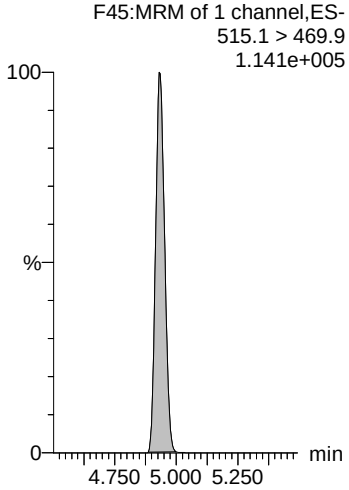

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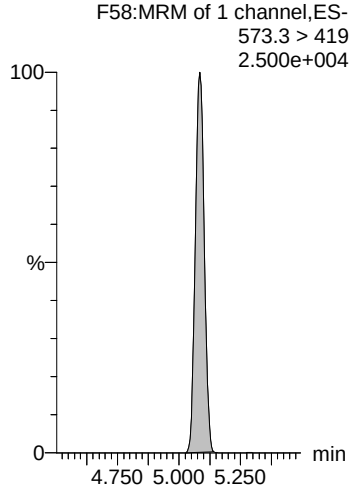

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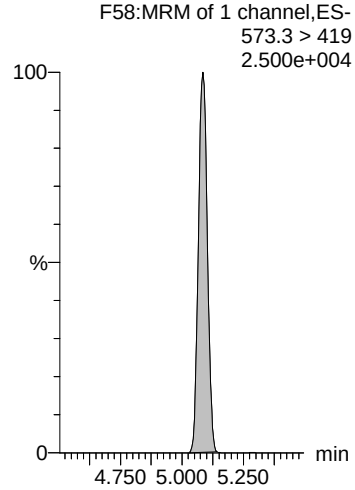

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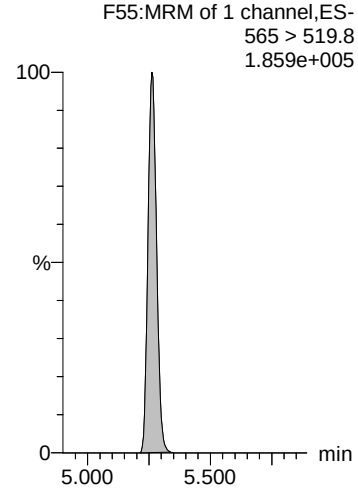

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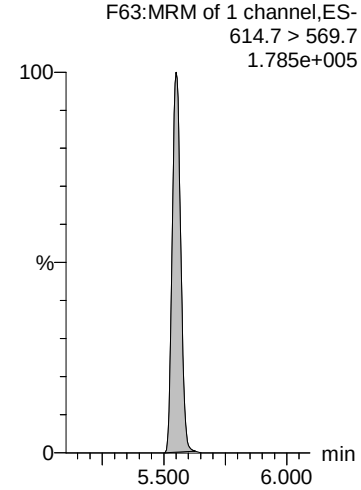


Vista Analytical Laboratory L14

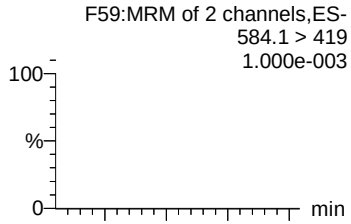
Review: AMR 7/16/2019

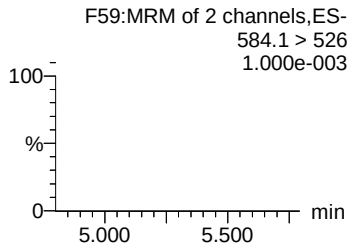
Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-42.qld

Last Altered: Tuesday, July 16, 2019 13:29:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:30:24 Pacific Daylight Time

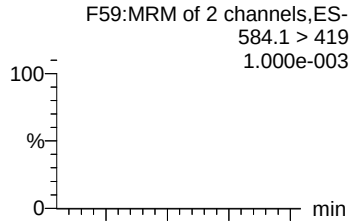
Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

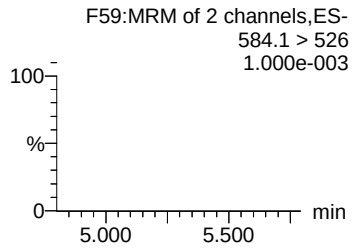
L-EtFOSAA



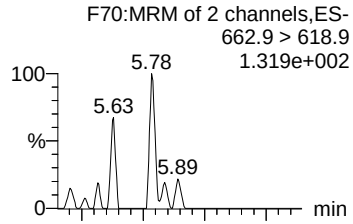


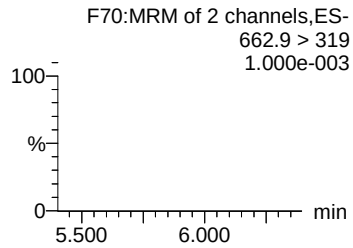
Total N-EtFOSAA





PFTrDA





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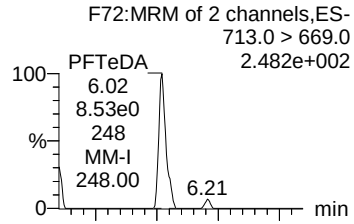

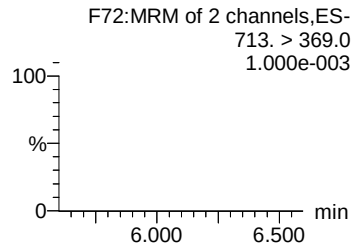

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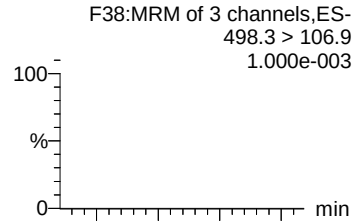

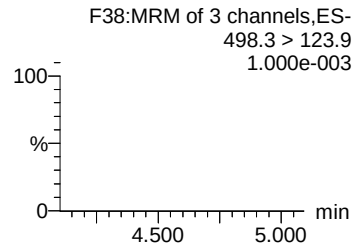

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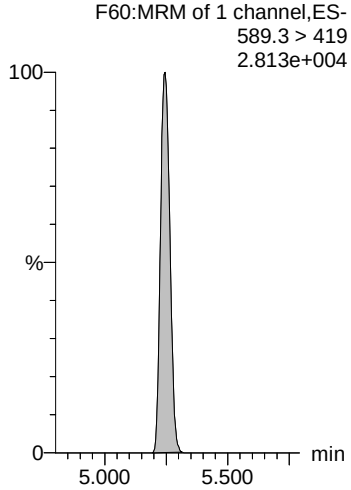

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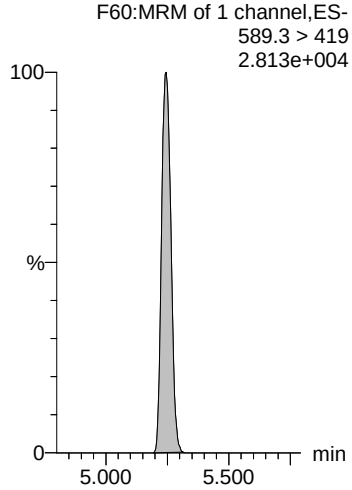

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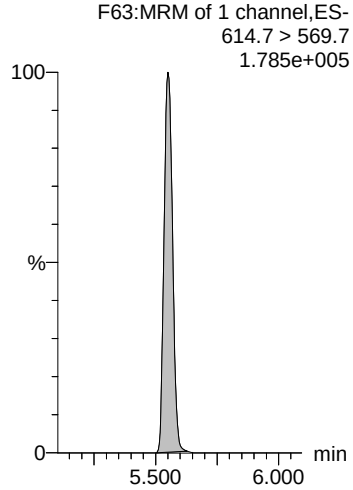

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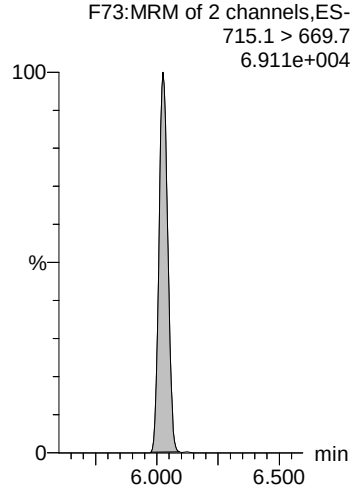

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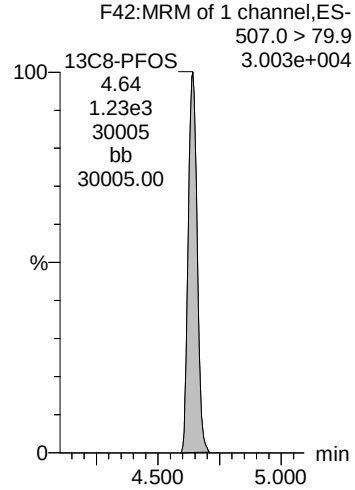

NY 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190711M3\190711M3-42.qld

Last Altered: Tuesday, July 16, 2019 13:29:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 13:30:24 Pacific Daylight Time

Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

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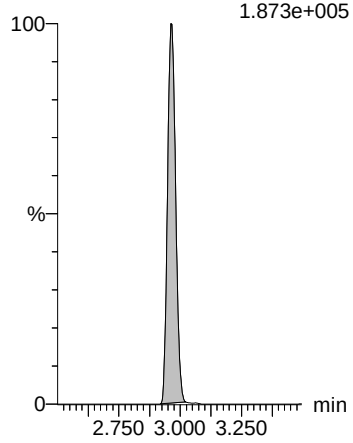

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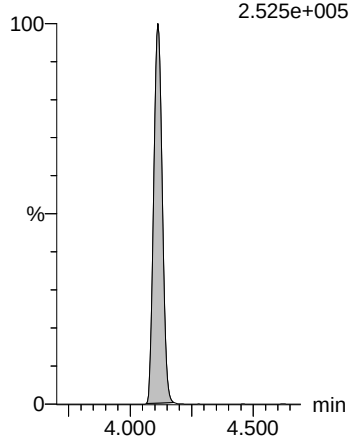

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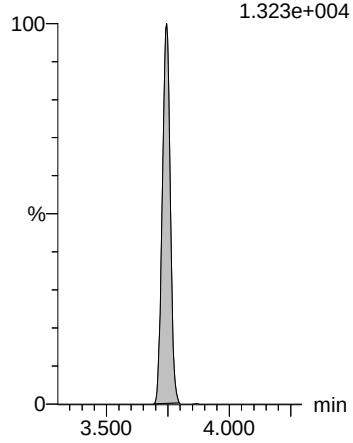
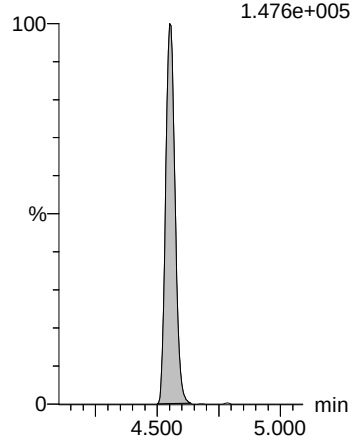


13C9-PFNA



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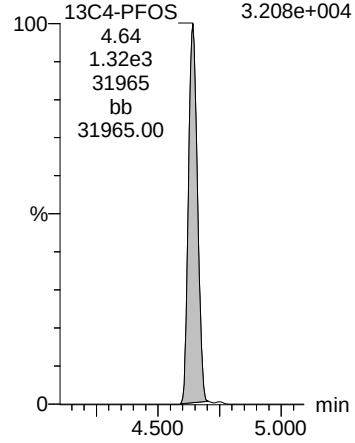

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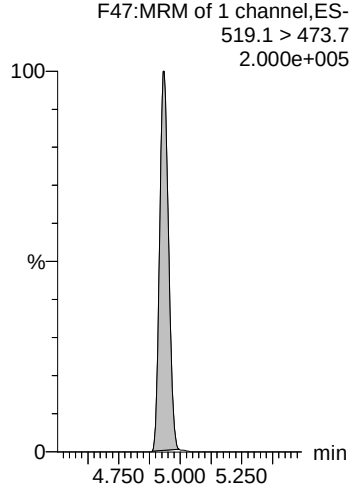
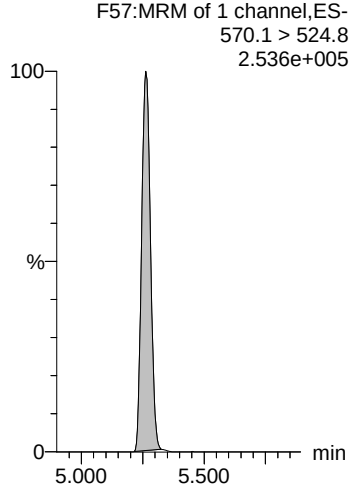


13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-43.qld

Last Altered: Tuesday, July 16, 2019 08:36:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:39:41 Pacific Daylight Time

Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	7.62e1	5.65e2	0.126		2.46	2.46	1.69	6.6425		4.072	NO
2	7	PFHxA	313.0 > 269.0	1.14e3	1.92e3	0.126		2.97	2.97	2.98	20.2763		24.369	NO
3	11	PFHpA	363.0 > 318.9	9.90e1	2.39e3	0.126		3.58	3.59	0.517	3.6066		4.874	NO
4	13	L-PFHxS	398.9 > 79.6	1.46e2	1.15e3	0.126		3.74	3.75	1.59	15.6913		1.753	NO
5	80	Total PFHxS	398.9 > 79.6	1.46e2	1.15e3	0.126		3.83		1.59	15.6913			
6	49	13C3-PFBS	302.0 > 98.8	5.65e2	5.40e2	0.126	1.035	2.46	2.46	13.1	99.8599	101.0		
7	52	13C2-PFHxA	315.0 > 270.0	1.92e3	6.30e3	0.126	0.792	2.96	2.97	3.81	38.0612	96.2		
8	53	13C4-PFHpA	367.2 > 321.8	2.39e3	6.30e3	0.126	0.391	3.58	3.58	4.75	96.1779	97.2		
9	54	13C3-PFHxS	401.8 > 79.9	1.15e3	5.40e2	0.126	2.547	3.74	3.74	26.7	82.8082	83.7		
10	54	13C3-PFHxS	401.8 > 79.9	1.15e3	5.40e2	0.126	2.547	3.74	3.74	26.7	82.8082	83.7		
11	-1													
12	16	L-PFOA	412.8 > 368.9	6.09e2	5.01e3	0.126		4.11	4.12	1.52	6.3478		4.541	NO
13	81	Total PFOA	412.8 > 368.9	6.09e2	5.01e3	0.126		4.21		1.52	6.3478			
14	21	PFNA	463.0 > 418.8	1.89e2	5.28e3	0.126		4.56	4.56	0.449	3.0191		4.178	YES
15	23	L-PFOS	498.9 > 79.9	1.39e3	1.21e3	0.126		4.64	4.64	14.3	90.4321		1.933	NO
16	82	Total PFOS	498.9 > 79.9	1.39e3	1.21e3	0.126		4.74		14.3	90.4321			
17	58	13C2-PFOA	414.9 > 369.7	5.01e3	9.25e3	0.126	0.564	4.11	4.11	6.77	94.9048	96.0		
18	58	13C2-PFOA	414.9 > 369.7	5.01e3	9.25e3	0.126	0.564	4.11	4.11	6.77	94.9048	96.0		
19	56	13C5-PFNA	468.2 > 422.9	5.28e3	6.01e3	0.126	0.983	4.56	4.56	11.0	88.3722	89.4		
20	59	13C8-PFOS	507.0 > 79.9	1.21e3	1.10e3	0.126	1.060	4.64	4.64	13.7	102.4291	103.6		
21	59	13C8-PFOS	507.0 > 79.9	1.21e3	1.10e3	0.126	1.060	4.64	4.64	13.7	102.4291	103.6		
22	-1													
23	26	PFDA	513 > 468.8	2.98e2	4.99e3	0.126		4.94	4.94	0.746	4.0745		11.037	YES
24	29	L-MeFOSAA	570 > 419		8.58e2	0.126		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	8.58e2	0.126		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	2.41e1	6.40e3	0.126		5.26	5.28	0.0470	0.2906		36.897	YES
27	37	PFDoA	612.9 > 569.0	1.53e1	5.87e3	0.126		5.55	5.56	0.0325	0.5178		16.146	YES
28	60	13C2-PFDA	515.1 > 469.9	4.99e3	7.55e3	0.126	0.662	4.94	4.94	8.27	98.8025	99.9		
29	62	d3-N-MeFOSAA	573.3 > 419	8.58e2	9.76e3	0.126	0.129	5.09	5.08	1.10	67.3696	68.1		
30	62	d3-N-MeFOSAA	573.3 > 419	8.58e2	9.76e3	0.126	0.129	5.09	5.08	1.10	67.3696	68.1		
31	63	13C2-PFUdA	565 > 519.8	6.40e3	9.76e3	0.126	0.857	5.26	5.26	8.20	75.6884	76.5		
32	65	13C2-PFDoA	614.7 > 569.7	5.87e3	7.55e3	0.126	1.229	5.55	5.55	9.72	62.5771	63.3		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		9.35e2	0.126		5.24						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	9.35e2	0.126		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		5.87e3	0.126		5.80						

FBR 7/16/2019

Vista Analytical Laboratory L14

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Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		1.53e3	0.126		6.02						
38	85	TDCA	498.3>106.9			0.126		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	9.35e2	9.76e3	0.126	0.147	5.24	5.24	1.20	64.2444	65.0		
40	64	d5-N-EtFOSAA	589.3 > 419	9.35e2	9.76e3	0.126	0.147	5.24	5.24	1.20	64.2444	65.0		
41	65	13C2-PFDoA	614.7 > 569.7	5.87e3	7.55e3	0.126	1.229	5.55	5.55	9.72	62.5771	63.3		
42	67	13C2-PFTeDA	715.1 > 669.7	1.53e3	9.76e3	0.126	0.511	6.02	6.02	1.96	30.3438	30.7		
43	59	13C8-PFOS	507.0 > 79.9	1.21e3	1.10e3	0.126	1.060	4.64	4.64	13.7	102.4291	103.6		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	6.30e3	6.30e3	0.126	1.000	2.96	2.97	12.5	98.9002	100.0		
46	75	13C8-PFOA	420.9 > 376.0	9.25e3	9.25e3	0.126	1.000	4.11	4.11	12.5	98.9002	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.40e2	5.40e2	0.126	1.000	3.74	3.74	12.5	98.9002	100.0		
48	76	13C9-PFNA	472.2 > 426.9	6.01e3	6.01e3	0.126	1.000	4.55	4.56	12.5	98.9002	100.0		
49	77	13C4-PFOS	503 > 79.9	1.10e3	1.10e3	0.126	1.000	4.64	4.64	12.5	98.9002	100.0		
50	78	13C6-PFDA	519.1 > 473.7	7.55e3	7.55e3	0.126	1.000	4.93	4.93	12.5	98.9002	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	9.76e3	9.76e3	0.126	1.000	5.26	5.26	12.5	98.9002	100.0		

FBR 7/16/2019

Vista Analytical Laboratory L14

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Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-43.qld

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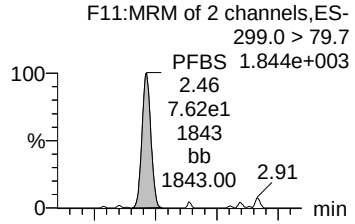
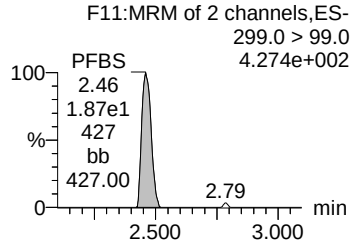
Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

PFBS





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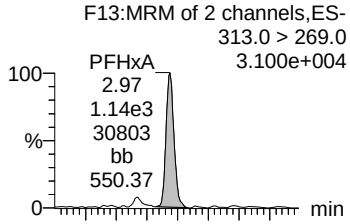

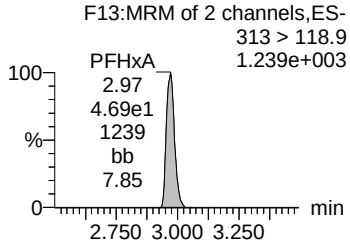

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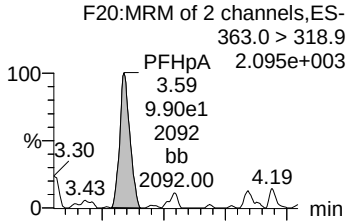
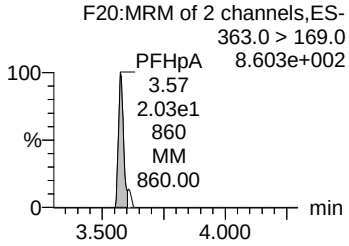
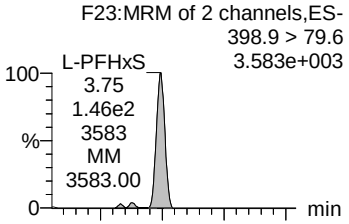
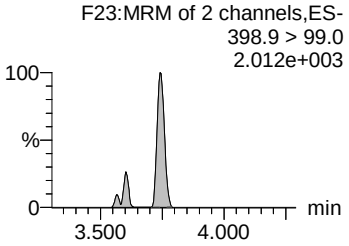


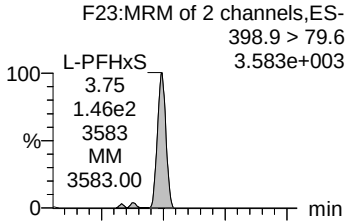


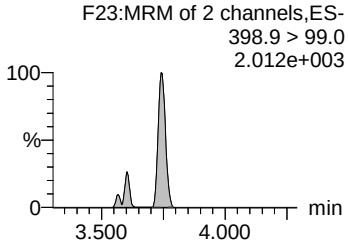
L-PFHxS



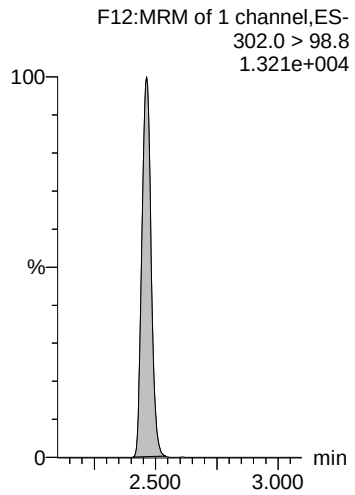


Total PFHxS





13C3-PFBS



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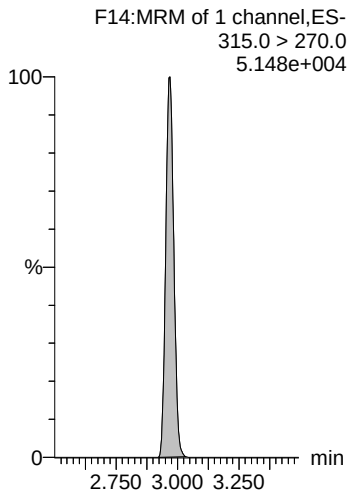

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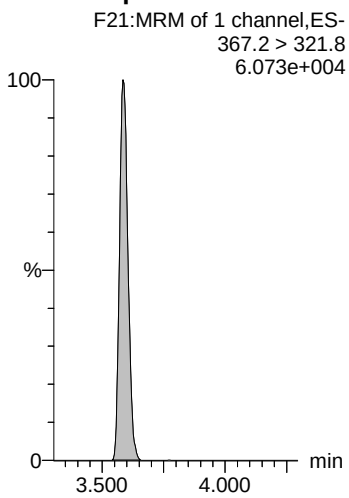

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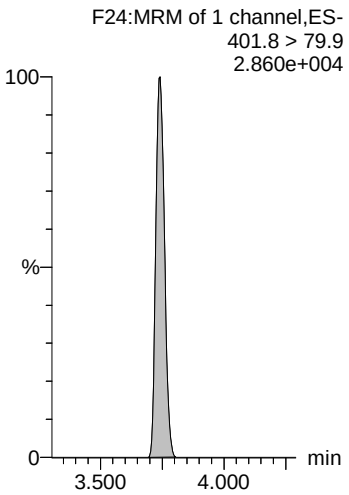

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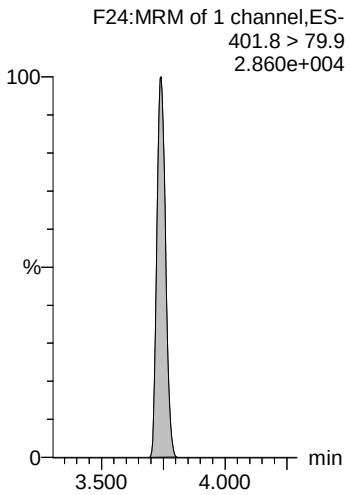


FBR 7/16/2019

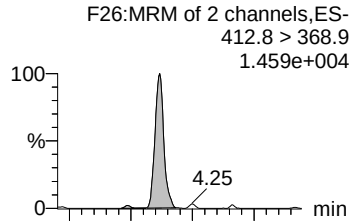
Review: AMR 7/16/2019

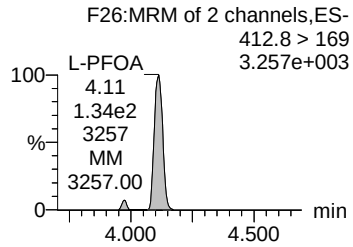
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-43.qld

Last Altered: Tuesday, July 16, 2019 08:36:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:39:41 Pacific Daylight Time

Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

L-PFOA





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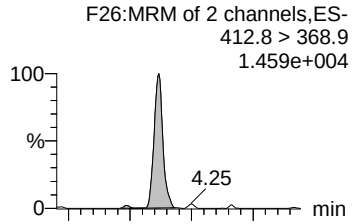

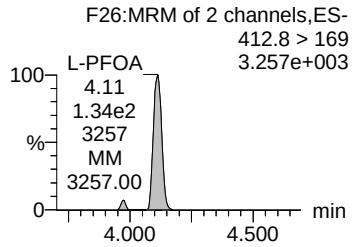

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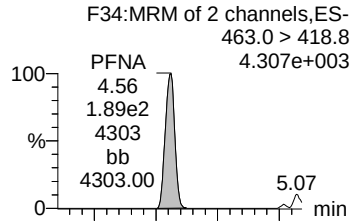
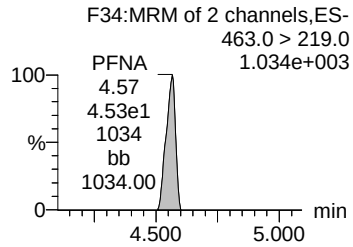
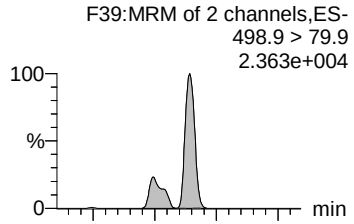
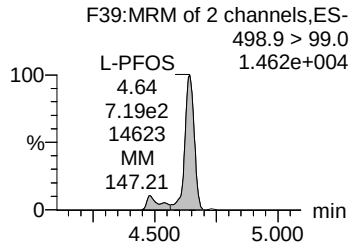


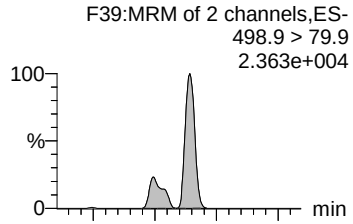


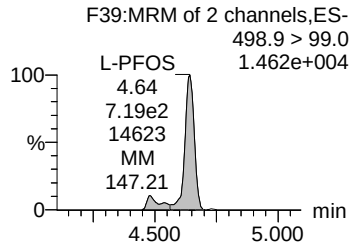
L-PFOS





Total PFOS





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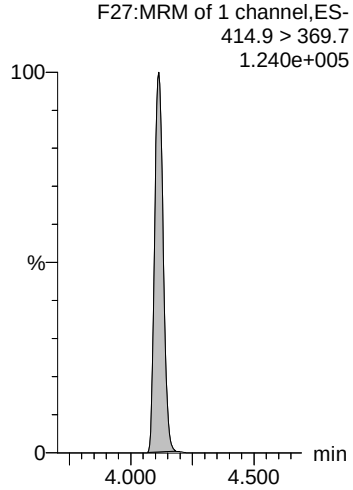

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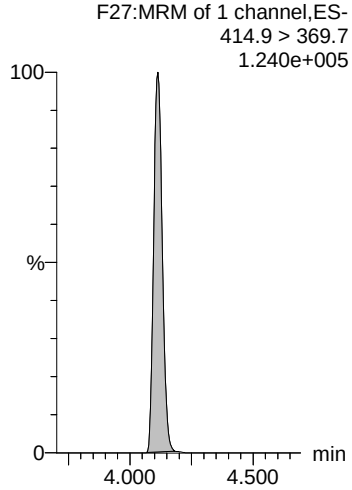

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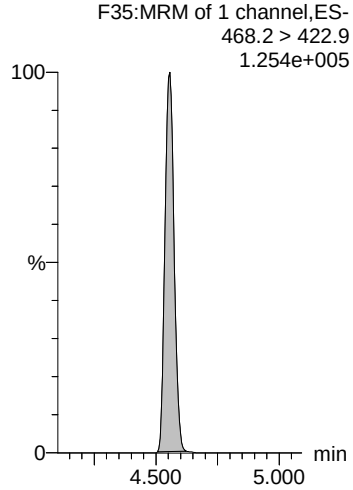

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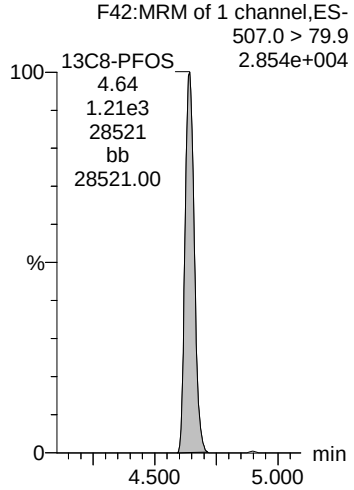

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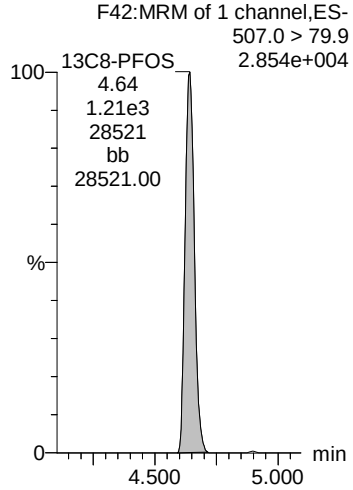


FBR 7/16/2019

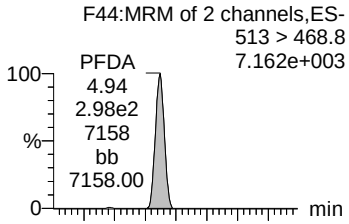
Review: AMR 7/16/2019

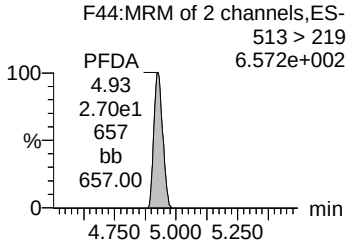
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-43.qld

Last Altered: Tuesday, July 16, 2019 08:36:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:39:41 Pacific Daylight Time

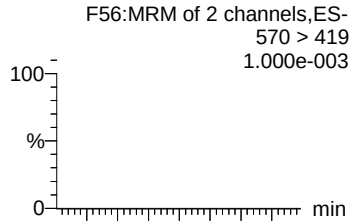
Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

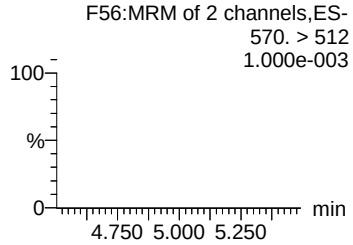
PFDA





L-MeFOSAA





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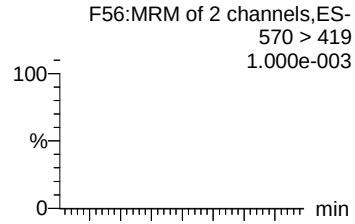

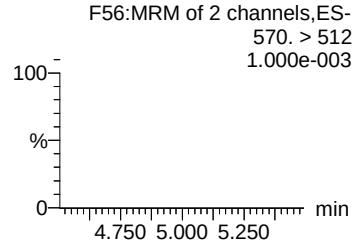

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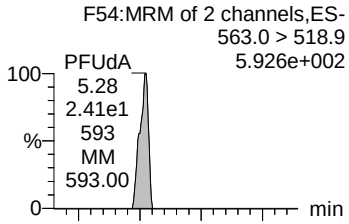

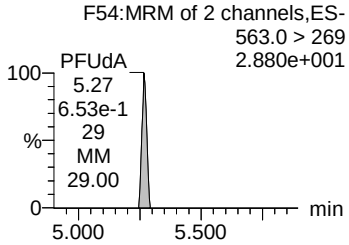

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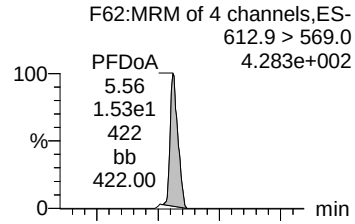

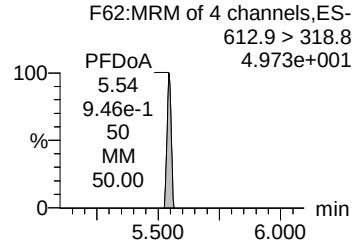

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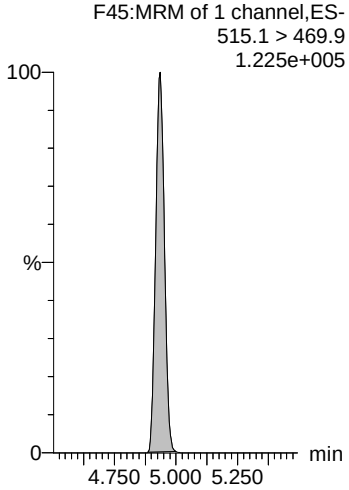
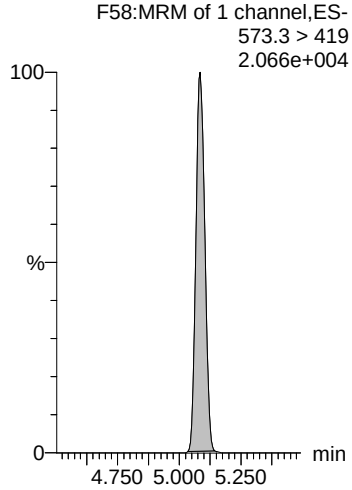


d3-N-MeFOSAA



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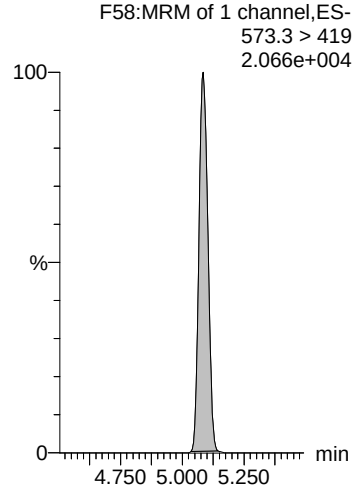

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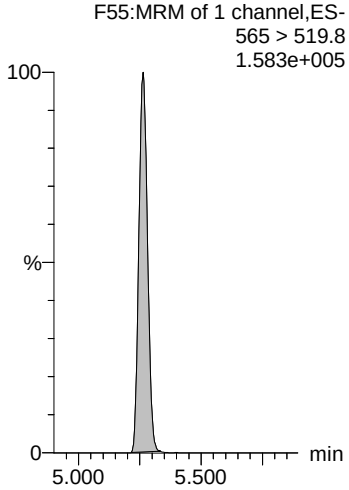

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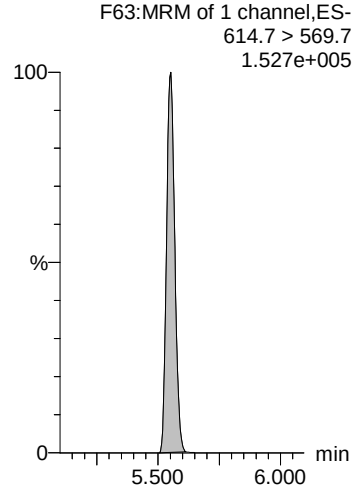


FBR 7/16/2019

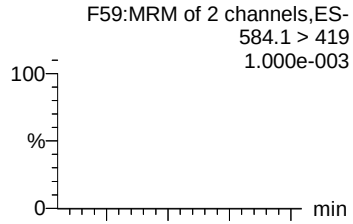
Review: AMR 7/16/2019

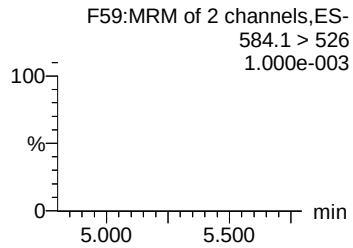
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-43.qld

Last Altered: Tuesday, July 16, 2019 08:36:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:39:41 Pacific Daylight Time

Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

L-EtFOSAA





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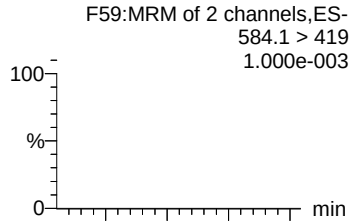

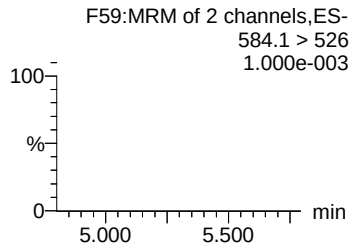

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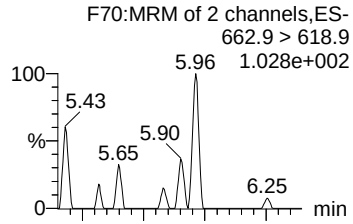

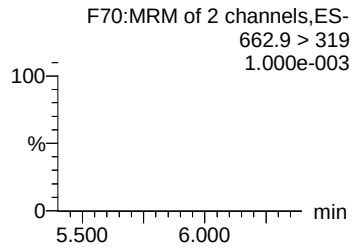

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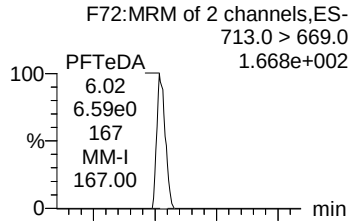

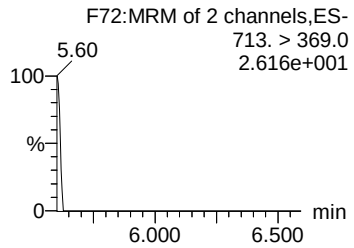

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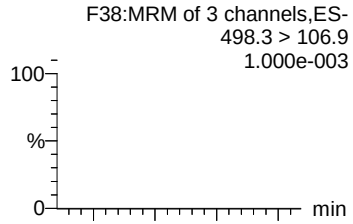

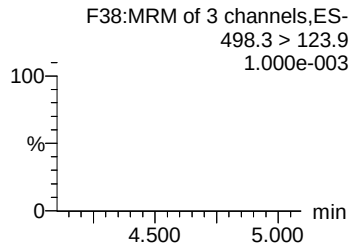

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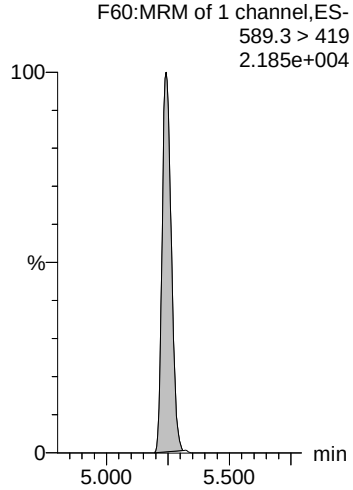

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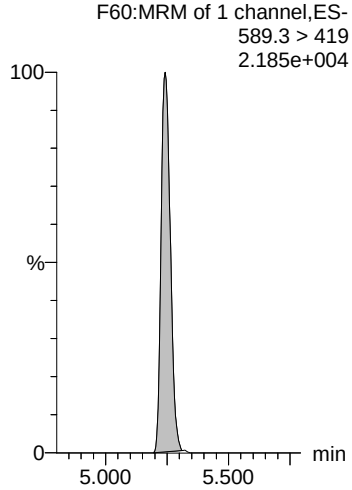

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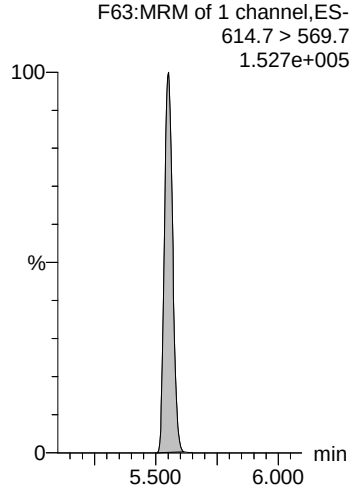

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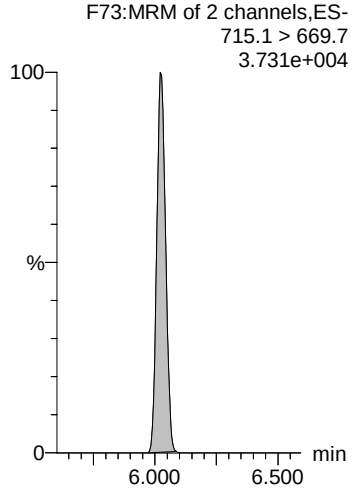

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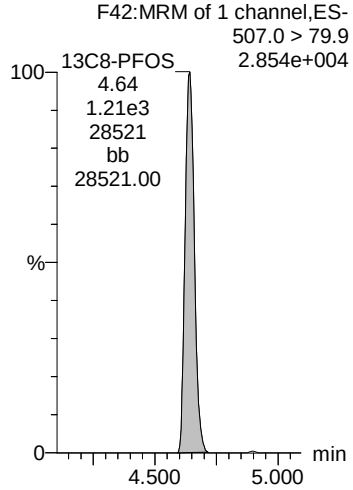

FBR 7/16/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-43.qld

Last Altered: Tuesday, July 16, 2019 08:36:39 Pacific Daylight Time
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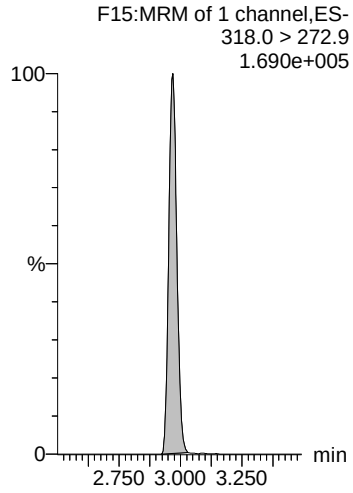
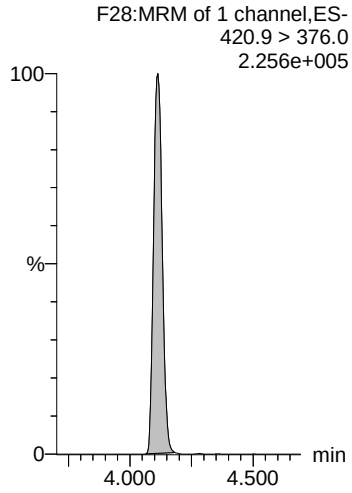
Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

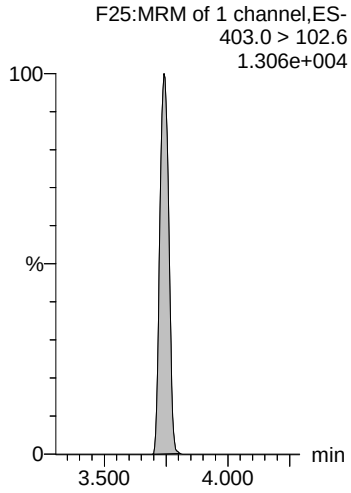
13C5-PFHxA



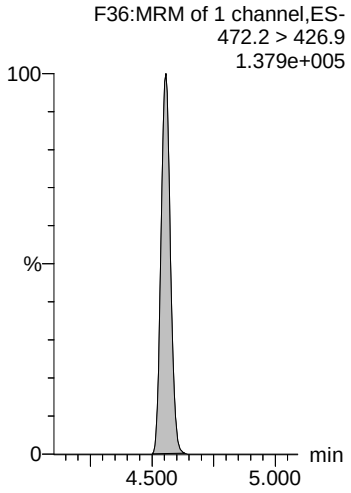
13C8-PFOA



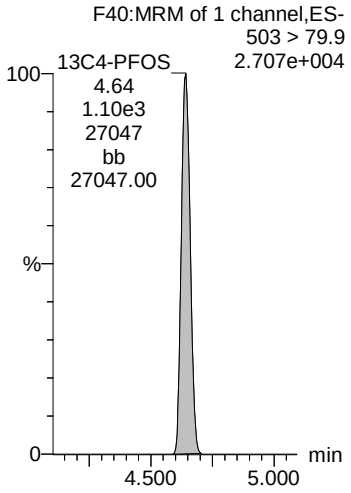
18O2-PFHxS



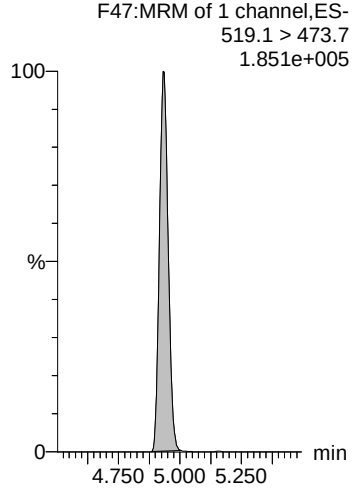
13C9-PFNA



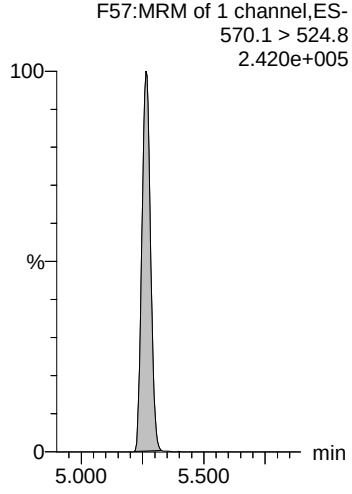
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-20.qld

Last Altered: Tuesday, July 16, 2019 10:16:55 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:18:58 Pacific Daylight Time

Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.85e3	1.21e3	0.122		2.42	2.42	19.1	66.4195		2.766	NO
2	7	PFHxA	313.0 > 269.0	3.41e4	6.53e3	0.122		2.93	2.93	26.1	244.6959		15.637	NO
3	11	PFHpA	363.0 > 318.9	4.66e3	8.99e3	0.122		3.55	3.55	6.48	40.7878		12.916	NO
4	13	L-PFHxS	398.9 > 79.6	7.94e3	2.37e3	0.122		3.70	3.70	41.8	359.2094		2.021	NO
5	80	Total PFHxS	398.9 > 79.6	7.94e3	2.37e3	0.122		3.83		41.8	359.2094			
6	49	13C3-PFBS	302.0 > 98.8	1.21e3	1.10e3	0.122	1.073	2.41	2.42	13.8	105.5020	103.0		
7	52	13C2-PFHxA	315.0 > 270.0	6.53e3	1.60e4	0.122	1.009	2.92	2.93	5.10	41.4665	101.2		
8	53	13C4-PFHpA	367.2 > 321.8	8.99e3	1.60e4	0.122	0.512	3.54	3.55	7.03	112.4933	109.8		
9	54	13C3-PFHxS	401.8 > 79.9	2.37e3	1.10e3	0.122	2.197	3.70	3.70	27.1	101.0366	98.6		
10	54	13C3-PFHxS	401.8 > 79.9	2.37e3	1.10e3	0.122	2.197	3.70	3.70	27.1	101.0366	98.6		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.48e4	1.63e4	0.122		4.08	4.08	11.4	67.9088		3.188	NO
13	81	Total PFOA	412.8 > 368.9	1.48e4	1.63e4	0.122		4.21		11.4	67.9088			
14	21	PFNA	463.0 > 418.8	7.89e2	1.53e4	0.122		4.52	4.52	0.644	4.4159		6.512	NO
15	23	L-PFOS	498.9 > 79.9	2.43e4	2.60e3	0.122		4.61	4.61	117	861.8446		1.913	NO
16	82	Total PFOS	498.9 > 79.9	2.43e4	2.60e3	0.122		4.74		117	861.8446			
17	58	13C2-PFOA	414.9 > 369.7	1.63e4	2.01e4	0.122	0.789	4.07	4.08	10.1	105.2271	102.7		
18	58	13C2-PFOA	414.9 > 369.7	1.63e4	2.01e4	0.122	0.789	4.07	4.08	10.1	105.2271	102.7		
19	56	13C5-PFNA	468.2 > 422.9	1.53e4	1.61e4	0.122	0.991	4.52	4.52	11.9	98.1121	95.8		
20	59	13C8-PFOS	507.0 > 79.9	2.60e3	2.48e3	0.122	1.017	4.60	4.61	13.1	105.7486	103.2		
21	59	13C8-PFOS	507.0 > 79.9	2.60e3	2.48e3	0.122	1.017	4.60	4.61	13.1	105.7486	103.2		
22	-1													
23	26	PFDA	513 > 468.8	4.29e2	1.34e4	0.122		4.90	4.90	0.402	2.0704		6.843	NO
24	29	L-MeFOSAA	570 > 419		2.05e3	0.122		5.06						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.05e3	0.122		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.64e4	0.122		5.23						
27	37	PFDoA	612.9 > 569.0	5.01e1	1.22e4	0.122		5.52	5.52	0.0514	0.4589		4.202	NO
28	60	13C2-PFDA	515.1 > 469.9	1.34e4	1.95e4	0.122	0.808	4.90	4.90	8.55	86.7104	84.6		
29	62	d3-N-MeFOSAA	573.3 > 419	2.05e3	2.07e4	0.122	0.140	5.05	5.06	1.24	72.9814	71.2		
30	62	d3-N-MeFOSAA	573.3 > 419	2.05e3	2.07e4	0.122	0.140	5.05	5.06	1.24	72.9814	71.2		
31	63	13C2-PFUdA	565 > 519.8	1.64e4	2.07e4	0.122	1.051	5.23	5.23	9.92	77.4130	75.6		
32	65	13C2-PFDoA	614.7 > 569.7	1.22e4	1.95e4	0.122	1.041	5.52	5.52	7.80	61.4578	60.0		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.38e3	0.122		5.21						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.38e3	0.122		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.22e4	0.122		5.77						

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-20.qld

Last Altered: Tuesday, July 16, 2019 10:16:55 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:18:58 Pacific Daylight Time

Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		6.52e3	0.122		5.99						
38	85	TDCA	498.3>106.9			0.122		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.38e3	2.07e4	0.122	0.168	5.21	5.21	1.44	70.5249	68.8		
40	64	d5-N-EtFOSAA	589.3 > 419	2.38e3	2.07e4	0.122	0.168	5.21	5.21	1.44	70.5249	68.8		
41	65	13C2-PFDoA	614.7 > 569.7	1.22e4	1.95e4	0.122	1.041	5.52	5.52	7.80	61.4578	60.0		
42	67	13C2-PFTeDA	715.1 > 669.7	6.52e3	2.07e4	0.122	0.690	5.99	5.99	3.94	46.8280	45.7		
43	59	13C8-PFOS	507.0 > 79.9	2.60e3	2.48e3	0.122	1.017	4.60	4.61	13.1	105.7486	103.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.60e4	1.60e4	0.122	1.000	2.92	2.92	12.5	102.4590	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.01e4	2.01e4	0.122	1.000	4.07	4.08	12.5	102.4590	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.10e3	1.10e3	0.122	1.000	3.70	3.70	12.5	102.4590	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.61e4	1.61e4	0.122	1.000	4.52	4.52	12.5	102.4590	100.0		
49	77	13C4-PFOS	503 > 79.9	2.48e3	2.48e3	0.122	1.000	4.61	4.61	12.5	102.4590	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.95e4	1.95e4	0.122	1.000	4.89	4.90	12.5	102.4590	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.07e4	2.07e4	0.122	1.000	5.23	5.23	12.5	102.4590	100.0		

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-20.qld

Last Altered: Tuesday, July 16, 2019 10:16:55 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:18:58 Pacific Daylight Time

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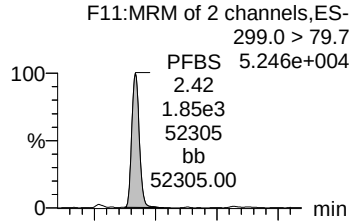
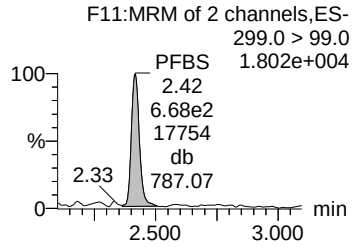
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

PFBS





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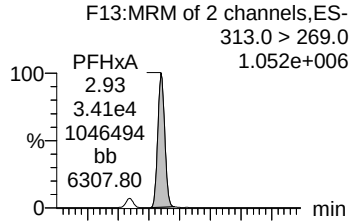

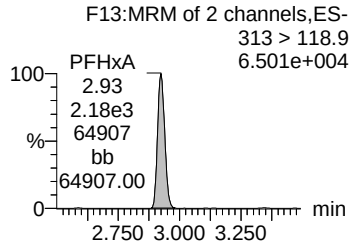

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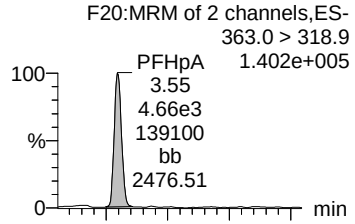

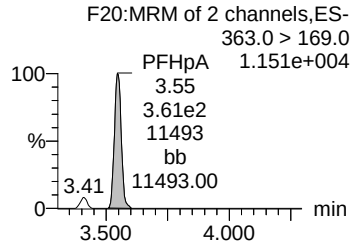

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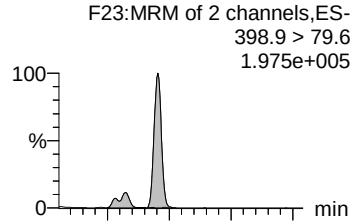
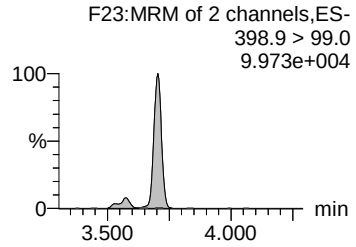
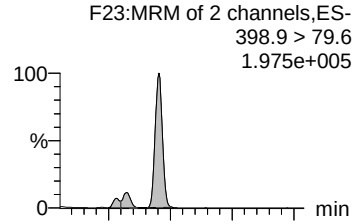
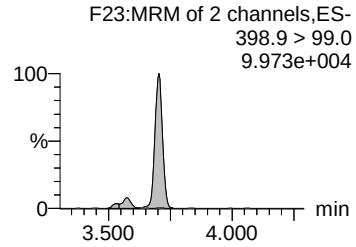


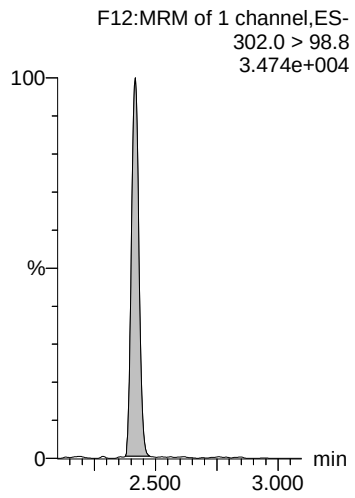


Total PFHxS

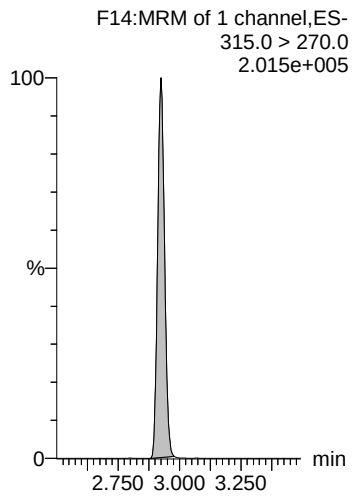




13C3-PFBS



13C2-PFHxA



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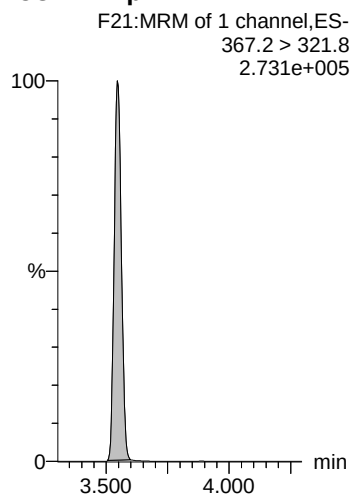

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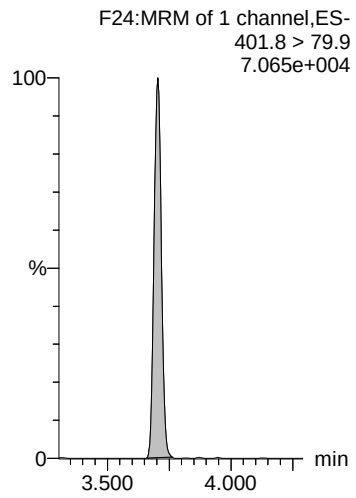

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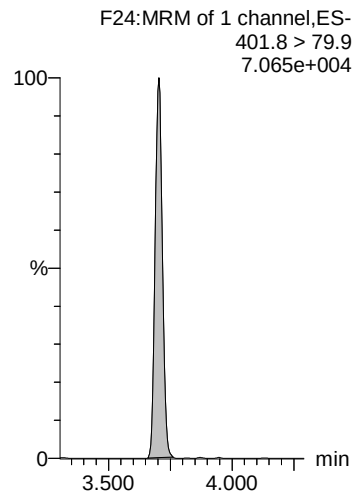


FBR 7/16/2019

Vista Analytical Laboratory L14

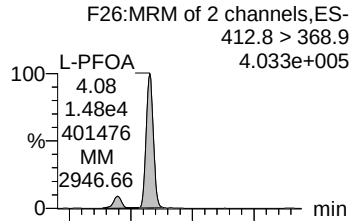
Review: AMR 7/16/2019

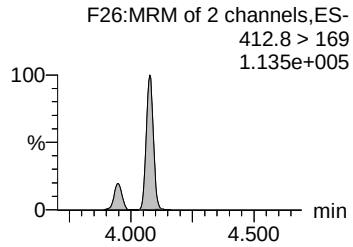
Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-20.qld

Last Altered: Tuesday, July 16, 2019 10:16:55 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:18:58 Pacific Daylight Time

Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

L-PFOA





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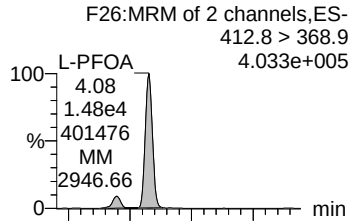
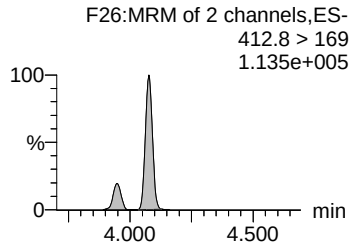
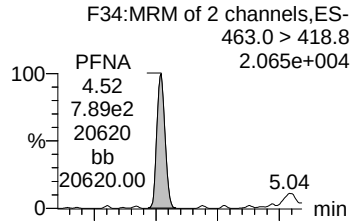
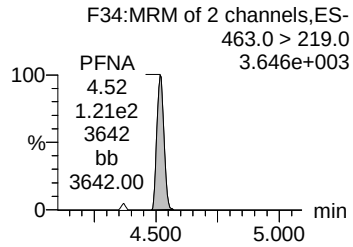


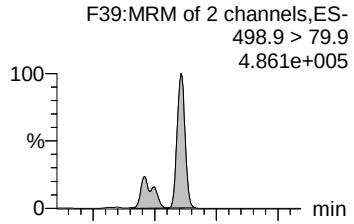


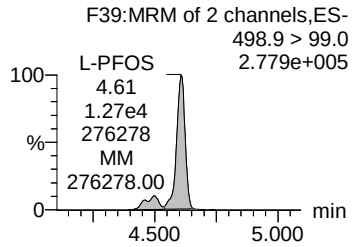
PFNA



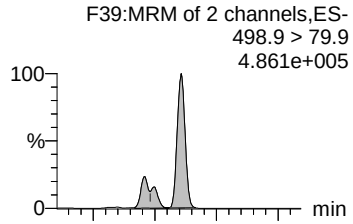


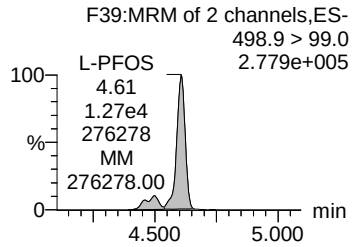
L-PFOS



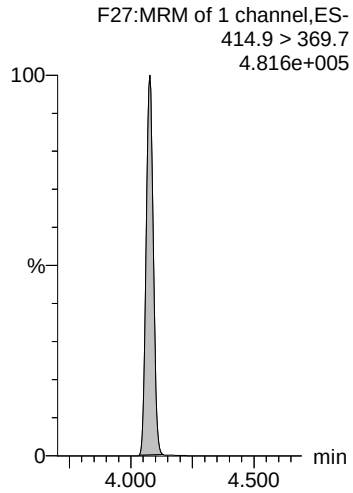


Total PFOS





13C2-PFOA



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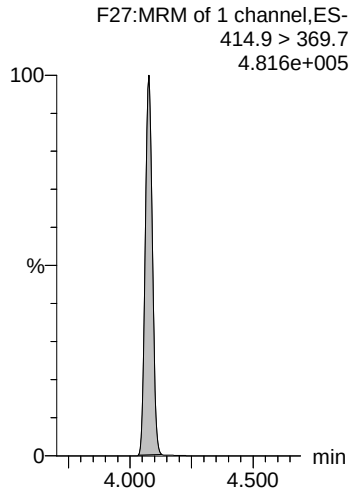
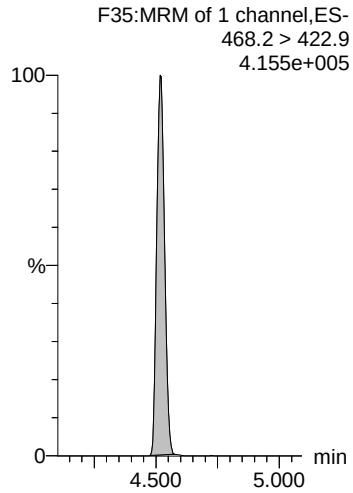
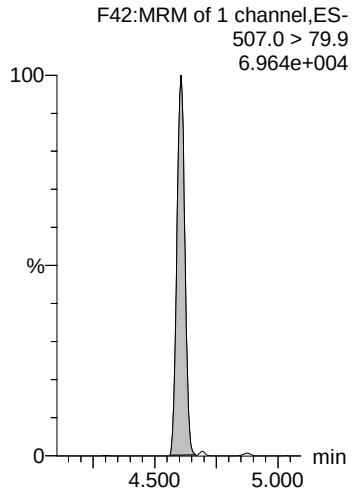


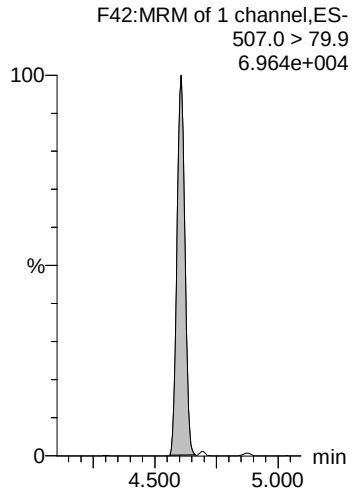
13C5-PFNA



13C8-PFOS



13C8-PFOS



FBR 7/16/2019

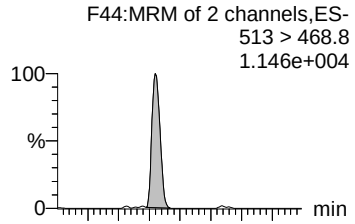
Review: AMR 7/16/2019

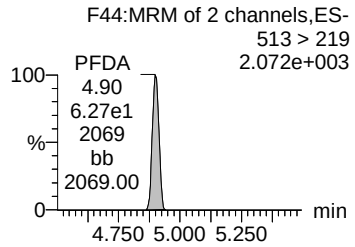
Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-20.qld

Last Altered: Tuesday, July 16, 2019 10:16:55 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:18:58 Pacific Daylight Time

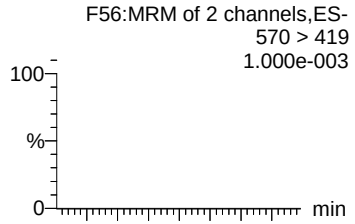
Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

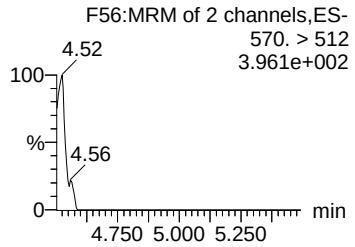
PFDA



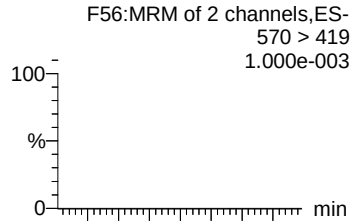


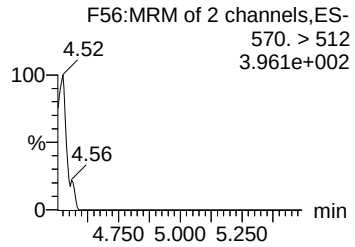
L-MeFOSAA



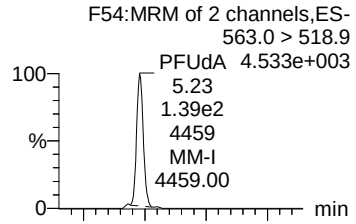


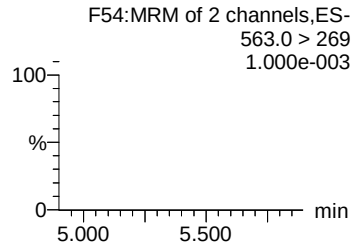
Total N-MeFOSAA



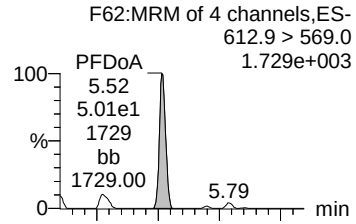


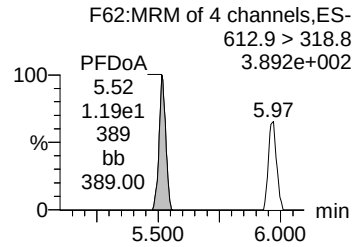
PFUdA



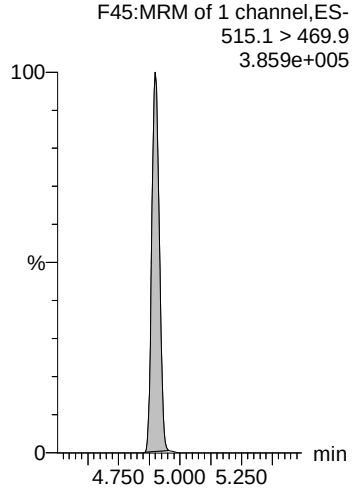


PFDoA

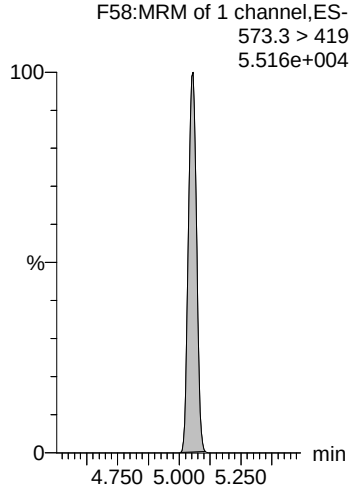




13C2-PFDA



d3-N-MeFOSAA



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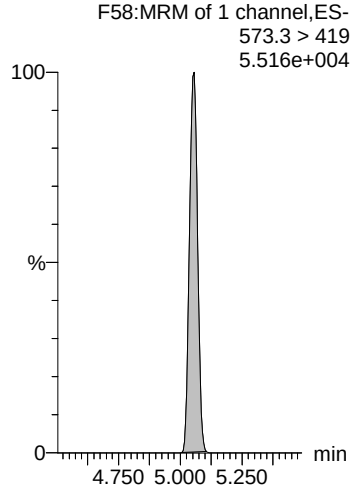
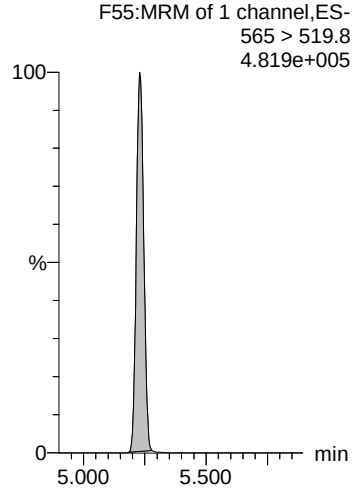
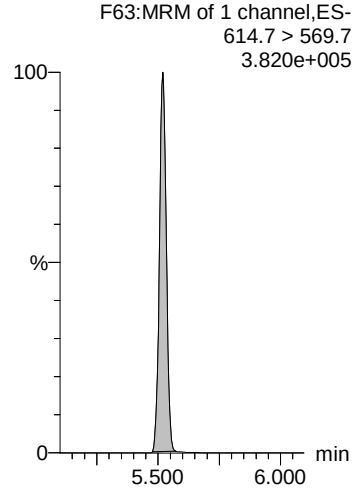


13C2-PFUdA



13C2-PFDoA



FBR 7/16/2019

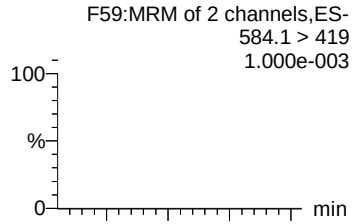
Review: AMR 7/16/2019

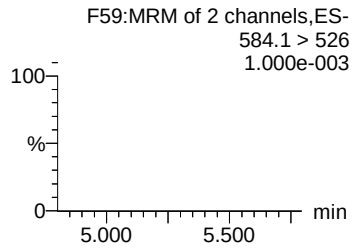
Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-20.qld

Last Altered: Tuesday, July 16, 2019 10:16:55 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:18:58 Pacific Daylight Time

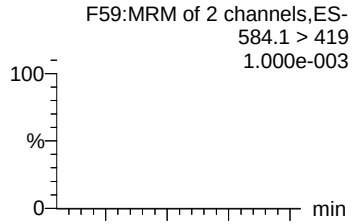
Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

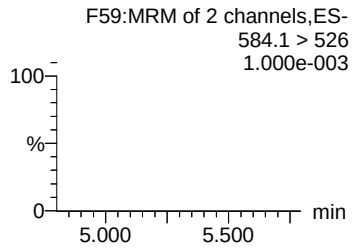
L-EtFOSAA



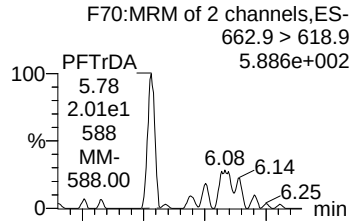


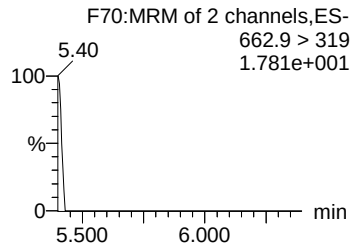
Total N-EtFOSAA



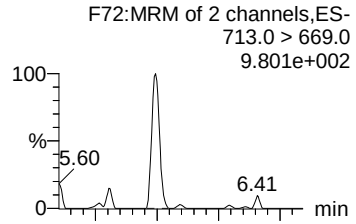


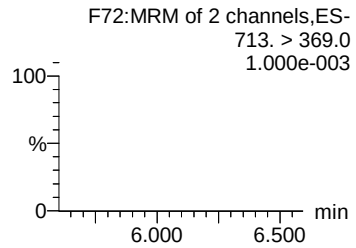
PFTrDA



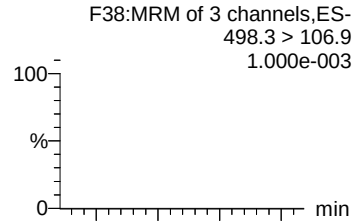


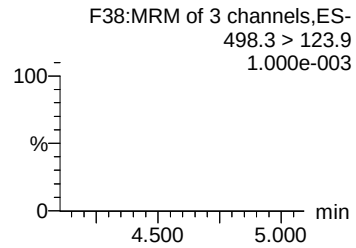
PFTeDA



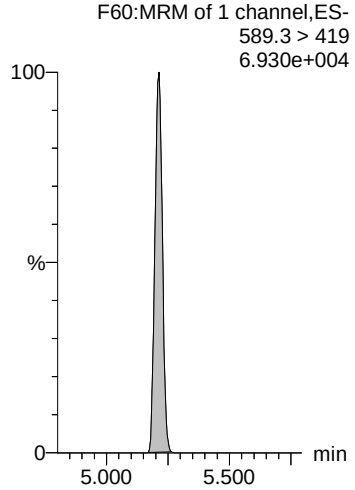


TDCA

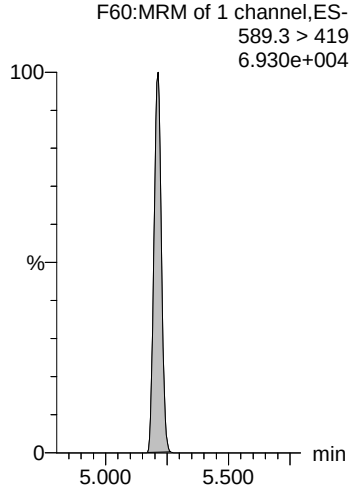




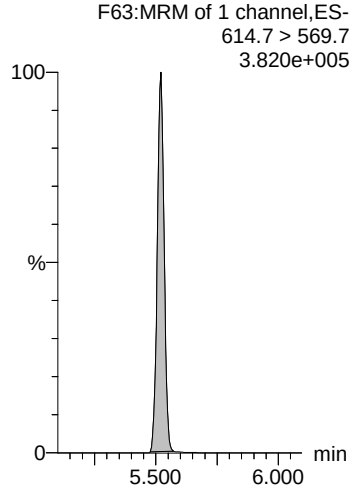
d5-N-EtFOSAA



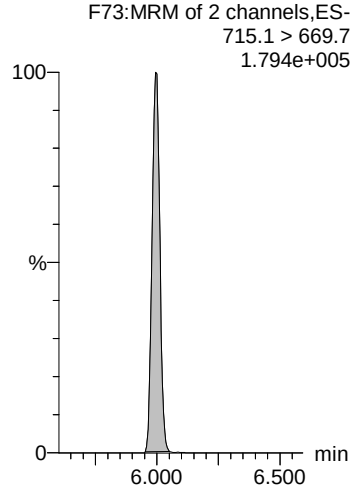
d5-N-EtFOSAA



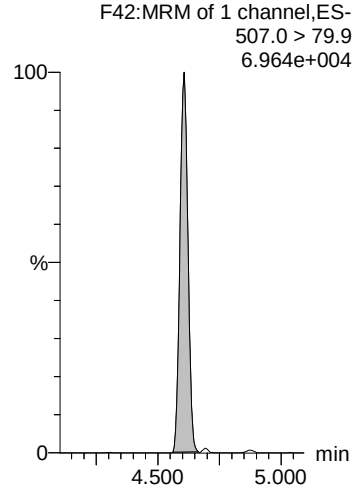
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



FBR 7/16/2019

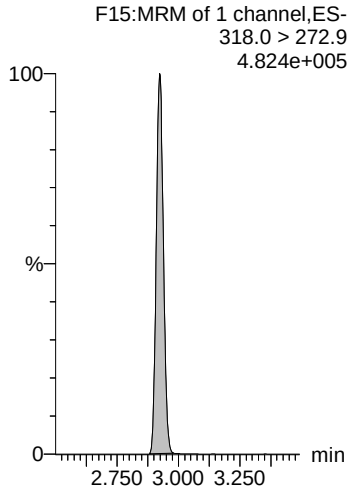
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-20.qld

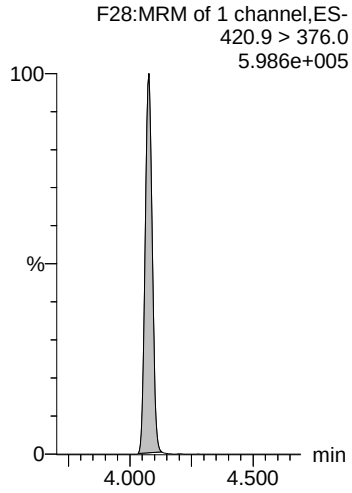
Last Altered: Tuesday, July 16, 2019 10:16:55 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:18:58 Pacific Daylight Time

Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

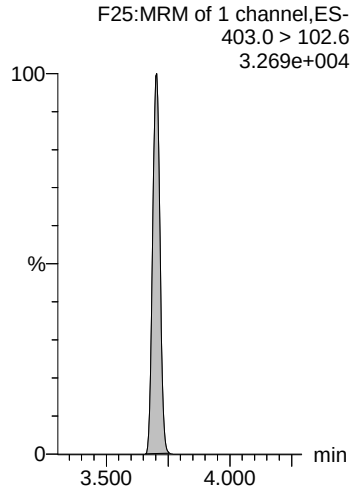
13C5-PFHxA



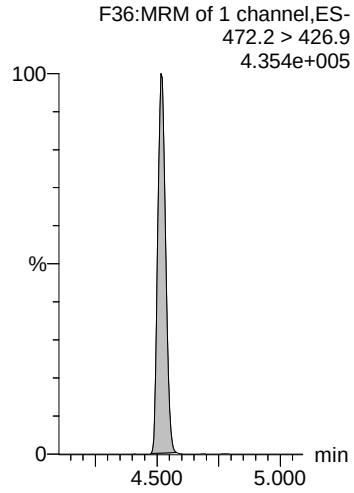
13C8-PFOA



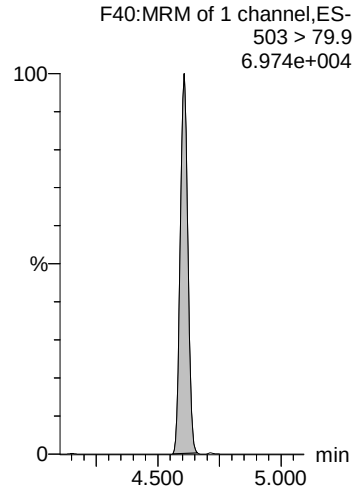
18O2-PFHxS



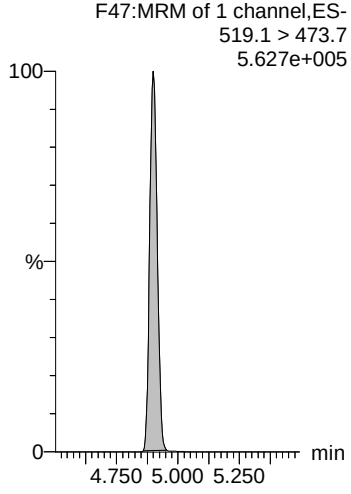
13C9-PFNA



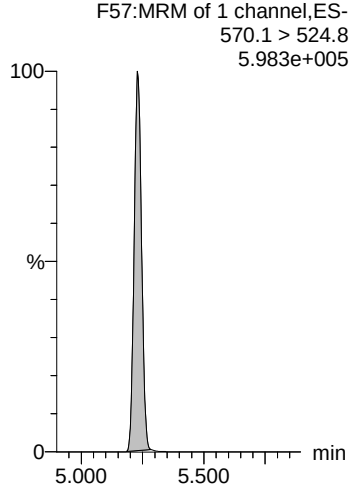
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-45.qld

Last Altered: Tuesday, July 16, 2019 08:53:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:56:02 Pacific Daylight Time

Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		5.85e2	0.112		2.46						
2	7	PFHxA	313.0 > 269.0		2.94e3	0.112		2.97						
3	11	PFHpA	363.0 > 318.9		3.45e3	0.112		3.59						
4	13	L-PFHxS	398.9 > 79.6		1.19e3	0.112		3.74						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	1.19e3	0.112		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	5.85e2	5.50e2	0.112	1.035	2.46	2.46	13.3	115.0649	102.7		
7	52	13C2-PFHxA	315.0 > 270.0	2.94e3	9.27e3	0.112	0.792	2.96	2.97	3.96	44.8432	100.0		
8	53	13C4-PFHpA	367.2 > 321.8	3.45e3	9.27e3	0.112	0.391	3.58	3.59	4.65	106.6198	95.1		
9	54	13C3-PFHxS	401.8 > 79.9	1.19e3	5.50e2	0.112	2.547	3.74	3.74	27.0	95.0590	84.8		
10	54	13C3-PFHxS	401.8 > 79.9	1.19e3	5.50e2	0.112	2.547	3.74	3.74	27.0	95.0590	84.8		
11	-1													
12	16	L-PFOA	412.8 > 368.9		6.96e3	0.112		4.11						
13	81	Total PFOA	412.8 > 368.9	0.00e0	6.96e3	0.112		4.21		0.000				
14	21	PFNA	463.0 > 418.8		6.73e3	0.112		4.55						
15	23	L-PFOS	498.9 > 79.9		1.20e3	0.112		4.64						
16	82	Total PFOS	498.9 > 79.9	0.00e0	1.20e3	0.112		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	6.96e3	1.29e4	0.112	0.564	4.11	4.11	6.75	107.1915	95.7		
18	58	13C2-PFOA	414.9 > 369.7	6.96e3	1.29e4	0.112	0.564	4.11	4.11	6.75	107.1915	95.7		
19	56	13C5-PFNA	468.2 > 422.9	6.73e3	8.00e3	0.112	0.983	4.56	4.55	10.5	95.9354	85.6		
20	59	13C8-PFOS	507.0 > 79.9	1.20e3	1.35e3	0.112	1.060	4.64	4.64	11.2	94.3272	84.2		
21	59	13C8-PFOS	507.0 > 79.9	1.20e3	1.35e3	0.112	1.060	4.64	4.64	11.2	94.3272	84.2		
22	-1													
23	26	PFDA	513 > 468.8		5.07e3	0.112		4.94						
24	29	L-MeFOSAA	570 > 419		9.69e2	0.112		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	9.69e2	0.112		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		7.81e3	0.112		5.26						
27	37	PFDoA	612.9 > 569.0		9.03e3	0.112		5.55						
28	60	13C2-PFDA	515.1 > 469.9	5.07e3	1.04e4	0.112	0.662	4.94	4.94	6.11	82.6485	73.8		
29	62	d3-N-MeFOSAA	573.3 > 419	9.69e2	1.26e4	0.112	0.129	5.09	5.08	0.960	66.6703	59.5		
30	62	d3-N-MeFOSAA	573.3 > 419	9.69e2	1.26e4	0.112	0.129	5.09	5.08	0.960	66.6703	59.5		
31	63	13C2-PFUdA	565 > 519.8	7.81e3	1.26e4	0.112	0.857	5.26	5.26	7.73	80.9032	72.2		
32	65	13C2-PFDoA	614.7 > 569.7	9.03e3	1.04e4	0.112	1.229	5.55	5.55	10.9	79.3920	70.8		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.28e3	0.112		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.28e3	0.112		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		9.03e3	0.112		5.80						

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-45.qld

Last Altered: Tuesday, July 16, 2019 08:53:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:56:02 Pacific Daylight Time

Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		5.09e3	0.112		6.02						
38	85	TDCA	498.3>106.9			0.112		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.28e3	1.26e4	0.112	0.147	5.24	5.25	1.27	77.1105	68.8		
40	64	d5-N-EtFOSAA	589.3 > 419	1.28e3	1.26e4	0.112	0.147	5.24	5.25	1.27	77.1105	68.8		
41	65	13C2-PFDoA	614.7 > 569.7	9.03e3	1.04e4	0.112	1.229	5.55	5.55	10.9	79.3920	70.8		
42	67	13C2-PFTeDA	715.1 > 669.7	5.09e3	1.26e4	0.112	0.511	6.02	6.02	5.04	88.3770	78.9		
43	59	13C8-PFOS	507.0 > 79.9	1.20e3	1.35e3	0.112	1.060	4.64	4.64	11.2	94.3272	84.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	9.27e3	9.27e3	0.112	1.000	2.96	2.97	12.5	112.0574	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.29e4	1.29e4	0.112	1.000	4.11	4.11	12.5	112.0574	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.50e2	5.50e2	0.112	1.000	3.74	3.74	12.5	112.0574	100.0		
48	76	13C9-PFNA	472.2 > 426.9	8.00e3	8.00e3	0.112	1.000	4.55	4.55	12.5	112.0574	100.0		
49	77	13C4-PFOS	503 > 79.9	1.35e3	1.35e3	0.112	1.000	4.64	4.64	12.5	112.0574	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.04e4	1.04e4	0.112	1.000	4.93	4.94	12.5	112.0574	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.26e4	1.26e4	0.112	1.000	5.26	5.26	12.5	112.0574	100.0		

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

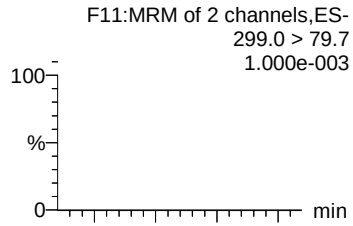
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-45.qld

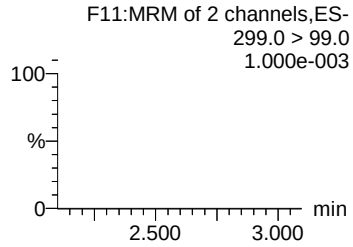
Last Altered: Tuesday, July 16, 2019 08:53:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:56:02 Pacific Daylight Time

Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

PFBS





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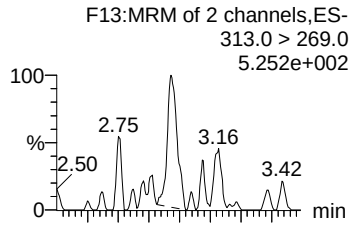

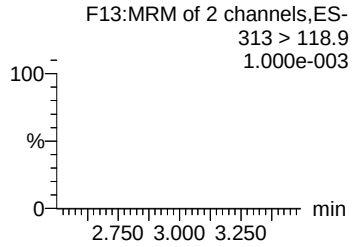

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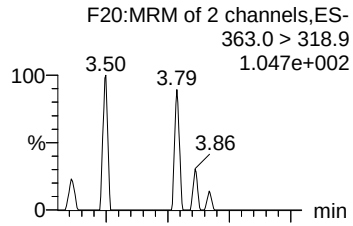

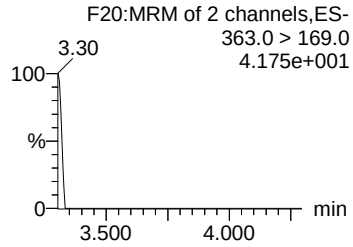

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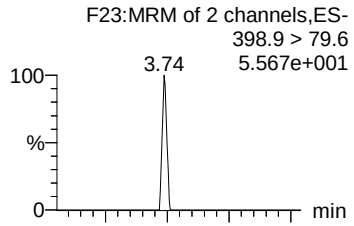

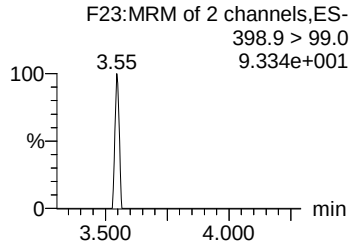

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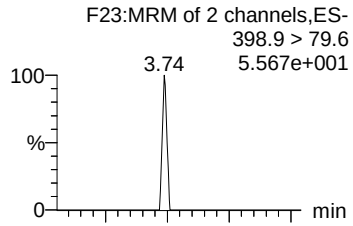

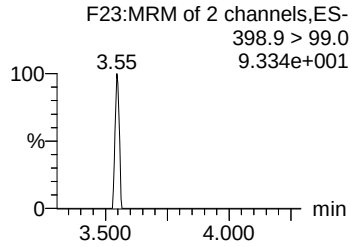

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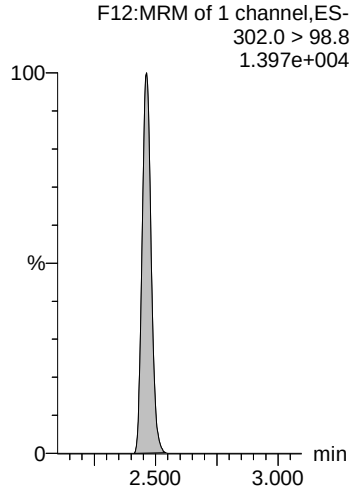

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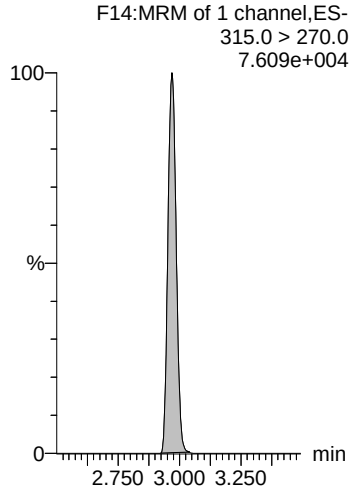

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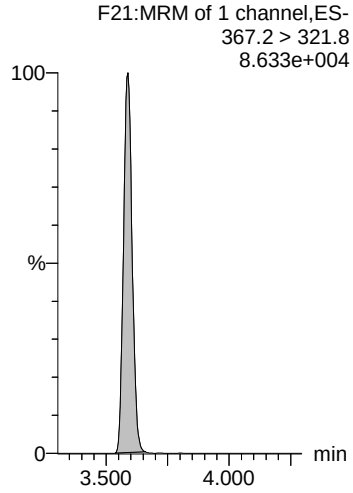

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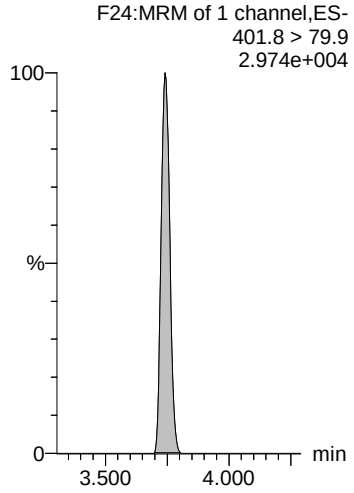

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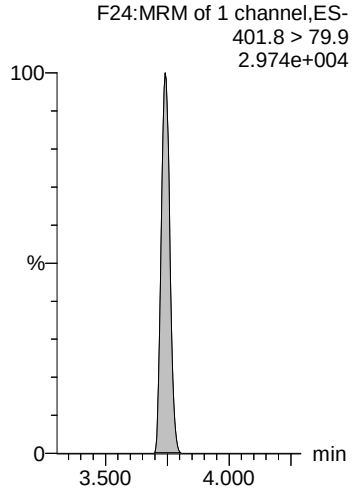


FBR 7/16/2019

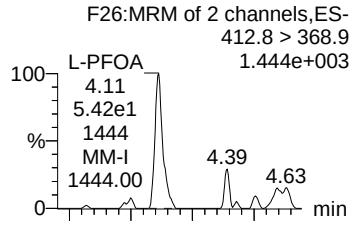
Review: AMR 7/16/2019

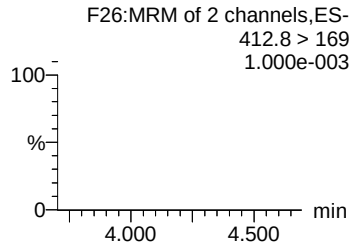
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-45.qld

Last Altered: Tuesday, July 16, 2019 08:53:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:56:02 Pacific Daylight Time

Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

L-PFOA





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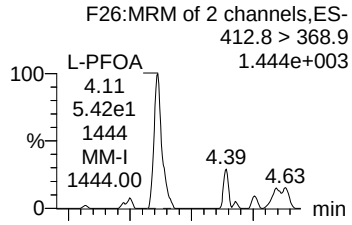

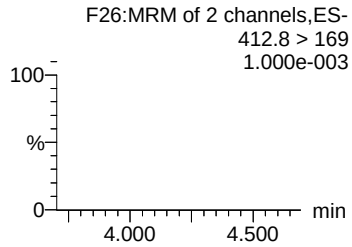

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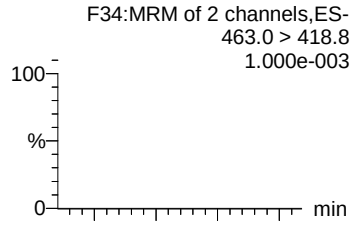
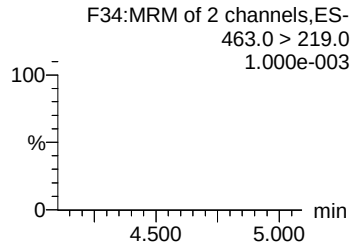
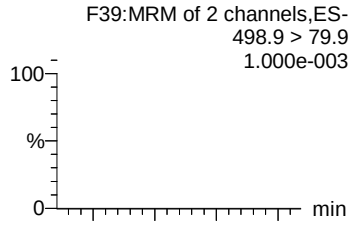
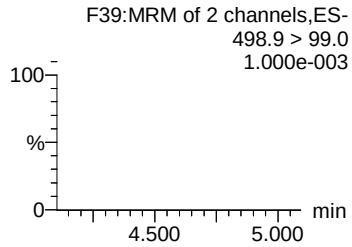




L-PFOS





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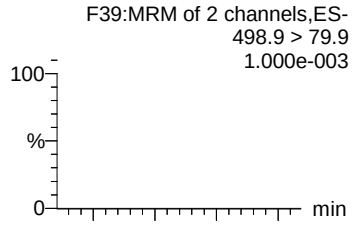

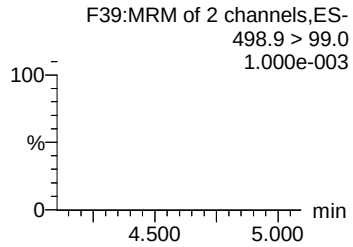

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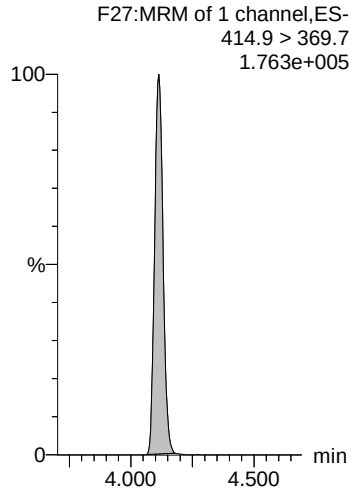

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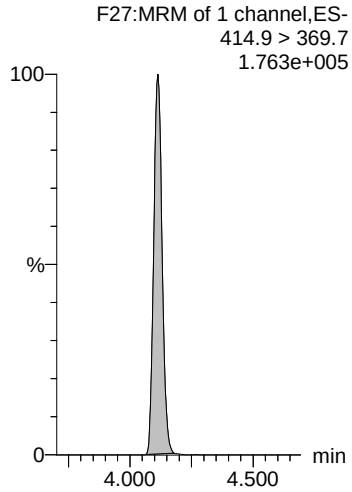

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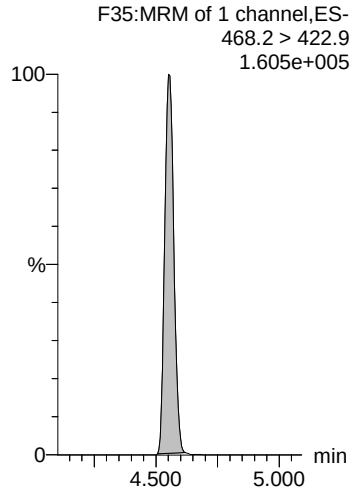

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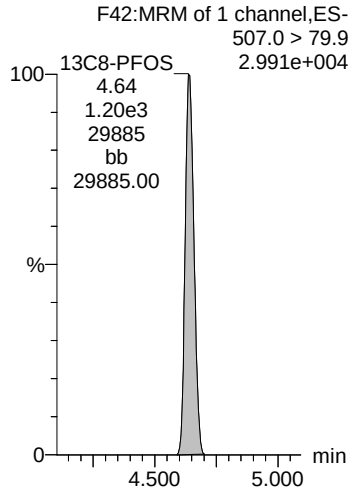

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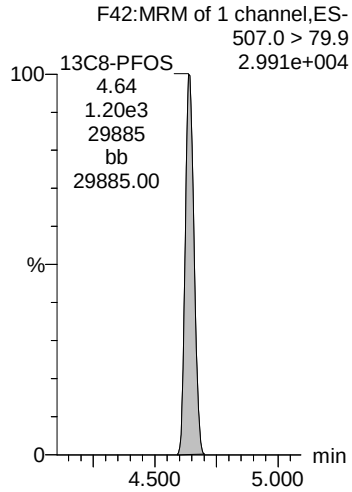


FBR 7/16/2019

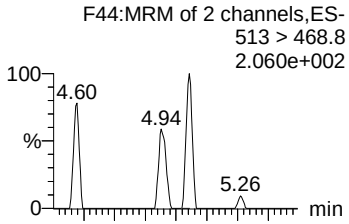
Review: AMR 7/16/2019

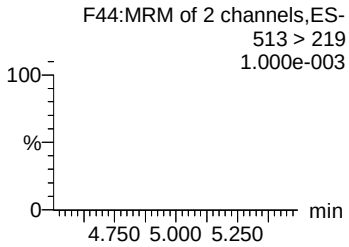
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-45.qld

Last Altered: Tuesday, July 16, 2019 08:53:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:56:02 Pacific Daylight Time

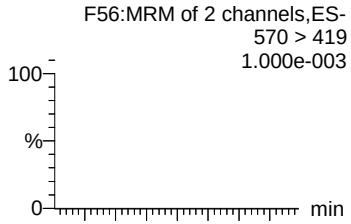
Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

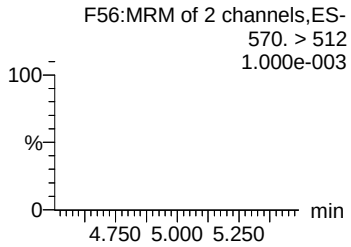
PFDA





L-MeFOSAA





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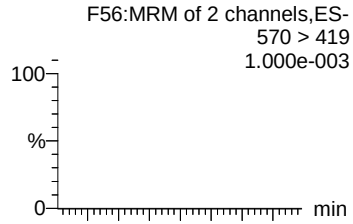

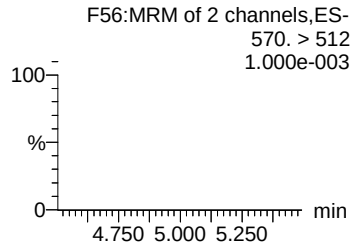

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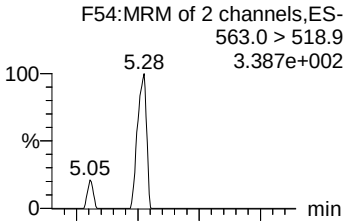

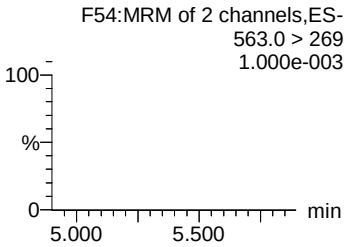

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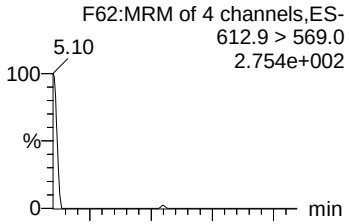

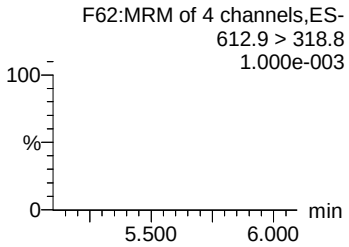

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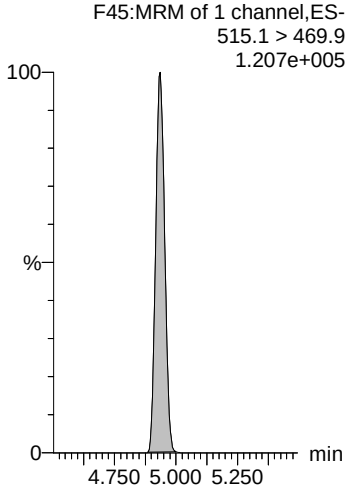

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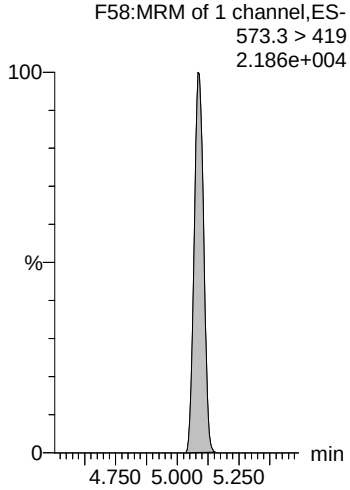

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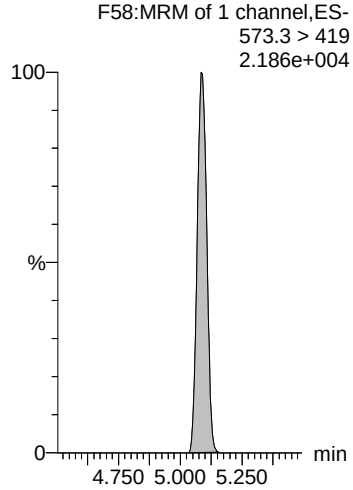
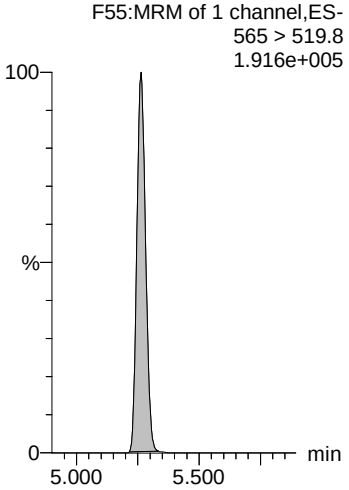
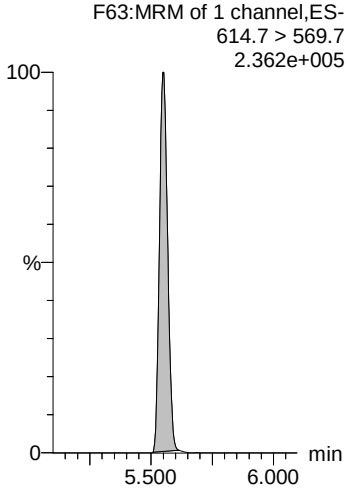


13C2-PFUdA



13C2-PFDoA



FBR 7/16/2019

Vista Analytical Laboratory L14

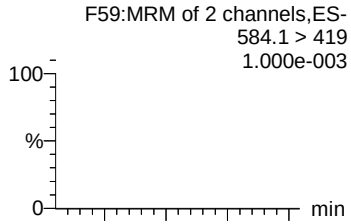
Review: AMR 7/16/2019

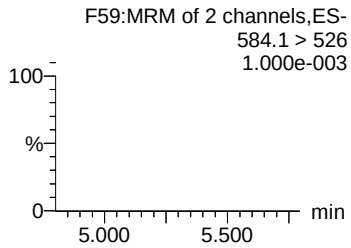
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-45.qld

Last Altered: Tuesday, July 16, 2019 08:53:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:56:02 Pacific Daylight Time

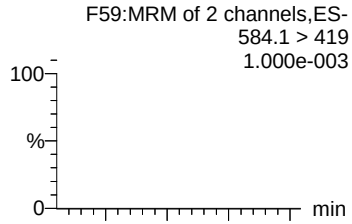
Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

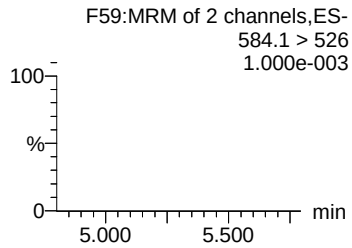
L-EtFOSAA





Total N-EtFOSAA





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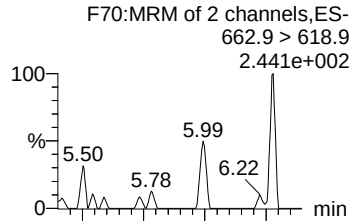
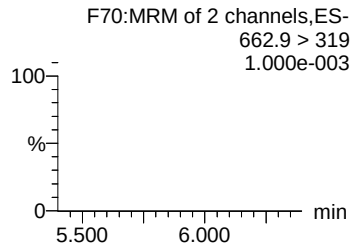
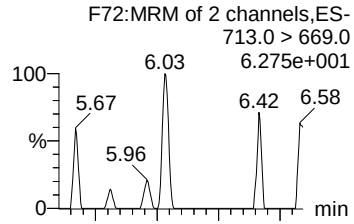
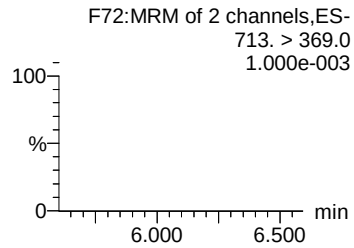




PFTeDA





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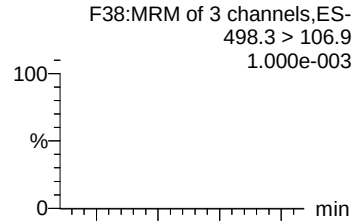
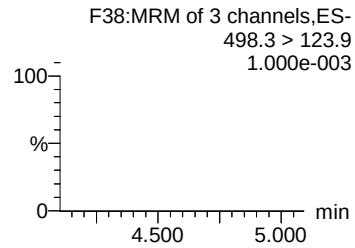
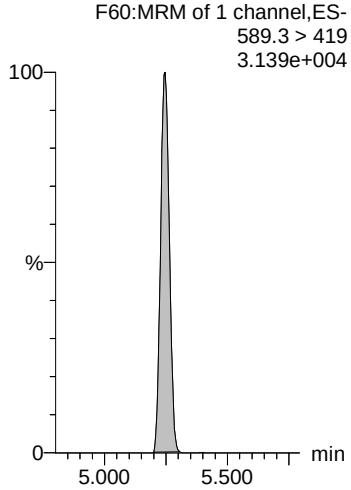




d5-N-EtFOSAA



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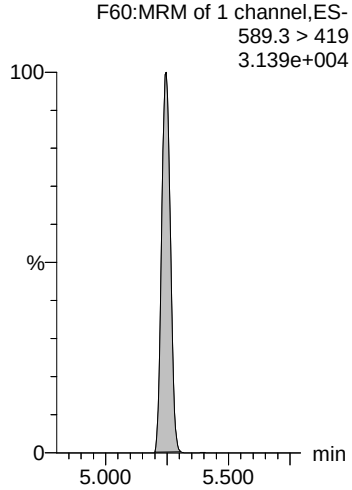
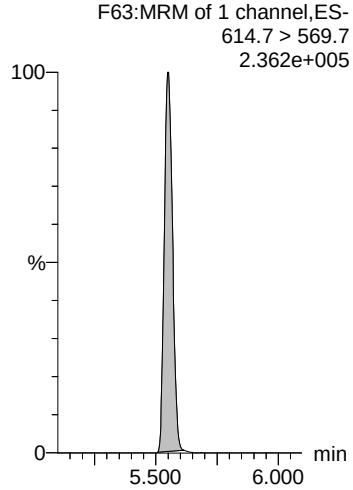


13C2-PFDoA



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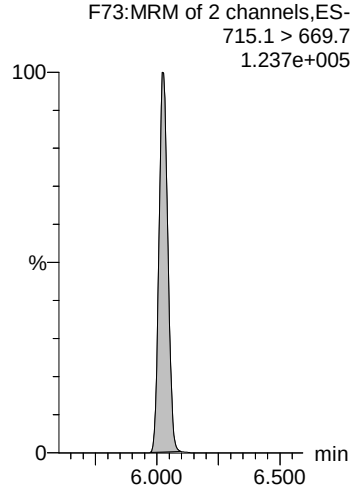

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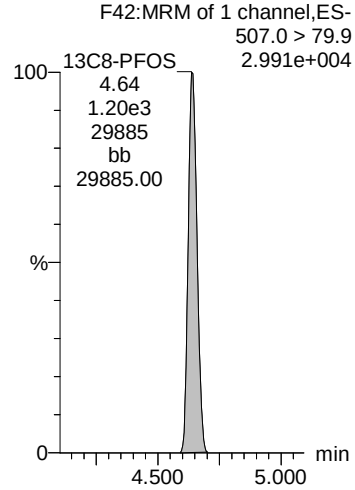

FBR 7/16/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-45.qld

Last Altered: Tuesday, July 16, 2019 08:53:45 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 08:56:02 Pacific Daylight Time

Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

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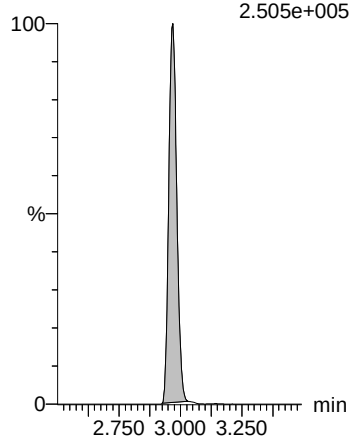

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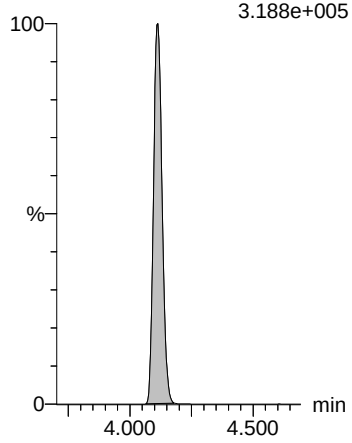
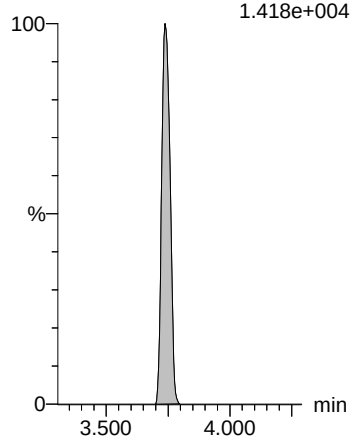
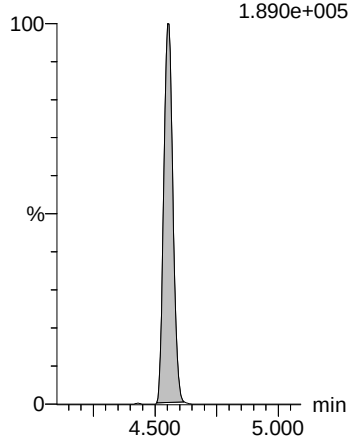


18O2-PFHxS



13C9-PFNA



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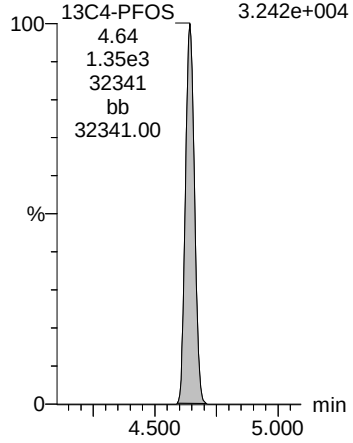
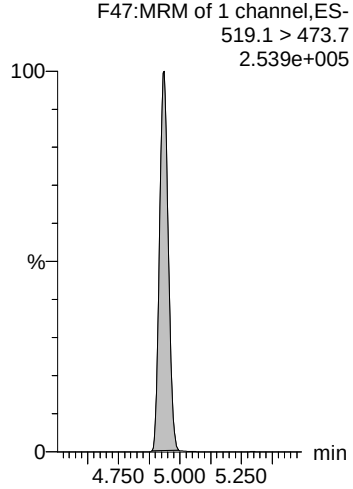
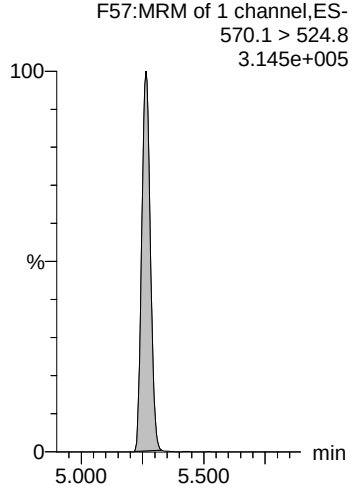


13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-46.qld

Last Altered: Tuesday, July 16, 2019 09:33:31 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:35:21 Pacific Daylight Time

Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.93e0	5.00e2	0.116		2.46	2.44	0.0482	1.1519		2.930	NO
2	7	PFHxA	313.0 > 269.0		2.69e3	0.116		2.97						
3	11	PFHpA	363.0 > 318.9		3.02e3	0.116		3.58						
4	13	L-PFHxS	398.9 > 79.6		1.21e3	0.116		3.74						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	1.21e3	0.116		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	5.00e2	4.81e2	0.116	1.035	2.46	2.46	13.0	107.8608	100.5		
7	52	13C2-PFHxA	315.0 > 270.0	2.69e3	8.93e3	0.116	0.792	2.96	2.97	3.77	40.8698	95.2		
8	53	13C4-PFHpA	367.2 > 321.8	3.02e3	8.93e3	0.116	0.391	3.58	3.58	4.22	92.7220	86.4		
9	54	13C3-PFHxS	401.8 > 79.9	1.21e3	4.81e2	0.116	2.547	3.74	3.74	31.4	105.8773	98.6		
10	54	13C3-PFHxS	401.8 > 79.9	1.21e3	4.81e2	0.116	2.547	3.74	3.74	31.4	105.8773	98.6		
11	-1													
12	16	L-PFOA	412.8 > 368.9		6.16e3	0.116		4.11						
13	81	Total PFOA	412.8 > 368.9	0.00e0	6.16e3	0.116		4.21		0.000				
14	21	PFNA	463.0 > 418.8		6.22e3	0.116		4.56						
15	23	L-PFOS	498.9 > 79.9		9.89e2	0.116		4.64						
16	82	Total PFOS	498.9 > 79.9	0.00e0	9.89e2	0.116		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	6.16e3	1.19e4	0.116	0.564	4.11	4.11	6.49	98.8393	92.1		
18	58	13C2-PFOA	414.9 > 369.7	6.16e3	1.19e4	0.116	0.564	4.11	4.11	6.49	98.8393	92.1		
19	56	13C5-PFNA	468.2 > 422.9	6.22e3	7.27e3	0.116	0.983	4.56	4.56	10.7	93.4165	87.0		
20	59	13C8-PFOS	507.0 > 79.9	9.89e2	1.07e3	0.116	1.060	4.64	4.64	11.5	93.5310	87.1		
21	59	13C8-PFOS	507.0 > 79.9	9.89e2	1.07e3	0.116	1.060	4.64	4.64	11.5	93.5310	87.1		
22	-1													
23	26	PFDA	513 > 468.8		4.31e3	0.116		4.94						
24	29	L-MeFOSAA	570 > 419		9.05e2	0.116		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	9.05e2	0.116		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		7.17e3	0.116		5.26						
27	37	PFDoA	612.9 > 569.0		7.64e3	0.116		5.55						
28	60	13C2-PFDA	515.1 > 469.9	4.31e3	8.55e3	0.116	0.662	4.94	4.94	6.30	81.6942	76.1		
29	62	d3-N-MeFOSAA	573.3 > 419	9.05e2	1.05e4	0.116	0.129	5.09	5.08	1.07	71.4131	66.5		
30	62	d3-N-MeFOSAA	573.3 > 419	9.05e2	1.05e4	0.116	0.129	5.09	5.08	1.07	71.4131	66.5		
31	63	13C2-PFUdA	565 > 519.8	7.17e3	1.05e4	0.116	0.857	5.26	5.26	8.50	85.1921	79.4		
32	65	13C2-PFDoA	614.7 > 569.7	7.64e3	8.55e3	0.116	1.229	5.55	5.55	11.2	77.9866	72.6		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		9.80e2	0.116		5.24						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	9.80e2	0.116		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		7.64e3	0.116		5.80						

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-46.qld

Last Altered: Tuesday, July 16, 2019 09:33:31 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:35:21 Pacific Daylight Time

Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		4.29e3	0.116		6.02						
38	85	TDCA	498.3>106.9			0.116		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	9.80e2	1.05e4	0.116	0.147	5.24	5.24	1.16	67.7166	63.1		
40	64	d5-N-EtFOSAA	589.3 > 419	9.80e2	1.05e4	0.116	0.147	5.24	5.24	1.16	67.7166	63.1		
41	65	13C2-PFDoA	614.7 > 569.7	7.64e3	8.55e3	0.116	1.229	5.55	5.55	11.2	77.9866	72.6		
42	67	13C2-PFTeDA	715.1 > 669.7	4.29e3	1.05e4	0.116	0.511	6.02	6.02	5.08	85.3837	79.5		
43	59	13C8-PFOS	507.0 > 79.9	9.89e2	1.07e3	0.116	1.060	4.64	4.64	11.5	93.5310	87.1		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	8.93e3	8.93e3	0.116	1.000	2.96	2.96	12.5	107.3606	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.19e4	1.19e4	0.116	1.000	4.11	4.11	12.5	107.3606	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	4.81e2	4.81e2	0.116	1.000	3.74	3.74	12.5	107.3606	100.0		
48	76	13C9-PFNA	472.2 > 426.9	7.27e3	7.27e3	0.116	1.000	4.55	4.55	12.5	107.3606	100.0		
49	77	13C4-PFOS	503 > 79.9	1.07e3	1.07e3	0.116	1.000	4.64	4.64	12.5	107.3606	100.0		
50	78	13C6-PFDA	519.1 > 473.7	8.55e3	8.55e3	0.116	1.000	4.93	4.93	12.5	107.3606	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.05e4	1.05e4	0.116	1.000	5.26	5.26	12.5	107.3606	100.0		

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Vista Analytical Laboratory L14

Review: AMR 7/16/2019

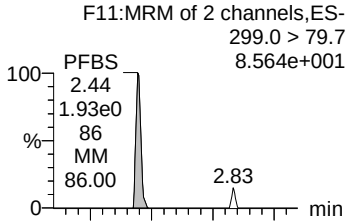
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-46.qld

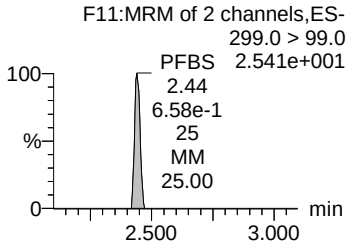
Last Altered: Tuesday, July 16, 2019 09:33:31 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:35:21 Pacific Daylight Time

Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

PFBS





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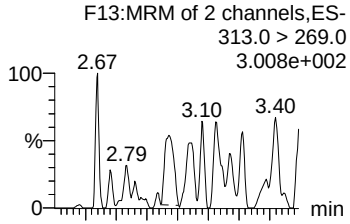
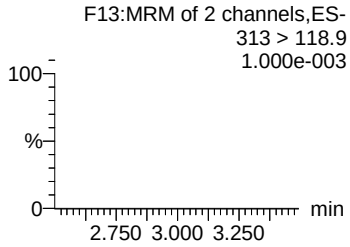
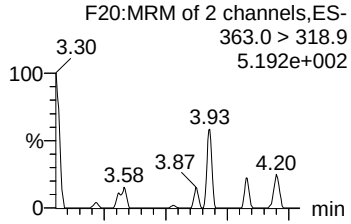
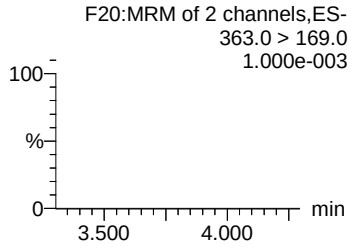




PFHpA





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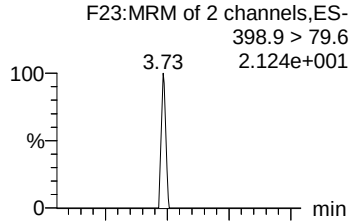
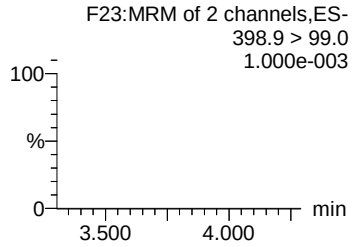
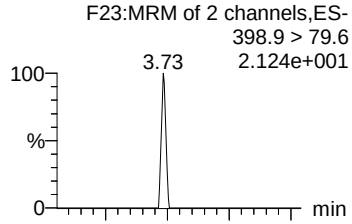
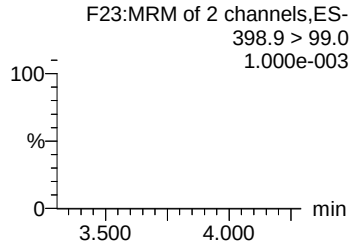


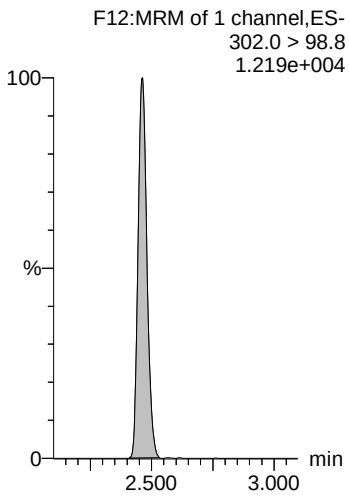


Total PFHxS





13C3-PFBS



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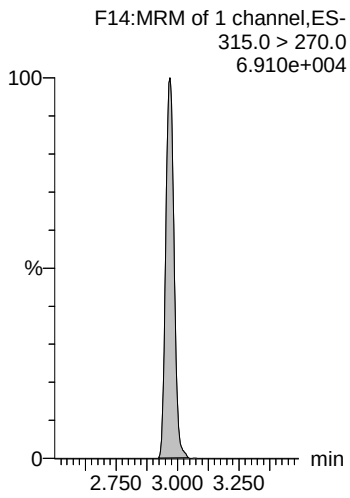

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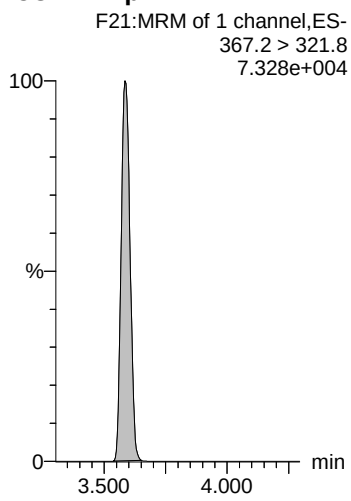

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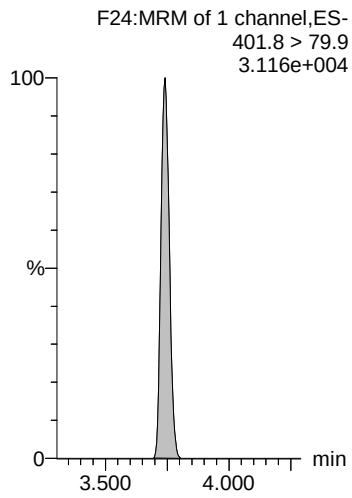

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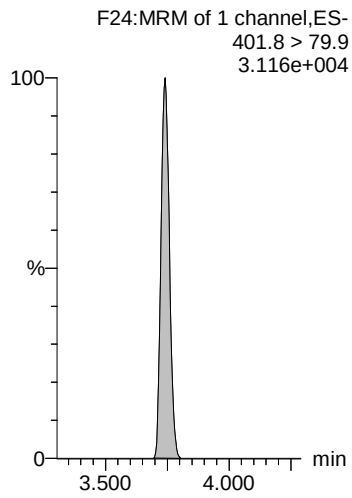


FBR 7/16/2019

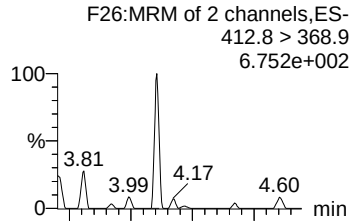
Review: AMR 7/16/2019

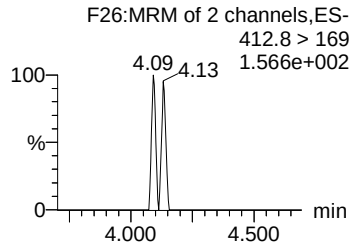
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-46.qld

Last Altered: Tuesday, July 16, 2019 09:33:31 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:35:21 Pacific Daylight Time

Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

L-PFOA





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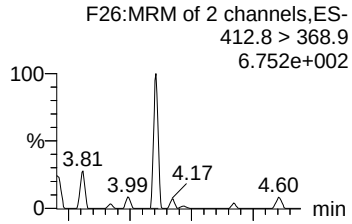

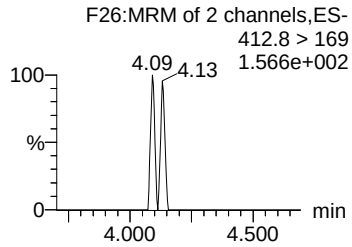

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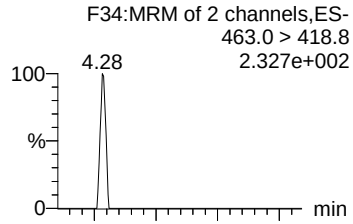
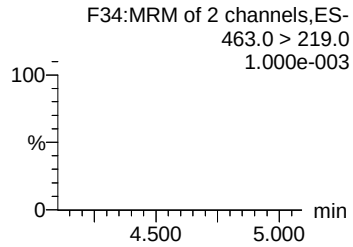
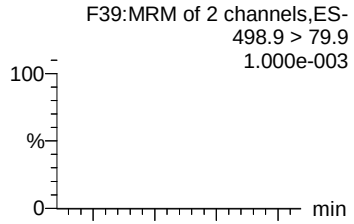
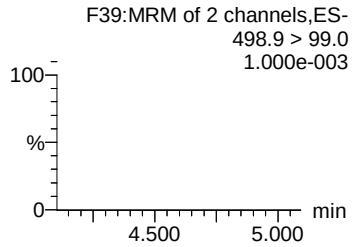


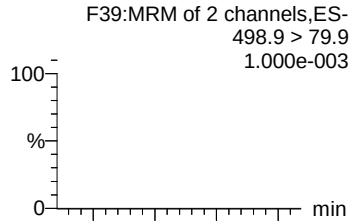


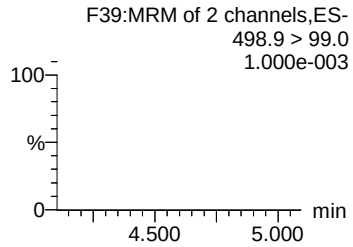
L-PFOS





Total PFOS





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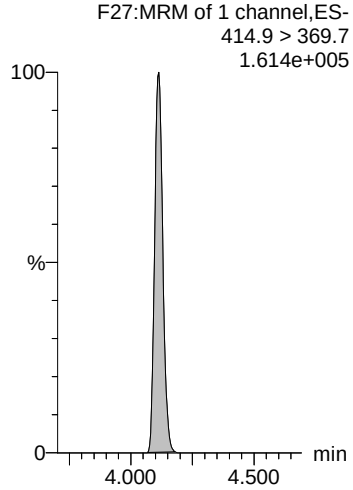

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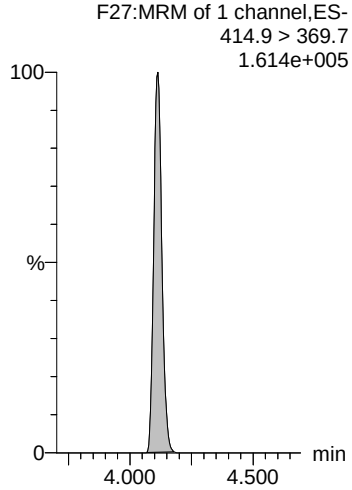

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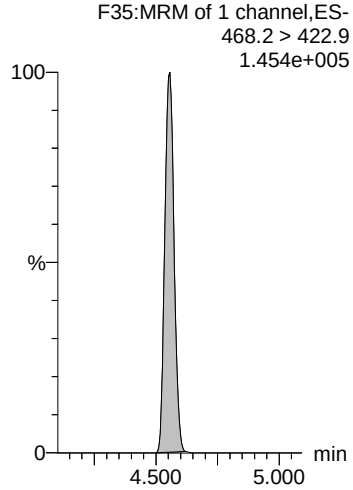

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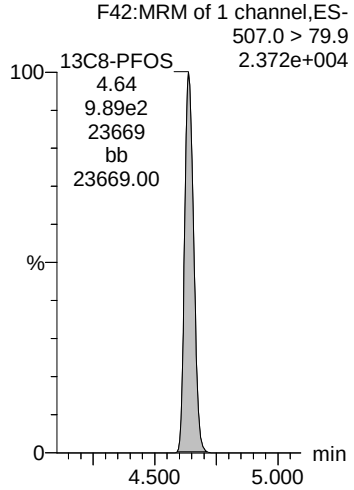

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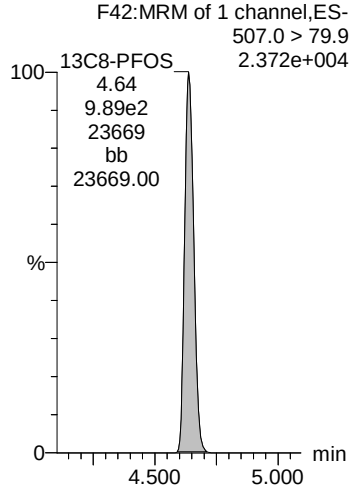

FBR 7/16/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-46.qld

Last Altered: Tuesday, July 16, 2019 09:33:31 Pacific Daylight Time
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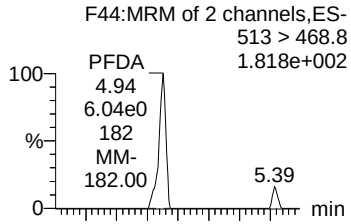
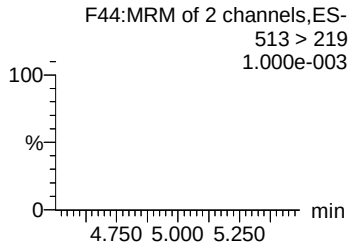
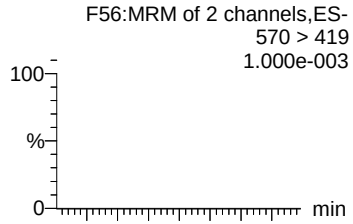
Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

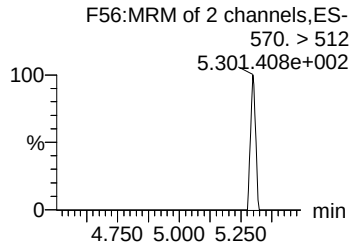
PFDA





L-MeFOSAA





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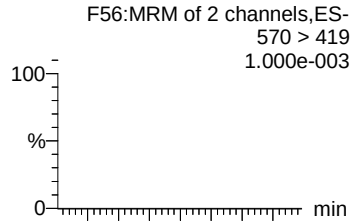

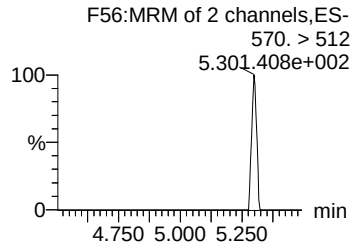

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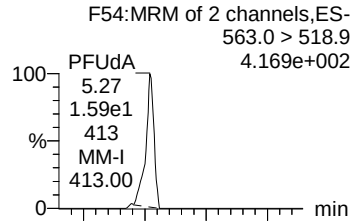
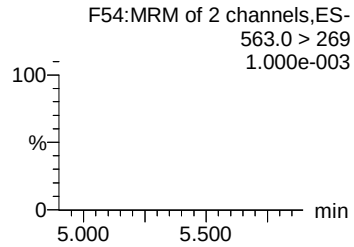
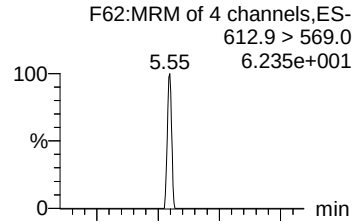
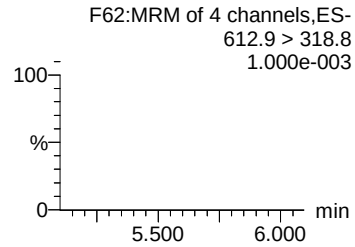




PFDoA





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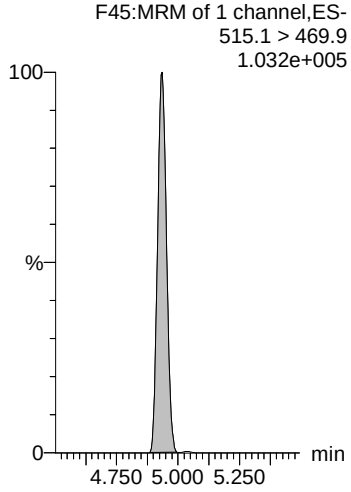
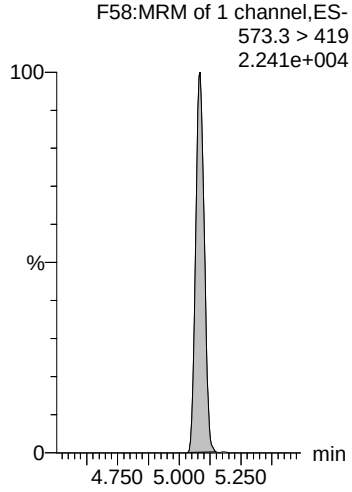


d3-N-MeFOSAA



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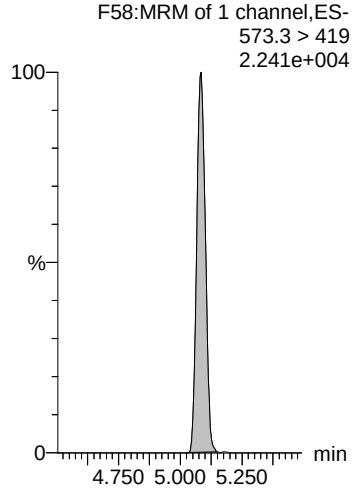

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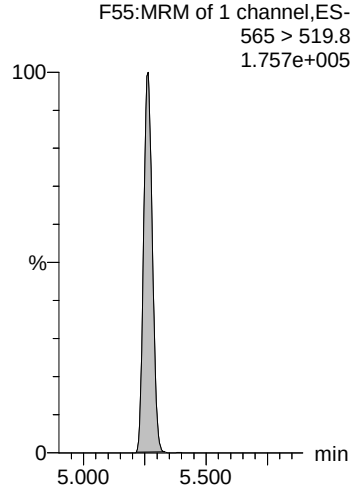

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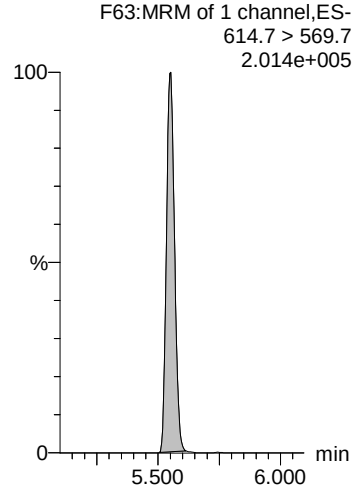

FBR 7/16/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-46.qld

Last Altered: Tuesday, July 16, 2019 09:33:31 Pacific Daylight Time
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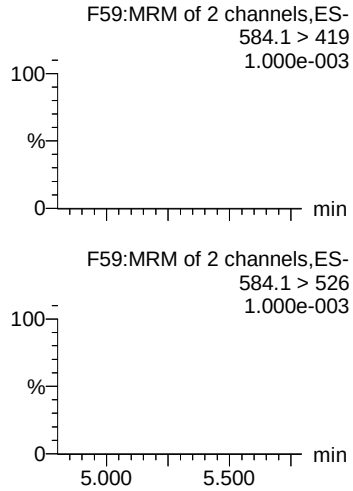
Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

L-EtFOSAA



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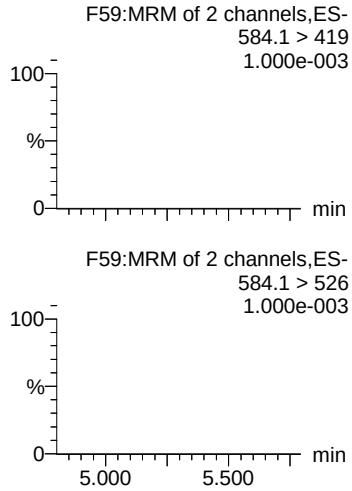

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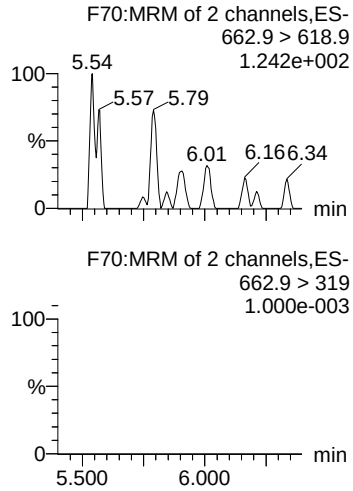

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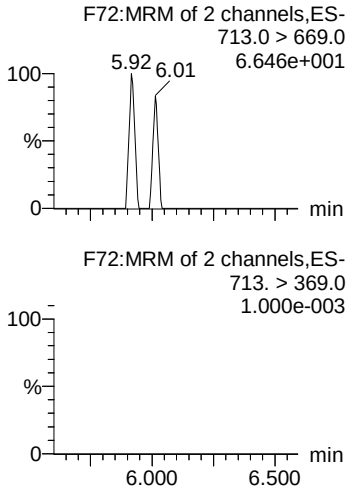

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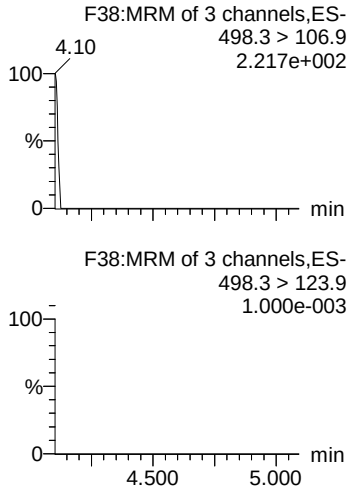

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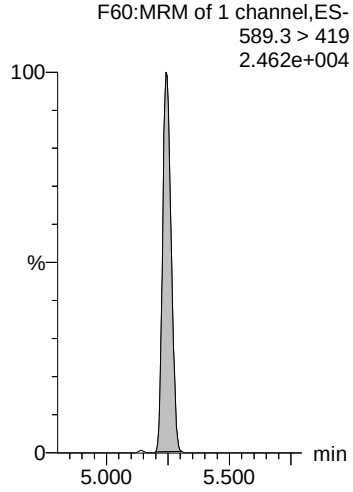

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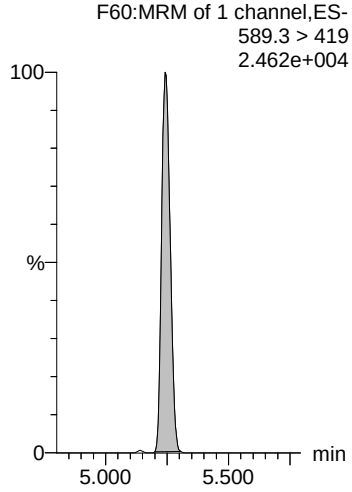

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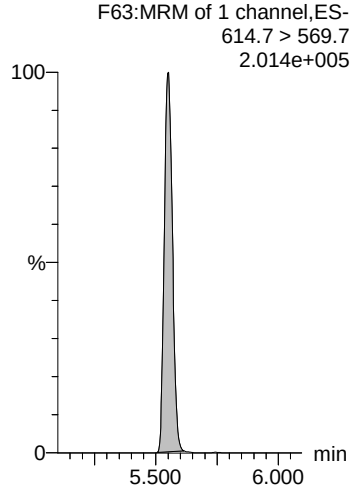

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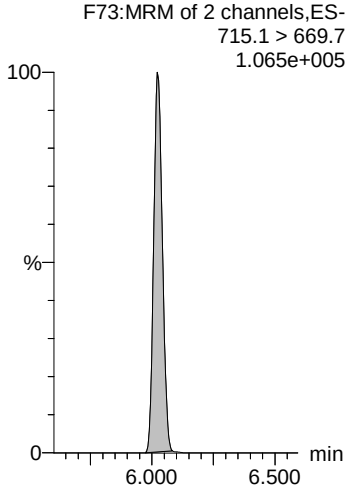

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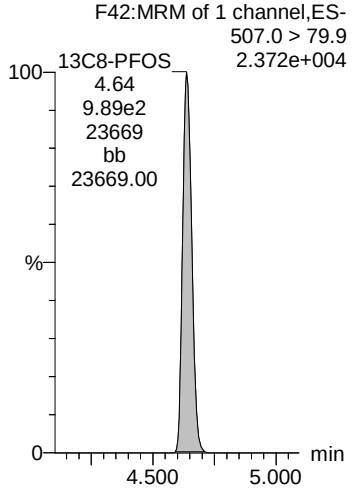

FBR 7/16/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-46.qld

Last Altered: Tuesday, July 16, 2019 09:33:31 Pacific Daylight Time
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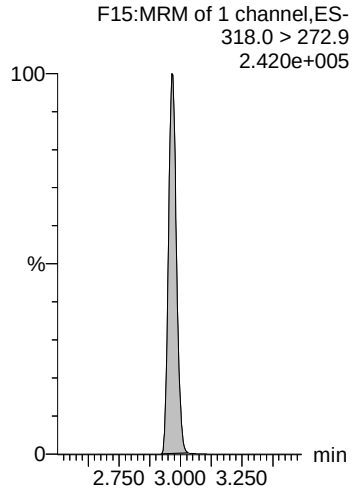
Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

13C5-PFHxA



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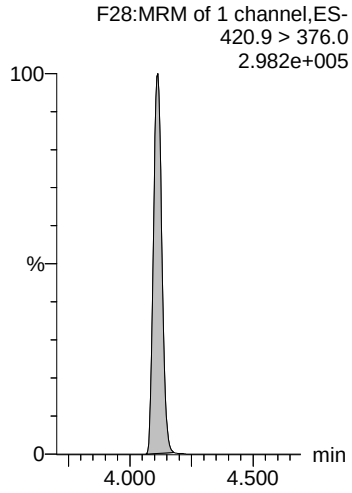

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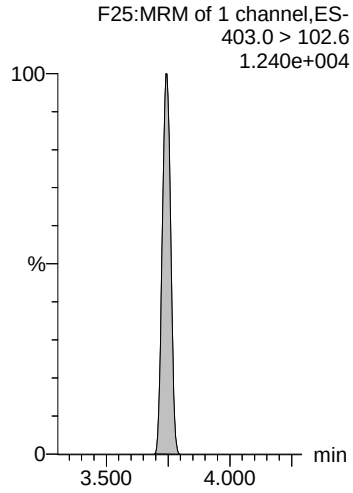

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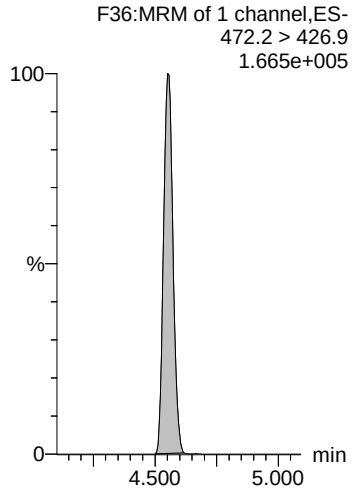
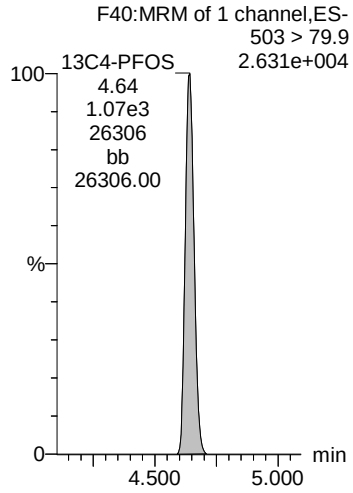


13C4-PFOS



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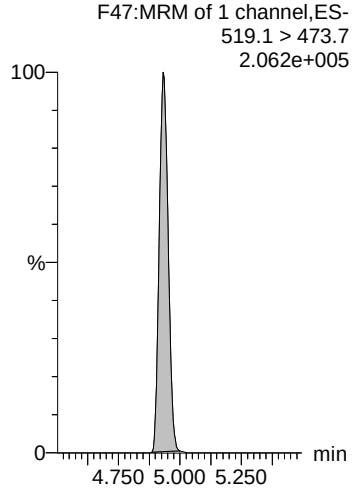

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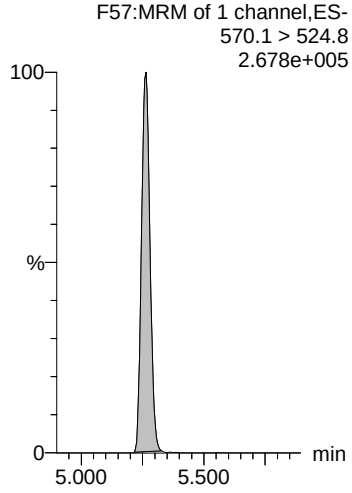

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-47.qld

Last Altered: Tuesday, July 16, 2019 09:39:06 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:41:29 Pacific Daylight Time

Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.01e3	5.15e2	0.129		2.46	2.46	24.5	82.2999		2.927	NO
2	7	PFHxA	313.0 > 269.0	1.28e4	2.42e3	0.129		2.96	2.96	26.5	176.0748		15.700	NO
3	11	PFHpA	363.0 > 318.9	1.08e3	2.77e3	0.129		3.59	3.58	4.85	30.6971		8.108	NO
4	13	L-PFHxS	398.9 > 79.6	1.58e3	1.07e3	0.129		3.74	3.74	18.4	166.6343		2.222	NO
5	80	Total PFHxS	398.9 > 79.6	1.58e3	1.07e3	0.129		3.83		18.4	166.6343			
6	49	13C3-PFBS	302.0 > 98.8	5.15e2	5.31e2	0.129	1.035	2.46	2.46	12.1	90.5042	93.7		
7	52	13C2-PFHxA	315.0 > 270.0	2.42e3	8.41e3	0.129	0.792	2.96	2.96	3.60	35.0789	90.8		
8	53	13C4-PFHpA	367.2 > 321.8	2.77e3	8.41e3	0.129	0.391	3.58	3.59	4.12	81.4665	84.3		
9	54	13C3-PFHxS	401.8 > 79.9	1.07e3	5.31e2	0.129	2.547	3.74	3.74	25.3	76.7482	79.4		
10	54	13C3-PFHxS	401.8 > 79.9	1.07e3	5.31e2	0.129	2.547	3.74	3.74	25.3	76.7482	79.4		
11	-1													
12	16	L-PFOA	412.8 > 368.9	7.85e2	6.37e3	0.129		4.11	4.11	1.54	6.2822		3.594	NO
13	81	Total PFOA	412.8 > 368.9	7.85e2	6.37e3	0.129		4.21		1.54	6.2822			
14	21	PFNA	463.0 > 418.8	8.59e1	6.13e3	0.129		4.56	4.56	0.175	1.0213		7.797	YES
15	23	L-PFOS	498.9 > 79.9	9.71e2	1.13e3	0.129		4.64	4.64	10.7	66.3942		2.103	NO
16	82	Total PFOS	498.9 > 79.9	9.71e2	1.13e3	0.129		4.74		10.7	66.3942			
17	58	13C2-PFOA	414.9 > 369.7	6.37e3	1.24e4	0.129	0.564	4.11	4.11	6.43	88.0934	91.2		
18	58	13C2-PFOA	414.9 > 369.7	6.37e3	1.24e4	0.129	0.564	4.11	4.11	6.43	88.0934	91.2		
19	56	13C5-PFNA	468.2 > 422.9	6.13e3	7.63e3	0.129	0.983	4.56	4.56	10.0	78.9800	81.8		
20	59	13C8-PFOS	507.0 > 79.9	1.13e3	1.16e3	0.129	1.060	4.64	4.64	12.2	89.1384	92.3		
21	59	13C8-PFOS	507.0 > 79.9	1.13e3	1.16e3	0.129	1.060	4.64	4.64	12.2	89.1384	92.3		
22	-1													
23	26	PFDA	513 > 468.8	3.81e1	4.83e3	0.129		4.93	4.93	0.0984	0.9896		129.939	YES
24	29	L-MeFOSAA	570 > 419		9.77e2	0.129		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	9.77e2	0.129		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		7.15e3	0.129		5.26						
27	37	PFDoA	612.9 > 569.0		6.66e3	0.129		5.55						
28	60	13C2-PFDA	515.1 > 469.9	4.83e3	9.00e3	0.129	0.662	4.94	4.93	6.71	78.3641	81.1		
29	62	d3-N-MeFOSAA	573.3 > 419	9.77e2	1.11e4	0.129	0.129	5.09	5.08	1.10	65.6172	67.9		
30	62	d3-N-MeFOSAA	573.3 > 419	9.77e2	1.11e4	0.129	0.129	5.09	5.08	1.10	65.6172	67.9		
31	63	13C2-PFUdA	565 > 519.8	7.15e3	1.11e4	0.129	0.857	5.26	5.26	8.02	72.3044	74.8		
32	65	13C2-PFDoA	614.7 > 569.7	6.66e3	9.00e3	0.129	1.229	5.55	5.55	9.25	58.1591	60.2		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.04e3	0.129		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.04e3	0.129		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		6.66e3	0.129		5.80						

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-47.qld

Last Altered: Tuesday, July 16, 2019 09:39:06 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:41:29 Pacific Daylight Time

Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		2.71e3	0.129		6.02						
38	85	TDCA	498.3>106.9			0.129		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.04e3	1.11e4	0.129	0.147	5.24	5.25	1.16	60.9285	63.1		
40	64	d5-N-EtFOSAA	589.3 > 419	1.04e3	1.11e4	0.129	0.147	5.24	5.25	1.16	60.9285	63.1		
41	65	13C2-PFDoA	614.7 > 569.7	6.66e3	9.00e3	0.129	1.229	5.55	5.55	9.25	58.1591	60.2		
42	67	13C2-PFTeDA	715.1 > 669.7	2.71e3	1.11e4	0.129	0.511	6.02	6.02	3.05	46.0394	47.7		
43	59	13C8-PFOS	507.0 > 79.9	1.13e3	1.16e3	0.129	1.060	4.64	4.64	12.2	89.1384	92.3		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	8.41e3	8.41e3	0.129	1.000	2.96	2.96	12.5	96.5997	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.24e4	1.24e4	0.129	1.000	4.11	4.11	12.5	96.5997	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	5.31e2	5.31e2	0.129	1.000	3.74	3.74	12.5	96.5997	100.0		
48	76	13C9-PFNA	472.2 > 426.9	7.63e3	7.63e3	0.129	1.000	4.55	4.55	12.5	96.5997	100.0		
49	77	13C4-PFOS	503 > 79.9	1.16e3	1.16e3	0.129	1.000	4.64	4.64	12.5	96.5997	100.0		
50	78	13C6-PFDA	519.1 > 473.7	9.00e3	9.00e3	0.129	1.000	4.93	4.93	12.5	96.5997	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.11e4	1.11e4	0.129	1.000	5.26	5.26	12.5	96.5997	100.0		

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-47.qld

Last Altered: Tuesday, July 16, 2019 09:39:06 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:41:29 Pacific Daylight Time

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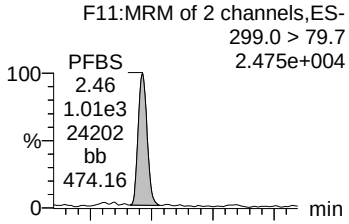
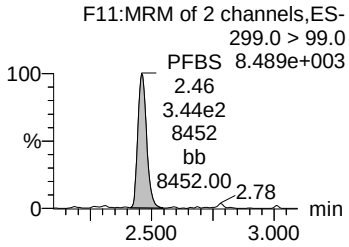
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

PFBS





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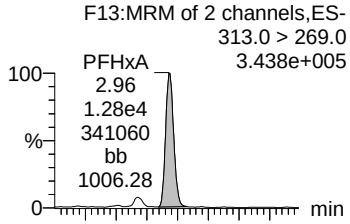

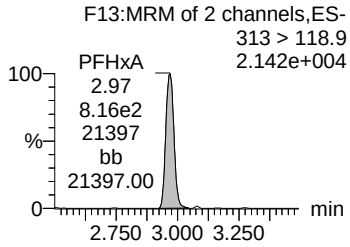

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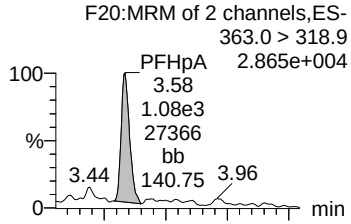

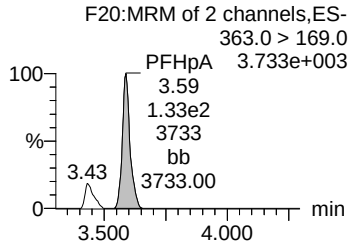

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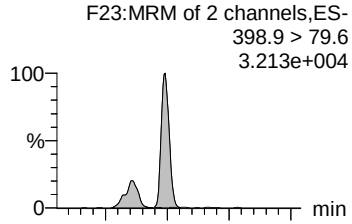

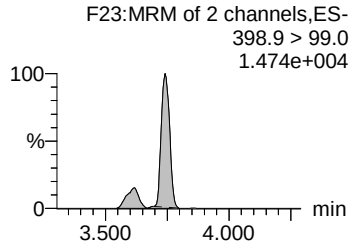

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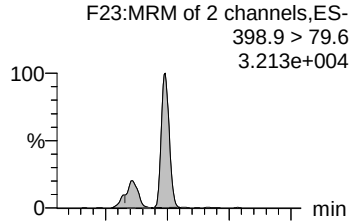
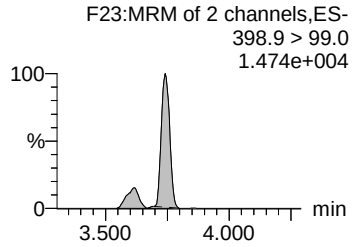
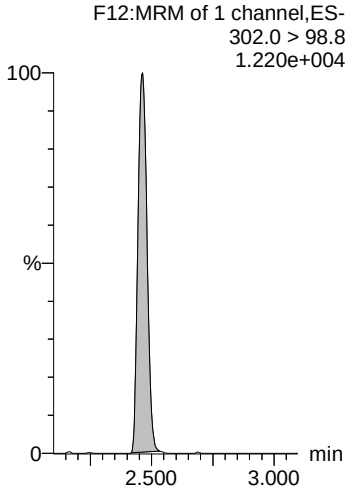




13C3-PFBS



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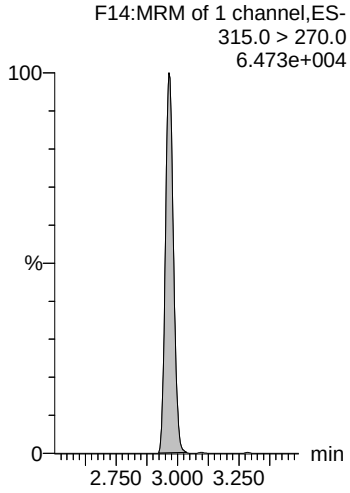

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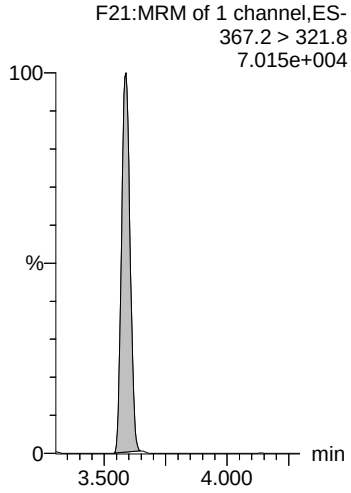

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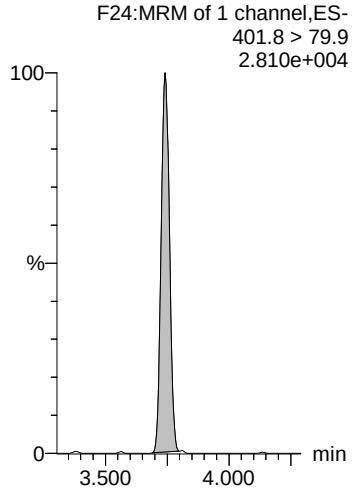

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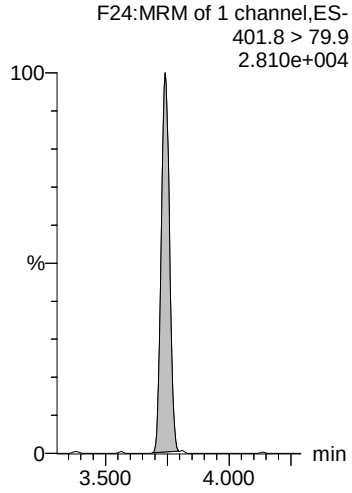


FBR 7/16/2019

Vista Analytical Laboratory L14

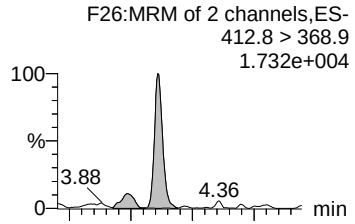
Review: AMR 7/16/2019

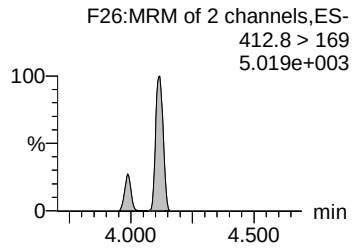
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-47.qld

Last Altered: Tuesday, July 16, 2019 09:39:06 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:41:29 Pacific Daylight Time

Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

L-PFOA





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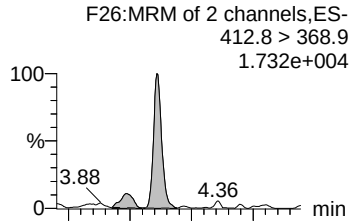

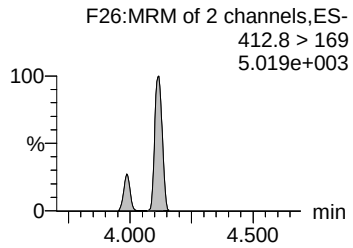

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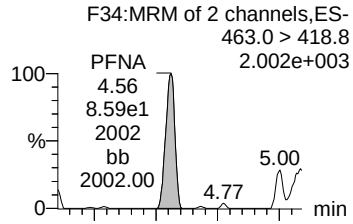
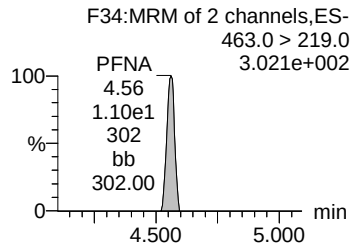
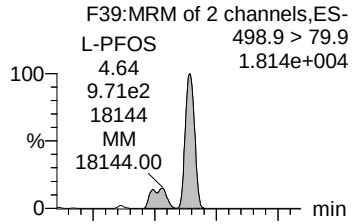
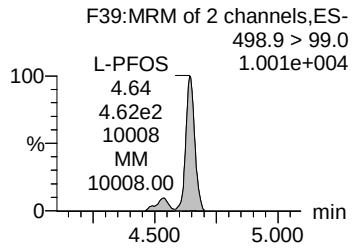




L-PFOS





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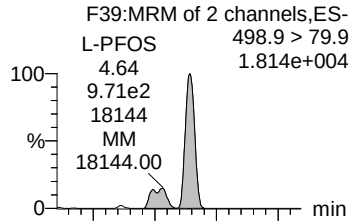

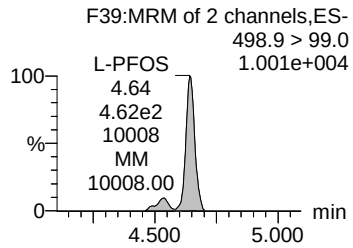

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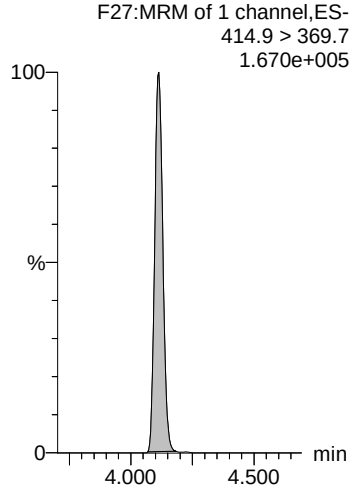

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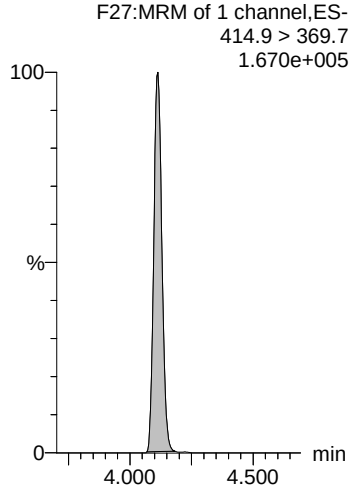

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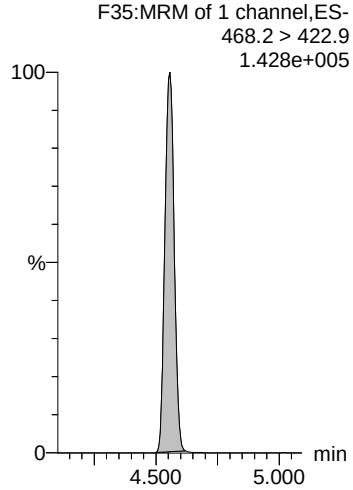
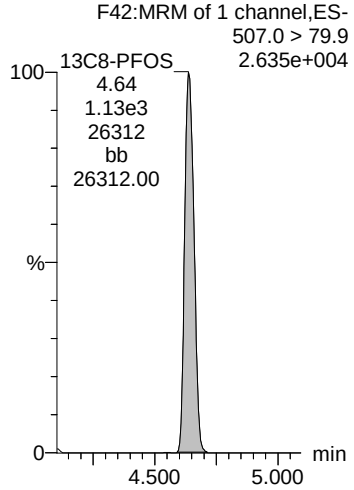
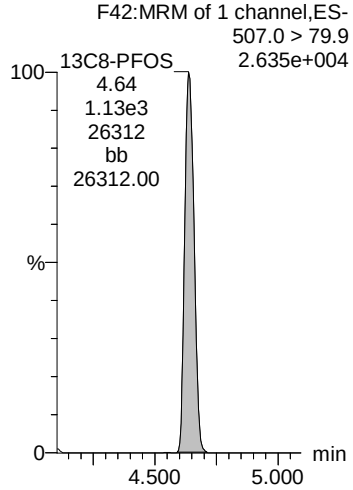


13C8-PFOS



13C8-PFOS



FBR 7/16/2019

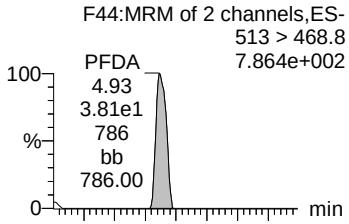
Review: AMR 7/16/2019

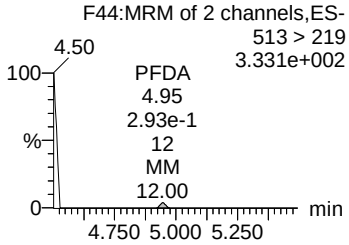
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-47.qld

Last Altered: Tuesday, July 16, 2019 09:39:06 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:41:29 Pacific Daylight Time

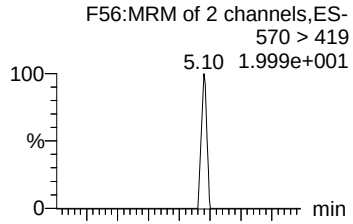
Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

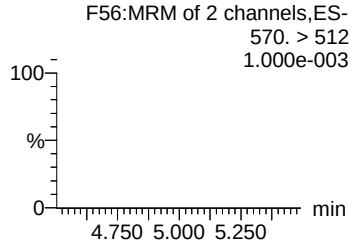
PFDA



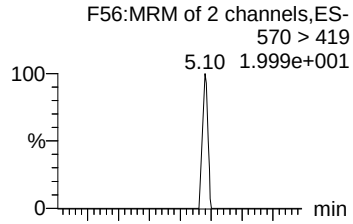


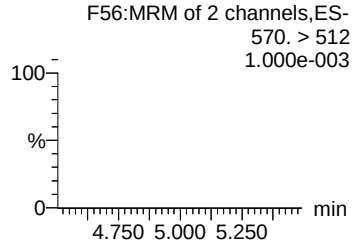
L-MeFOSAA



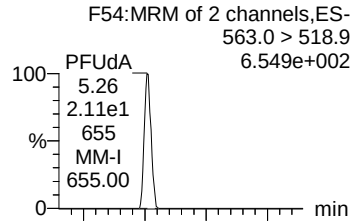


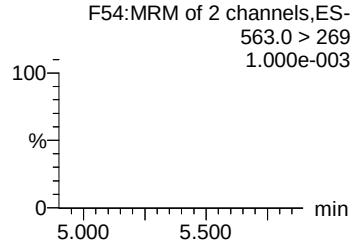
Total N-MeFOSAA



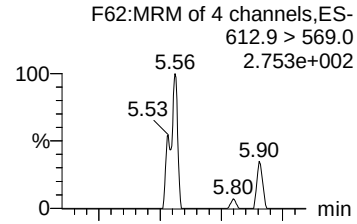


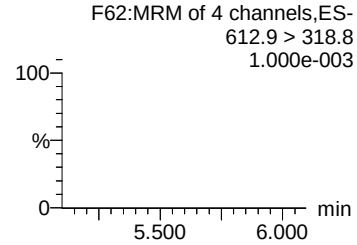
PFUdA



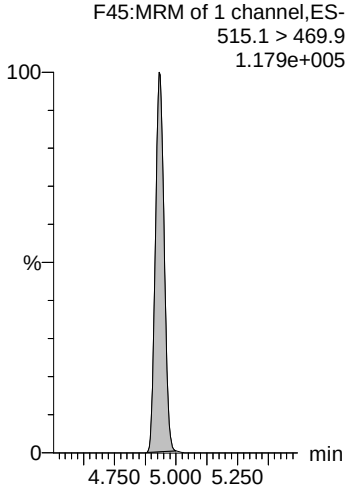


PFDoA

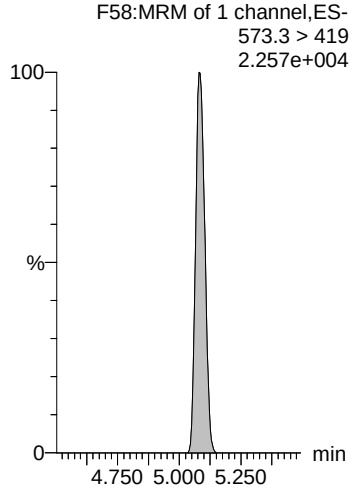




13C2-PFDA



d3-N-MeFOSAA



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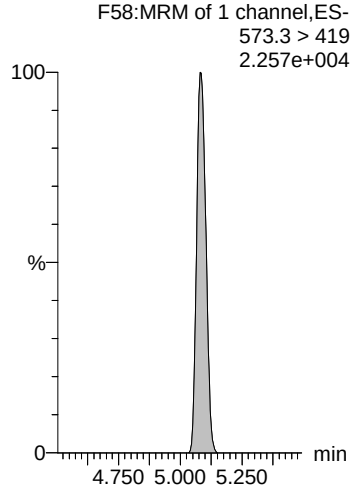
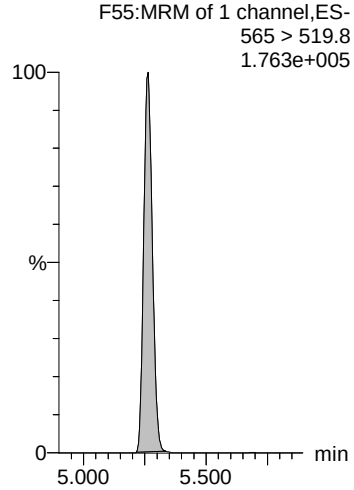
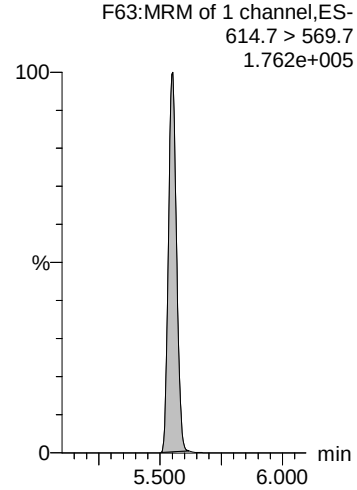


13C2-PFUdA



13C2-PFDoA



FBR 7/16/2019

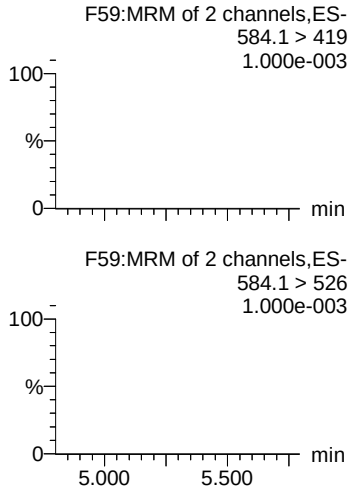
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-47.qld

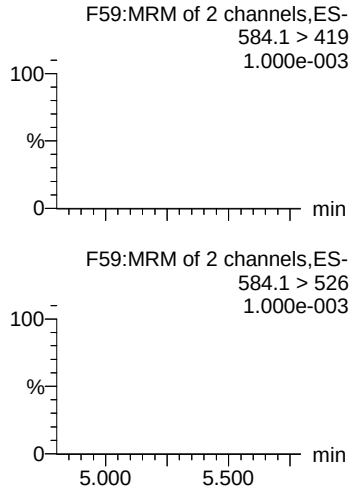
Last Altered: Tuesday, July 16, 2019 09:39:06 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:41:29 Pacific Daylight Time

Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

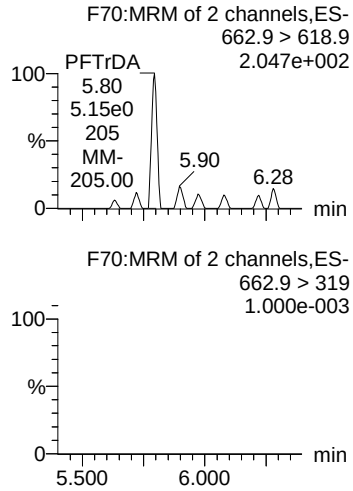
L-EtFOSAA



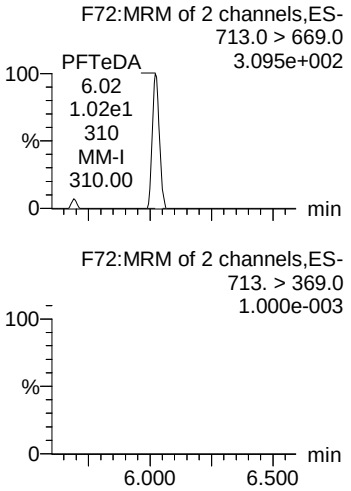
Total N-EtFOSAA



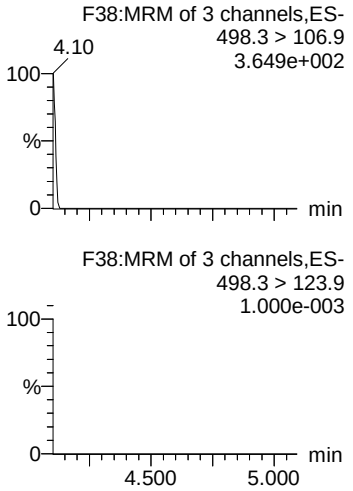
PFTrDA



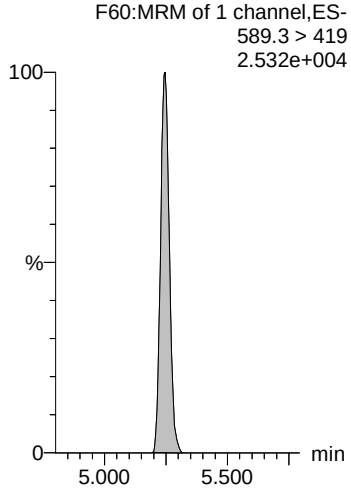
PFTeDA



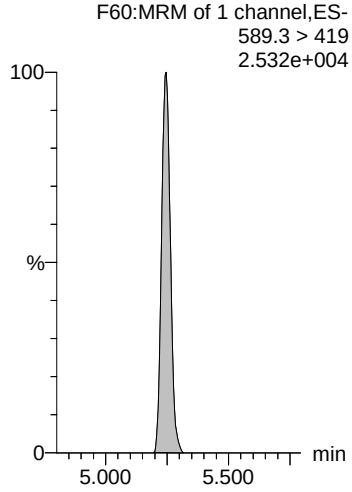
TDCA



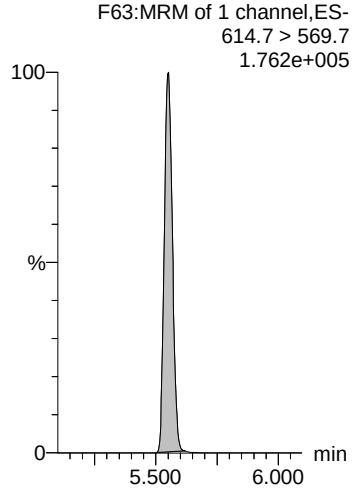
d5-N-EtFOSAA



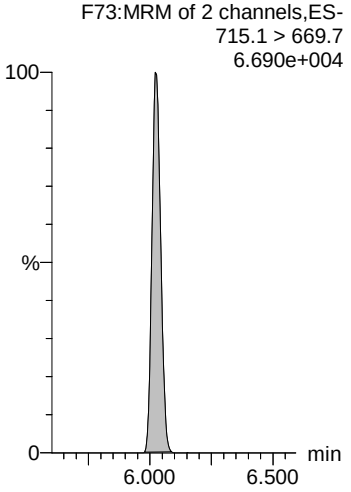
d5-N-EtFOSAA



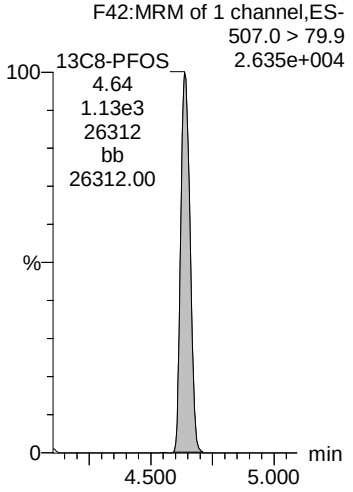
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



FBR 7/16/2019

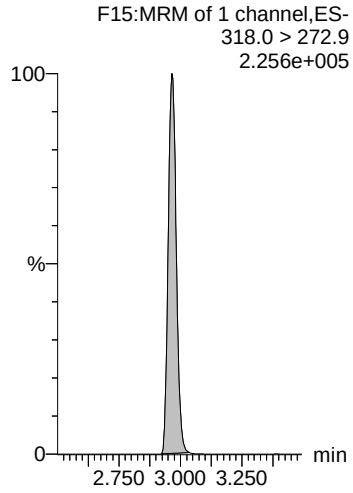
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-47.qld

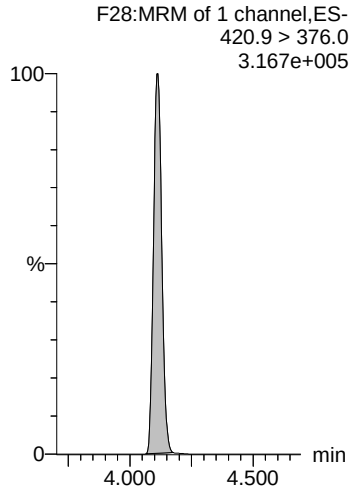
Last Altered: Tuesday, July 16, 2019 09:39:06 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:41:29 Pacific Daylight Time

Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

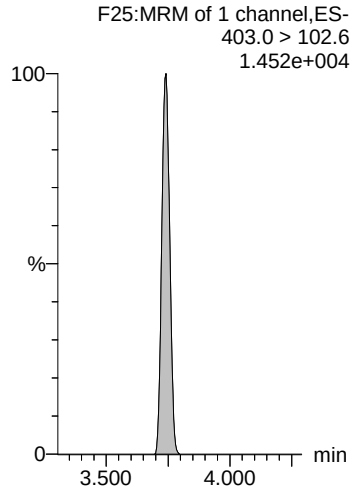
13C5-PFHxA



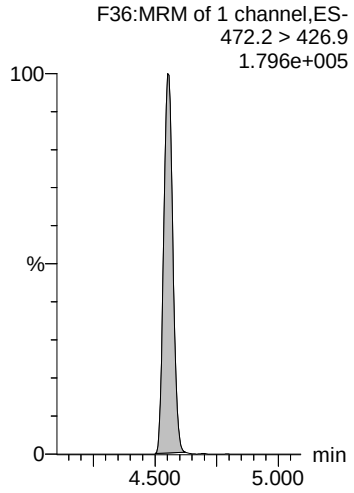
13C8-PFOA



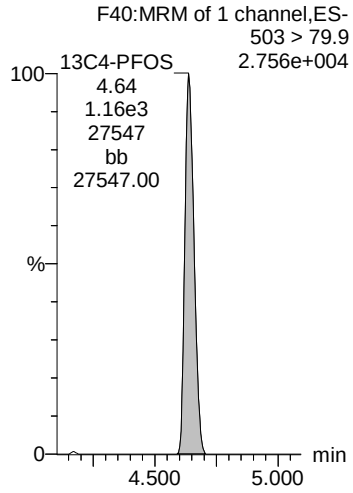
18O2-PFHxS



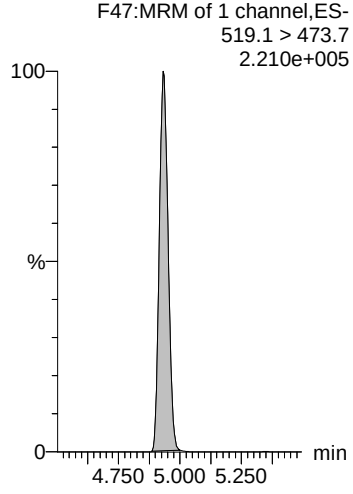
13C9-PFNA



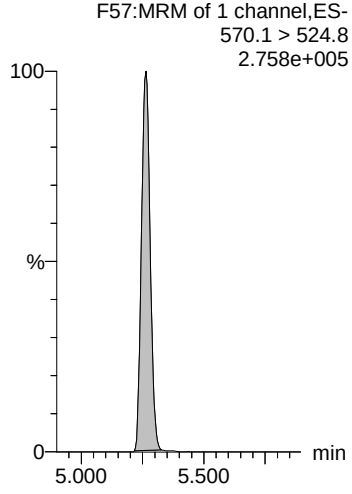
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-21.qld

Last Altered: Tuesday, July 16, 2019 10:24:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:27:25 Pacific Daylight Time

Name: 190712M2_21, Date: 12-Jul-2019, Time: 21:03:19, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	4.61e3	1.04e3	0.138		2.41	2.42	55.4	169.9128		2.799	NO
2	7	PFHxA	313.0 > 269.0	7.36e4	4.99e3	0.138		2.93	2.93	73.7	612.5460		15.400	NO
3	11	PFHpA	363.0 > 318.9	5.91e3	7.17e3	0.138		3.55	3.55	10.3	57.3440		12.767	NO
4	13	L-PFHxS	398.9 > 79.6	2.55e3	2.05e3	0.138		3.70	3.70	15.6	119.5761		2.292	NO
5	80	Total PFHxS	398.9 > 79.6	2.55e3	2.05e3	0.138		3.83		15.6	119.5761			
6	49	13C3-PFBS	302.0 > 98.8	1.04e3	1.07e3	0.138	1.073	2.41	2.41	12.2	82.5055	90.9		
7	52	13C2-PFHxA	315.0 > 270.0	4.99e3	1.39e4	0.138	1.009	2.92	2.93	4.48	32.2322	88.8		
8	53	13C4-PFHpA	367.2 > 321.8	7.17e3	1.39e4	0.138	0.512	3.54	3.55	6.43	91.2563	100.5		
9	54	13C3-PFHxS	401.8 > 79.9	2.05e3	1.07e3	0.138	2.197	3.70	3.70	24.0	79.2534	87.3		
10	54	13C3-PFHxS	401.8 > 79.9	2.05e3	1.07e3	0.138	2.197	3.70	3.70	24.0	79.2534	87.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	5.09e2	1.26e4	0.138		4.08	4.08	0.505	2.2967		3.727	NO
13	81	Total PFOA	412.8 > 368.9	5.09e2	1.26e4	0.138		4.21		0.505	2.2967			
14	21	PFNA	463.0 > 418.8	8.27e1	1.19e4	0.138		4.52	4.52	0.0872	0.6192		11.270	YES
15	23	L-PFOS	498.9 > 79.9	1.26e3	2.35e3	0.138		4.61	4.61	6.70	44.6558		2.211	NO
16	82	Total PFOS	498.9 > 79.9	1.26e3	2.35e3	0.138		4.74		6.70	44.6558			
17	58	13C2-PFOA	414.9 > 369.7	1.26e4	1.94e4	0.138	0.789	4.07	4.08	8.12	74.7110	82.3		
18	58	13C2-PFOA	414.9 > 369.7	1.26e4	1.94e4	0.138	0.789	4.07	4.08	8.12	74.7110	82.3		
19	56	13C5-PFNA	468.2 > 422.9	1.19e4	1.52e4	0.138	0.991	4.52	4.52	9.77	71.5821	78.8		
20	59	13C8-PFOS	507.0 > 79.9	2.35e3	2.87e3	0.138	1.017	4.60	4.61	10.2	73.1318	80.6		
21	59	13C8-PFOS	507.0 > 79.9	2.35e3	2.87e3	0.138	1.017	4.60	4.61	10.2	73.1318	80.6		
22	-1													
23	26	PFDA	513 > 468.8	1.35e2	9.88e3	0.138		4.90	4.90	0.170	0.6022		12.323	YES
24	29	L-MeFOSAA	570 > 419		1.68e3	0.138		5.05						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	1.68e3	0.138		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.29e4	0.138		5.23						
27	37	PFDoA	612.9 > 569.0		1.10e4	0.138		5.52						
28	60	13C2-PFDA	515.1 > 469.9	9.88e3	1.88e4	0.138	0.808	4.90	4.90	6.58	59.1427	65.1		
29	62	d3-N-MeFOSAA	573.3 > 419	1.68e3	2.04e4	0.138	0.140	5.05	5.05	1.03	53.5559	59.0		
30	62	d3-N-MeFOSAA	573.3 > 419	1.68e3	2.04e4	0.138	0.140	5.05	5.05	1.03	53.5559	59.0		
31	63	13C2-PFUdA	565 > 519.8	1.29e4	2.04e4	0.138	1.051	5.23	5.23	7.94	54.9090	60.5		
32	65	13C2-PFDoA	614.7 > 569.7	1.10e4	1.88e4	0.138	1.041	5.52	5.52	7.34	51.2030	56.4		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		2.06e3	0.138		5.21						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	2.06e3	0.138		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.10e4	0.138		5.77						

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-21.qld

Last Altered: Tuesday, July 16, 2019 10:24:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:27:25 Pacific Daylight Time

Name: 190712M2_21, Date: 12-Jul-2019, Time: 21:03:19, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		5.59e3	0.138		6.00						
38	85	TDCA	498.3>106.9			0.138		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	2.06e3	2.04e4	0.138	0.168	5.21	5.21	1.27	54.8594	60.4		
40	64	d5-N-EtFOSAA	589.3 > 419	2.06e3	2.04e4	0.138	0.168	5.21	5.21	1.27	54.8594	60.4		
41	65	13C2-PFDoA	614.7 > 569.7	1.10e4	1.88e4	0.138	1.041	5.52	5.52	7.34	51.2030	56.4		
42	67	13C2-PFTeDA	715.1 > 669.7	5.59e3	2.04e4	0.138	0.690	5.99	6.00	3.43	36.1560	39.8		
43	59	13C8-PFOS	507.0 > 79.9	2.35e3	2.87e3	0.138	1.017	4.60	4.61	10.2	73.1318	80.6		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.39e4	1.39e4	0.138	1.000	2.92	2.93	12.5	90.7902	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.94e4	1.94e4	0.138	1.000	4.07	4.07	12.5	90.7902	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.07e3	1.07e3	0.138	1.000	3.70	3.70	12.5	90.7902	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.52e4	1.52e4	0.138	1.000	4.52	4.52	12.5	90.7902	100.0		
49	77	13C4-PFOS	503 > 79.9	2.87e3	2.87e3	0.138	1.000	4.61	4.61	12.5	90.7902	100.0		
50	78	13C6-PFDA	519.1 > 473.7	1.88e4	1.88e4	0.138	1.000	4.89	4.90	12.5	90.7902	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.04e4	2.04e4	0.138	1.000	5.23	5.23	12.5	90.7902	100.0		

FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-21.qld

Last Altered: Tuesday, July 16, 2019 10:24:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:27:25 Pacific Daylight Time

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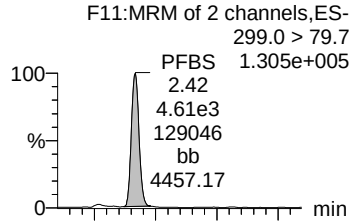
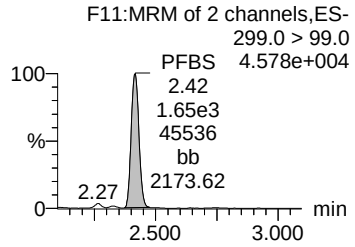
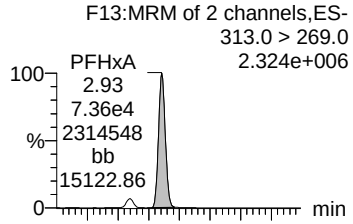
Name: 190712M2_21, Date: 12-Jul-2019, Time: 21:03:19, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

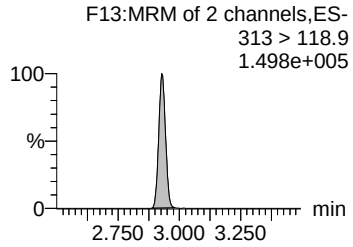
PFBS





PFHxA





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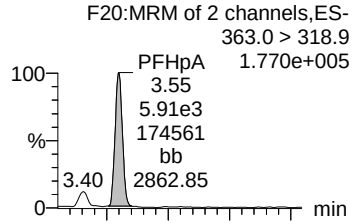

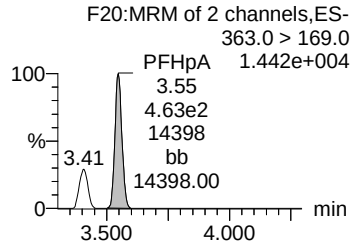

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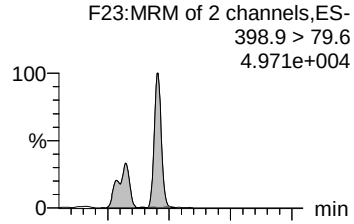

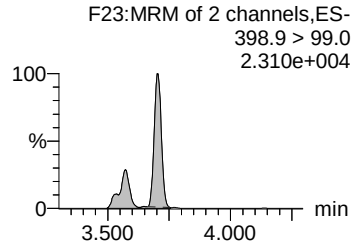

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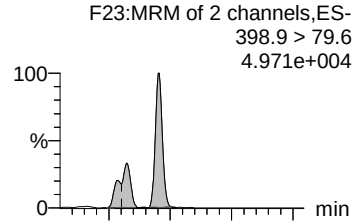

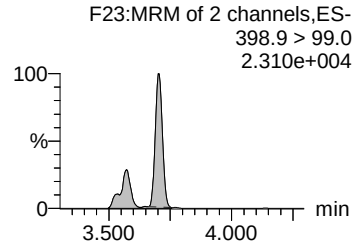

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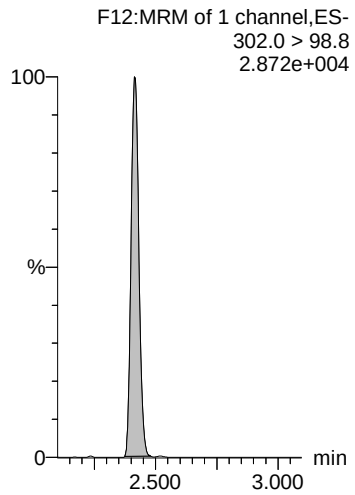

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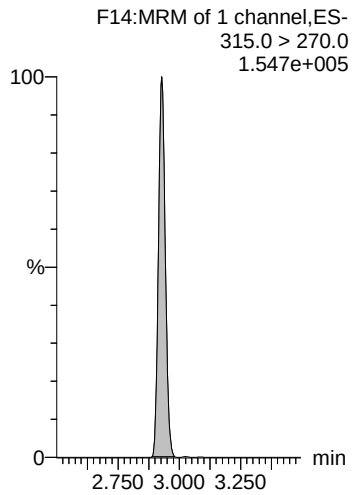

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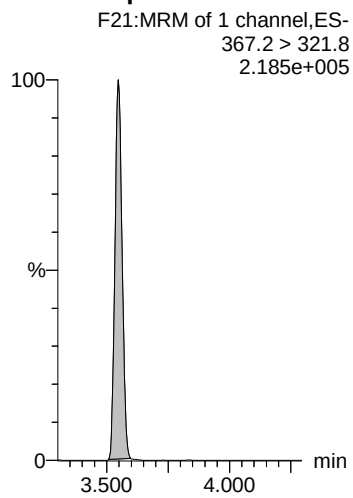

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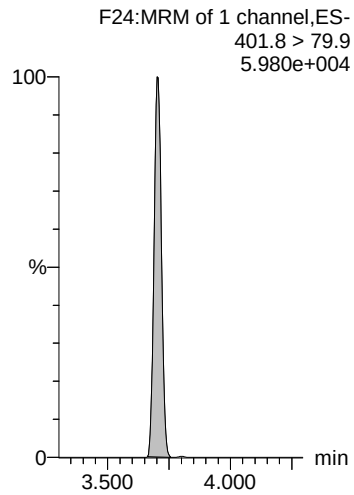

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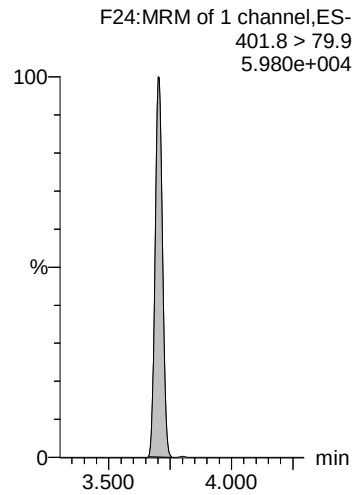


FBR 7/16/2019

Vista Analytical Laboratory L14

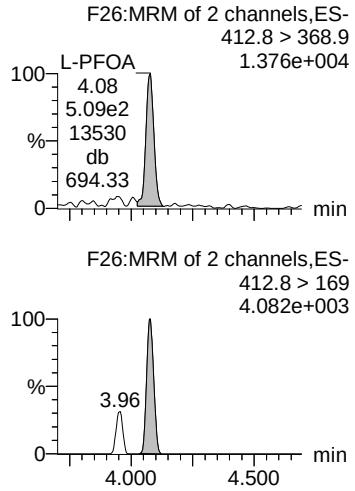
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-21.qld

Last Altered: Tuesday, July 16, 2019 10:24:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:27:25 Pacific Daylight Time

Name: 190712M2_21, Date: 12-Jul-2019, Time: 21:03:19, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

L-PFOA



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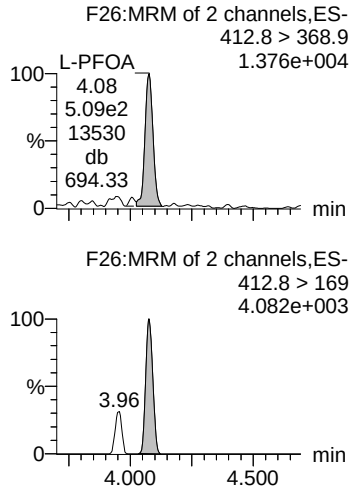

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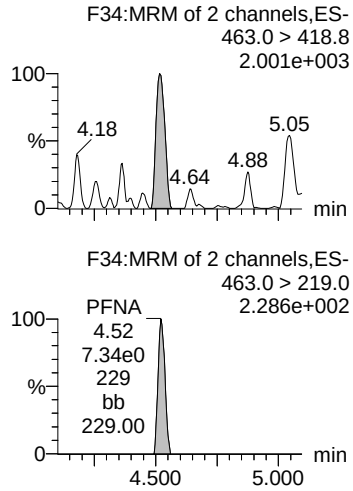

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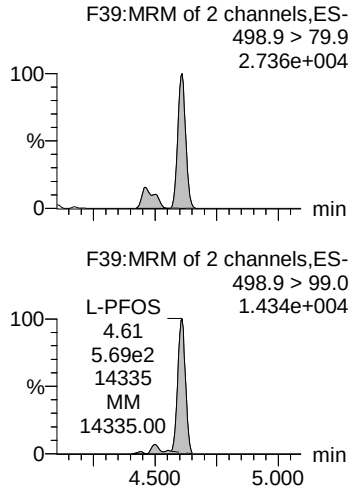

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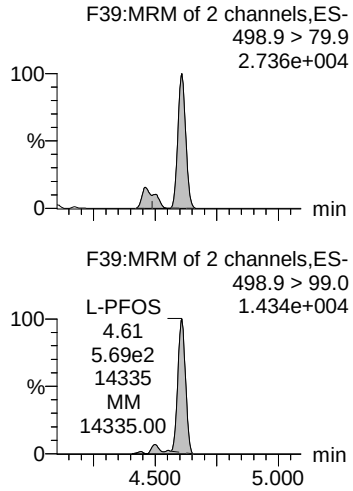

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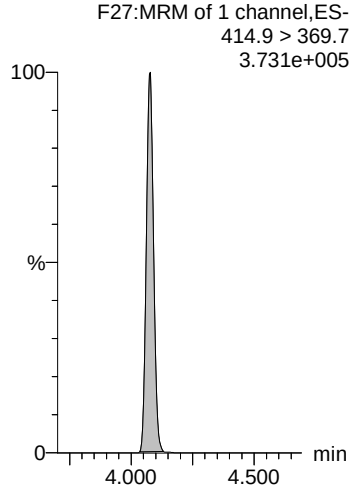

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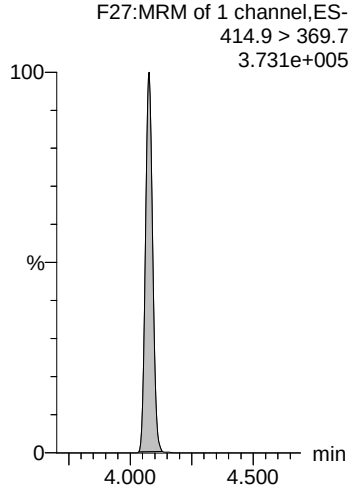

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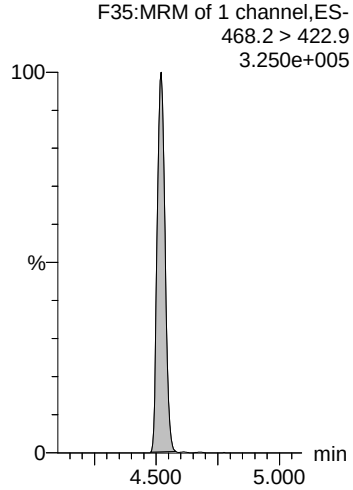

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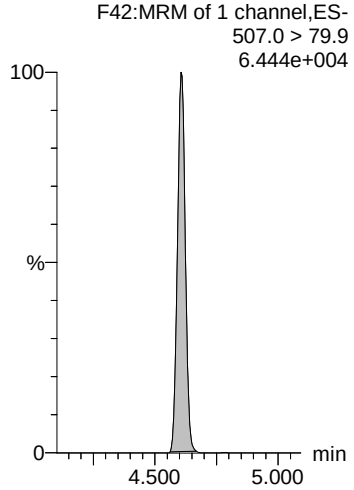

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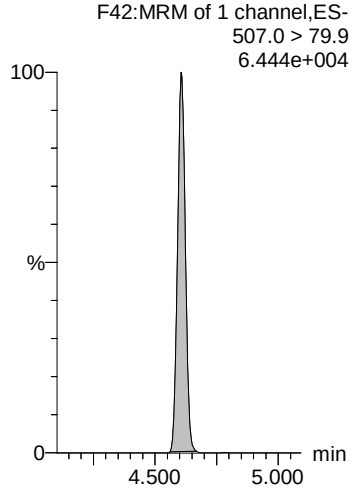

FBR 7/16/2019

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-21.qld

Last Altered: Tuesday, July 16, 2019 10:24:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:27:25 Pacific Daylight Time

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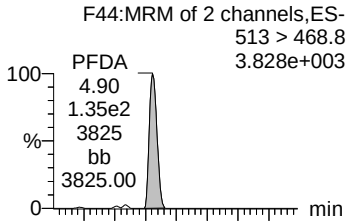

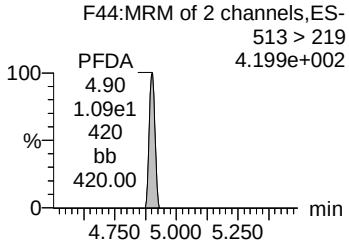

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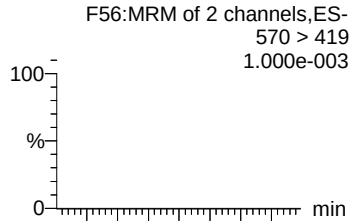

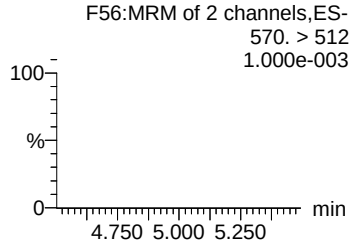

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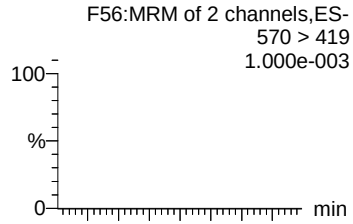

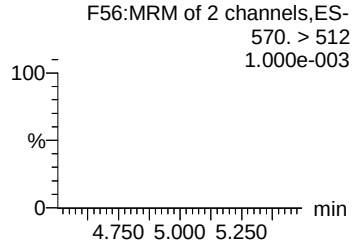

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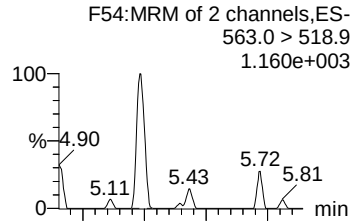

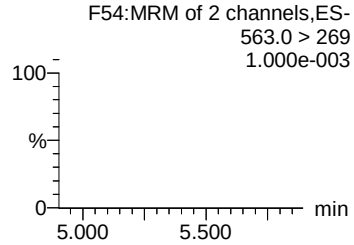

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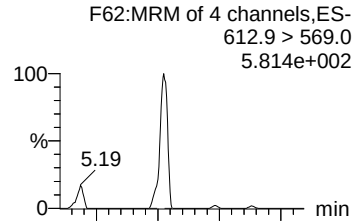

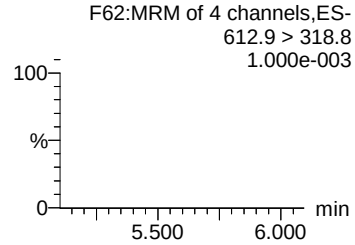

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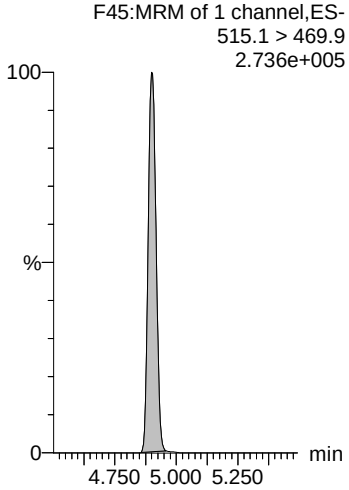

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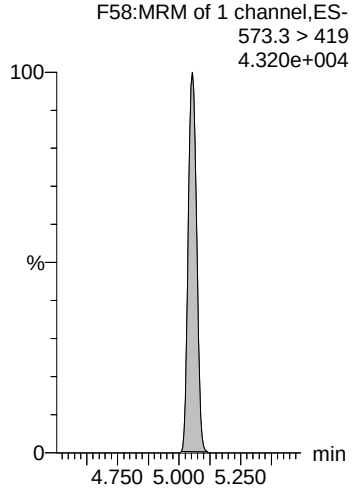

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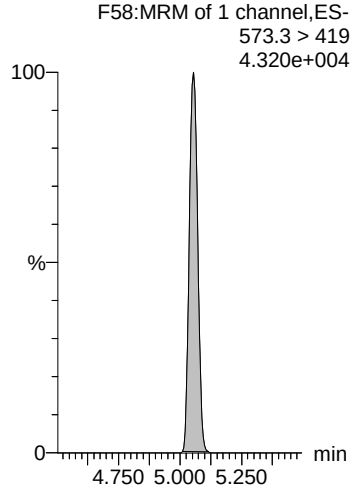

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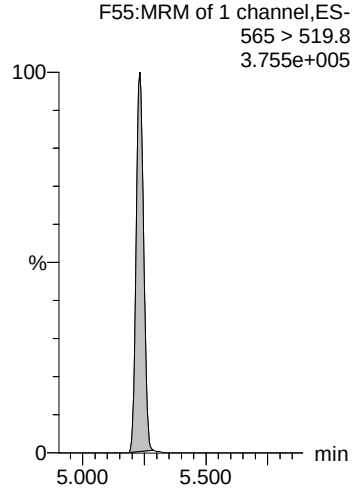

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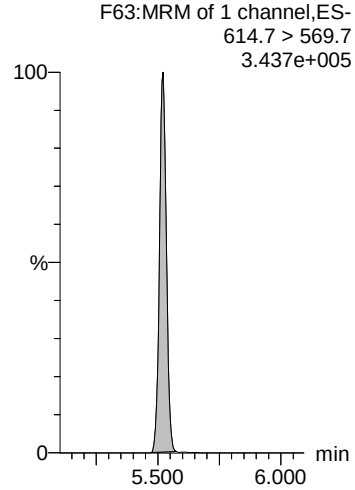

FBR 7/16/2019

Review: AMR 7/16/2019

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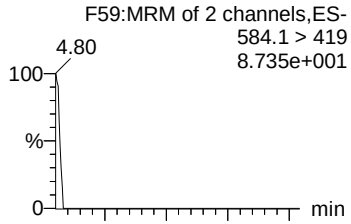
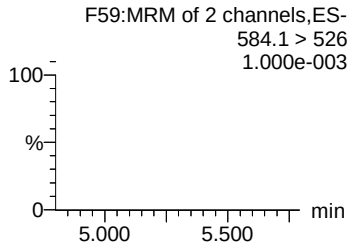
Printed: Tuesday, July 16, 2019 10:27:25 Pacific Daylight Time

Name: 190712M2_21, Date: 12-Jul-2019, Time: 21:03:19, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

L-EtFOSAA





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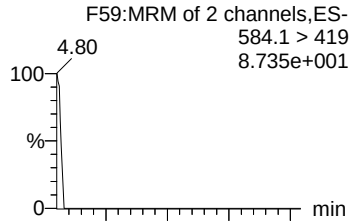

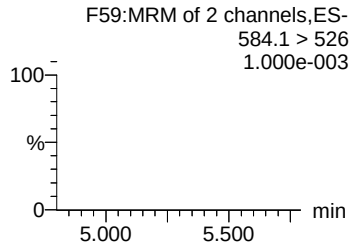

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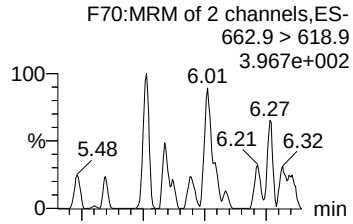

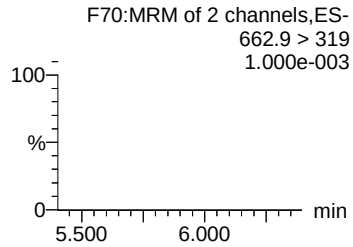

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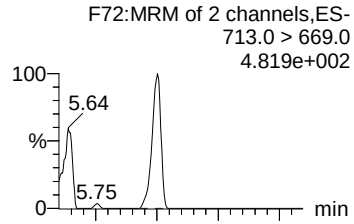

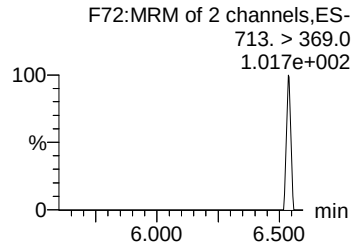

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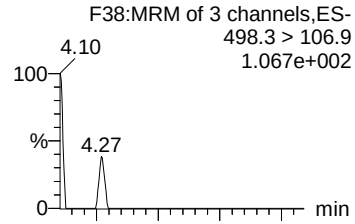
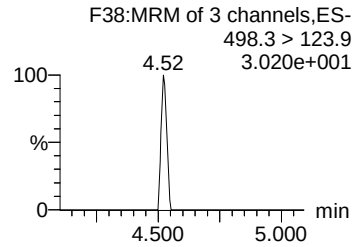
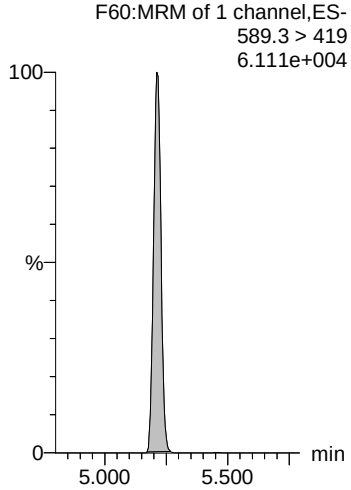
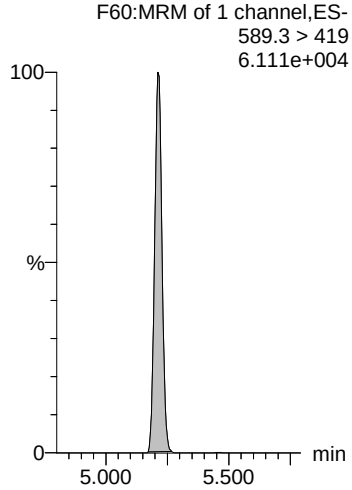




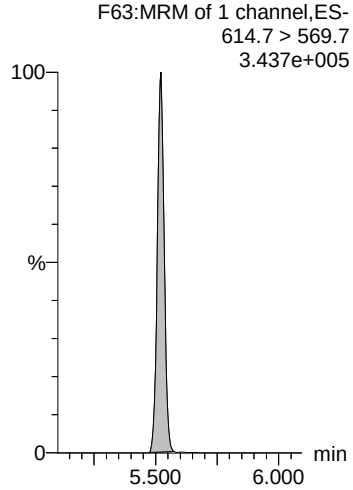
d5-N-EtFOSAA



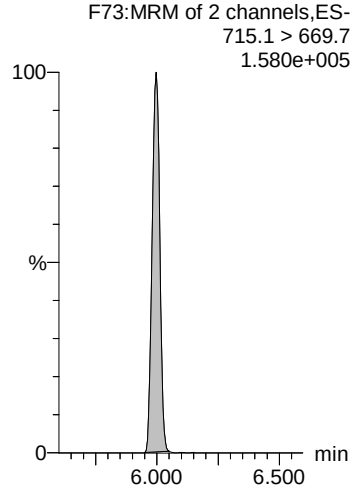
d5-N-EtFOSAA



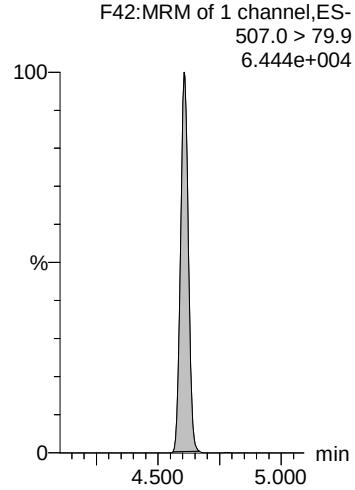
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



FBR 7/16/2019

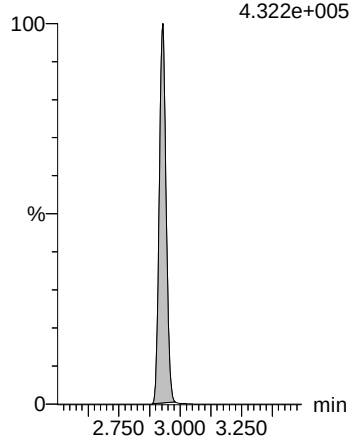
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190712M2\190712M2-21.qld

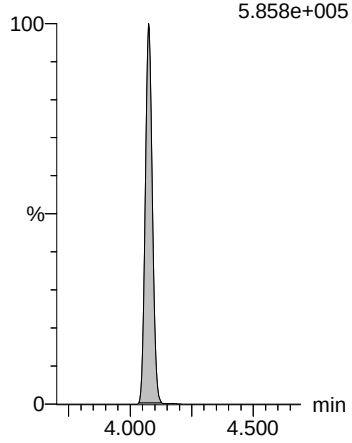
Last Altered: Tuesday, July 16, 2019 10:24:37 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 10:27:25 Pacific Daylight Time

Name: 190712M2_21, Date: 12-Jul-2019, Time: 21:03:19, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

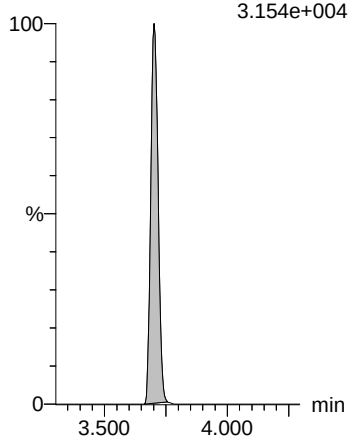
13C5-PFHxA



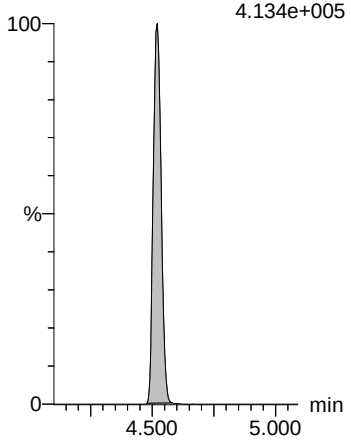
13C8-PFOA



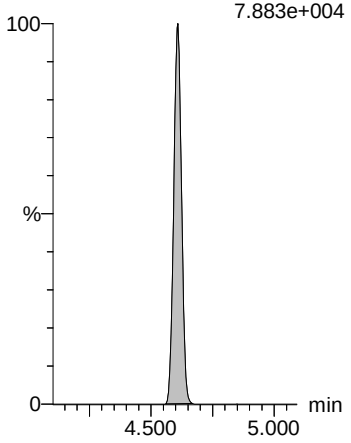
18O2-PFHxS



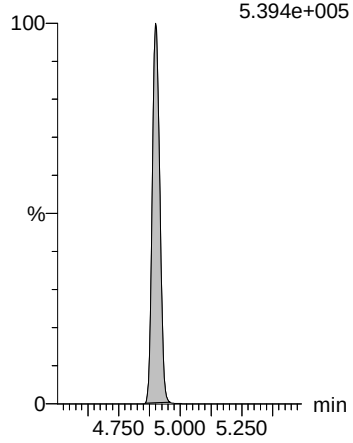
13C9-PFNA



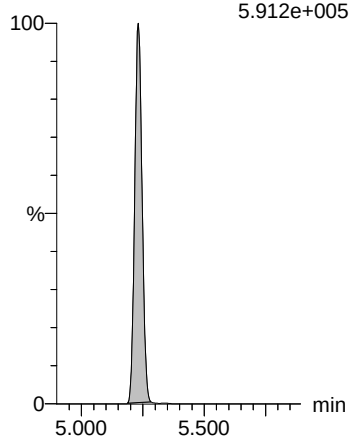
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-52.qld

Last Altered: Tuesday, July 16, 2019 09:51:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:53:43 Pacific Daylight Time

Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7		5.10e2	0.116		2.46						
2	7	PFHxA	313.0 > 269.0		2.36e3	0.116		2.97						
3	11	PFHpA	363.0 > 318.9		2.72e3	0.116		3.59						
4	13	L-PFHxS	398.9 > 79.6		1.10e3	0.116		3.75						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	1.10e3	0.116		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	5.10e2	4.44e2	0.116	1.035	2.46	2.46	14.4	119.0605	110.9		
7	52	13C2-PFHxA	315.0 > 270.0	2.36e3	8.13e3	0.116	0.792	2.96	2.97	3.62	39.2589	91.4		
8	53	13C4-PFHpA	367.2 > 321.8	2.72e3	8.13e3	0.116	0.391	3.58	3.59	4.18	91.8841	85.6		
9	54	13C3-PFHxS	401.8 > 79.9	1.10e3	4.44e2	0.116	2.547	3.74	3.75	31.0	104.4634	97.3		
10	54	13C3-PFHxS	401.8 > 79.9	1.10e3	4.44e2	0.116	2.547	3.74	3.75	31.0	104.4634	97.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	4.31e1	5.98e3	0.116		4.11	4.11	0.0901	0.2397		10.771	YES
13	81	Total PFOA	412.8 > 368.9	4.31e1	5.98e3	0.116		4.21		0.0901	0.2397			
14	21	PFNA	463.0 > 418.8		5.98e3	0.116		4.56						
15	23	L-PFOS	498.9 > 79.9	1.89e0	1.07e3	0.116		4.64	4.64	0.0220	1.3337		0.698	YES
16	82	Total PFOS	498.9 > 79.9	1.89e0	1.07e3	0.116		4.74		0.0220	1.3337			
17	58	13C2-PFOA	414.9 > 369.7	5.98e3	1.14e4	0.116	0.564	4.11	4.11	6.58	100.1323	93.3		
18	58	13C2-PFOA	414.9 > 369.7	5.98e3	1.14e4	0.116	0.564	4.11	4.11	6.58	100.1323	93.3		
19	56	13C5-PFNA	468.2 > 422.9	5.98e3	6.65e3	0.116	0.983	4.56	4.56	11.2	98.2218	91.5		
20	59	13C8-PFOS	507.0 > 79.9	1.07e3	1.20e3	0.116	1.060	4.64	4.64	11.2	90.6741	84.5		
21	59	13C8-PFOS	507.0 > 79.9	1.07e3	1.20e3	0.116	1.060	4.64	4.64	11.2	90.6741	84.5		
22	-1													
23	26	PFDA	513 > 468.8		4.81e3	0.116		4.94						
24	29	L-MeFOSAA	570 > 419		8.43e2	0.116		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	8.43e2	0.116		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		7.13e3	0.116		5.26						
27	37	PFDoA	612.9 > 569.0		8.01e3	0.116		5.55						
28	60	13C2-PFDA	515.1 > 469.9	4.81e3	8.40e3	0.116	0.662	4.94	4.94	7.15	92.7032	86.4		
29	62	d3-N-MeFOSAA	573.3 > 419	8.43e2	1.00e4	0.116	0.129	5.09	5.08	1.05	69.9132	65.1		
30	62	d3-N-MeFOSAA	573.3 > 419	8.43e2	1.00e4	0.116	0.129	5.09	5.08	1.05	69.9132	65.1		
31	63	13C2-PFUdA	565 > 519.8	7.13e3	1.00e4	0.116	0.857	5.26	5.26	8.89	89.0354	82.9		
32	65	13C2-PFDoA	614.7 > 569.7	8.01e3	8.40e3	0.116	1.229	5.55	5.55	11.9	83.2125	77.5		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		1.08e3	0.116		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	1.08e3	0.116		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		8.01e3	0.116		5.81						

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Vista Analytical Laboratory L14

Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-52.qld

Last Altered: Tuesday, July 16, 2019 09:51:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:53:43 Pacific Daylight Time

Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	41	PFTeDA	713.0 > 669.0		4.46e3	0.116		6.03						
38	85	TDCA	498.3>106.9			0.116		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	1.08e3	1.00e4	0.116	0.147	5.24	5.25	1.35	78.7451	73.4		
40	64	d5-N-EtFOSAA	589.3 > 419	1.08e3	1.00e4	0.116	0.147	5.24	5.25	1.35	78.7451	73.4		
41	65	13C2-PFDoA	614.7 > 569.7	8.01e3	8.40e3	0.116	1.229	5.55	5.55	11.9	83.2125	77.5		
42	67	13C2-PFTeDA	715.1 > 669.7	4.46e3	1.00e4	0.116	0.511	6.02	6.03	5.56	93.3241	86.9		
43	59	13C8-PFOS	507.0 > 79.9	1.07e3	1.20e3	0.116	1.060	4.64	4.64	11.2	90.6741	84.5		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	8.13e3	8.13e3	0.116	1.000	2.96	2.97	12.5	107.3514	100.0		
46	75	13C8-PFOA	420.9 > 376.0	1.14e4	1.14e4	0.116	1.000	4.11	4.11	12.5	107.3514	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	4.44e2	4.44e2	0.116	1.000	3.74	3.75	12.5	107.3514	100.0		
48	76	13C9-PFNA	472.2 > 426.9	6.65e3	6.65e3	0.116	1.000	4.55	4.56	12.5	107.3514	100.0		
49	77	13C4-PFOS	503 > 79.9	1.20e3	1.20e3	0.116	1.000	4.64	4.64	12.5	107.3514	100.0		
50	78	13C6-PFDA	519.1 > 473.7	8.40e3	8.40e3	0.116	1.000	4.93	4.94	12.5	107.3514	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	1.00e4	1.00e4	0.116	1.000	5.26	5.26	12.5	107.3514	100.0		

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Vista Analytical Laboratory L14

Review: AMR 7/16/2019

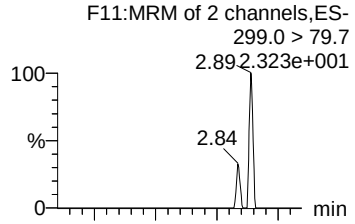
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-52.qld

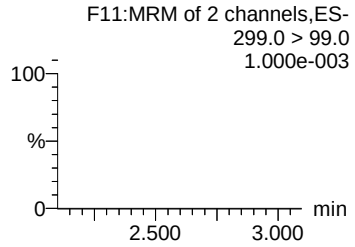
Last Altered: Tuesday, July 16, 2019 09:51:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:53:43 Pacific Daylight Time

Method: Z:\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: Z:\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

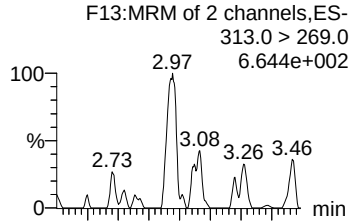
Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

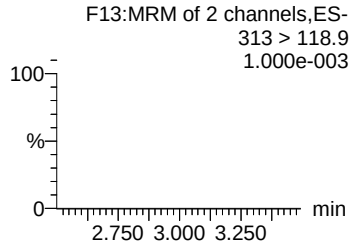
PFBS



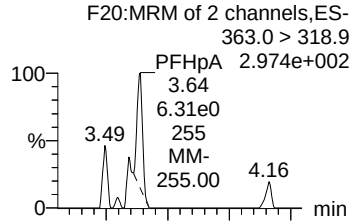


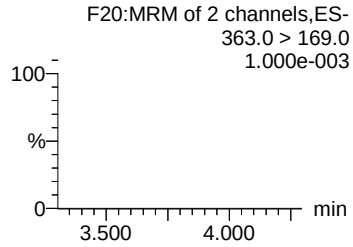
PFHxA



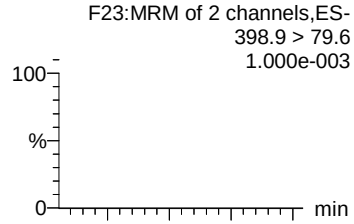


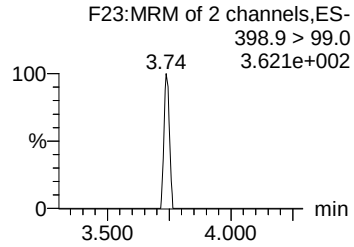
PFHpA



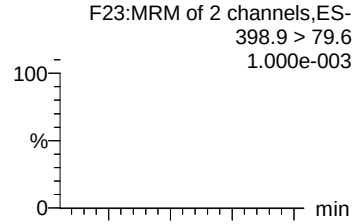


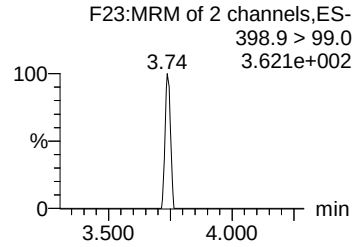
L-PFHxS



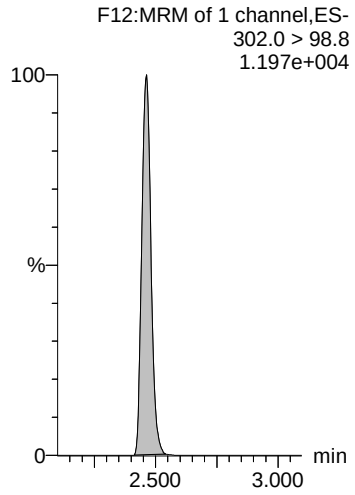


Total PFHxS

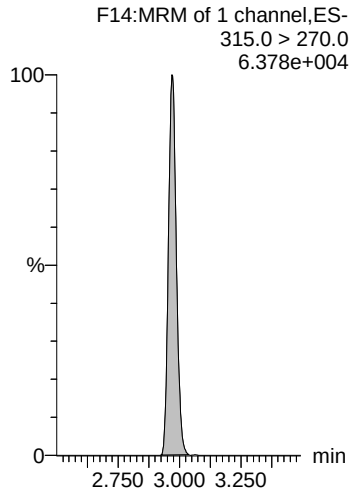




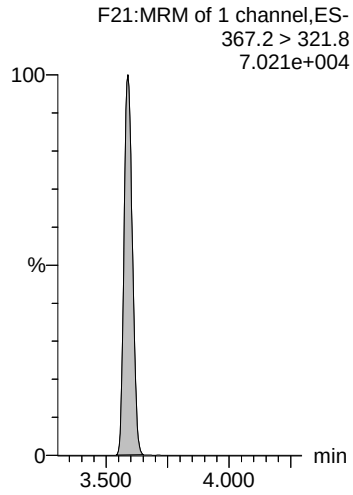
13C3-PFBS



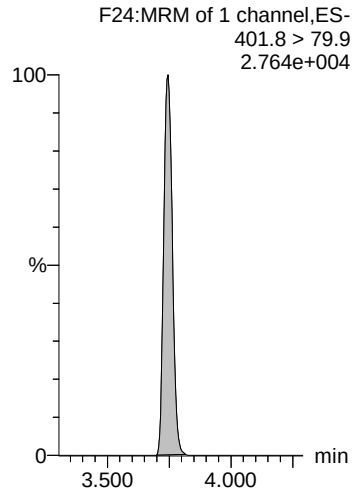
13C2-PFHxA



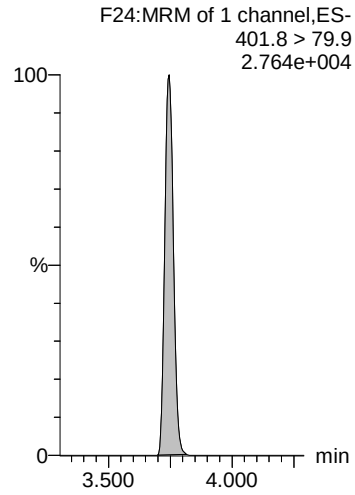
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



FBR 7/16/2019

Vista Analytical Laboratory L14

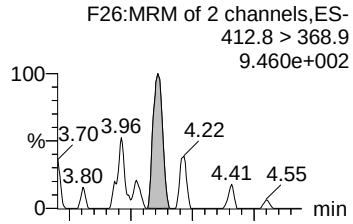
Review: AMR 7/16/2019

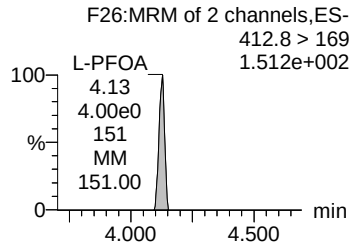
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-52.qld

Last Altered: Tuesday, July 16, 2019 09:51:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:53:43 Pacific Daylight Time

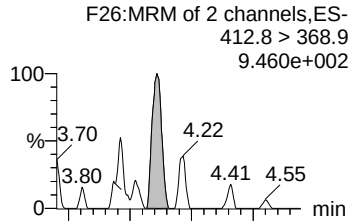
Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

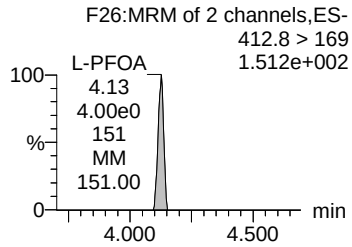
L-PFOA



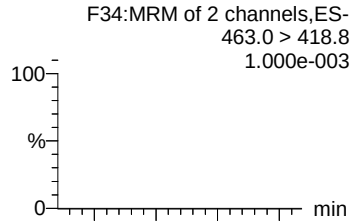


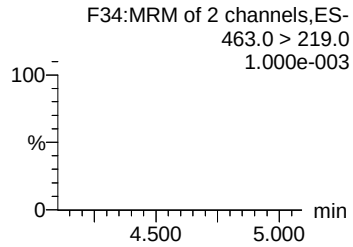
Total PFOA



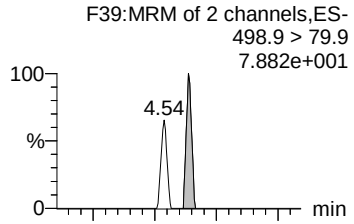


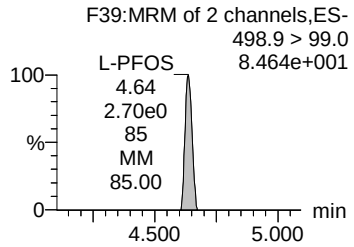
PFNA



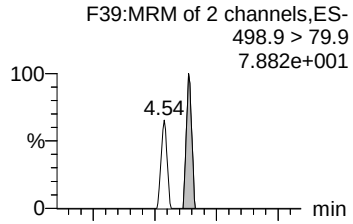


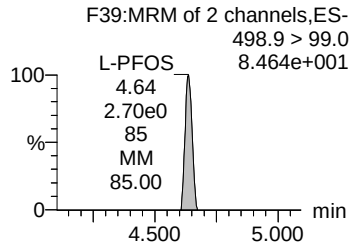
L-PFOS



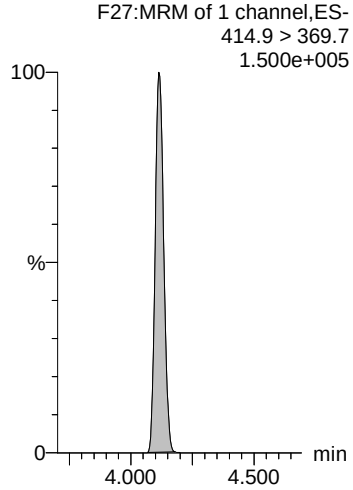


Total PFOS





13C2-PFOA



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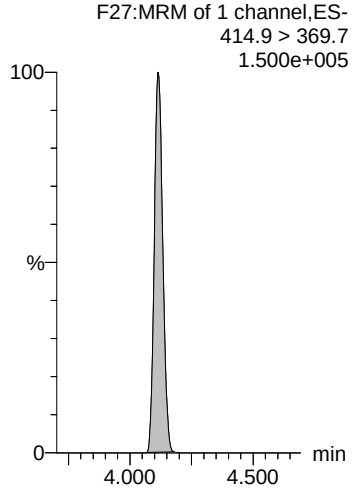

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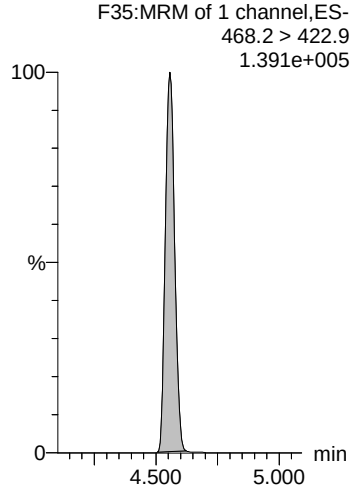
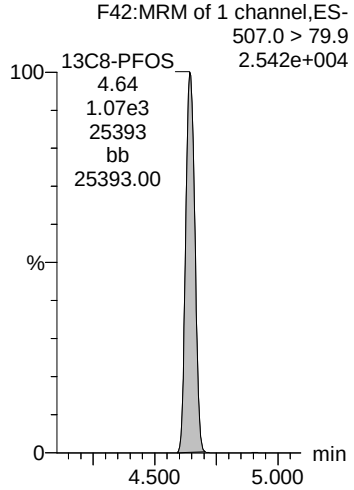
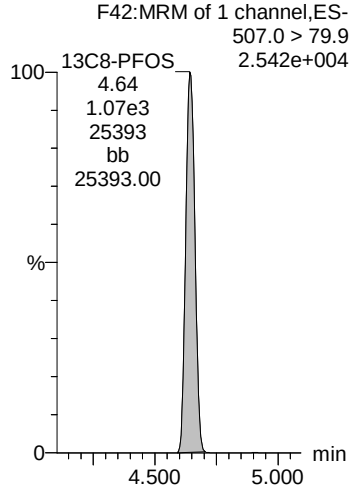


13C8-PFOS



13C8-PFOS



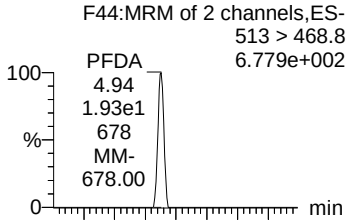
FBR 7/16/2019

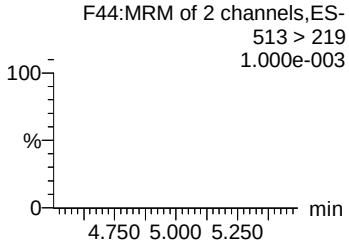
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-52.qld

Last Altered: Tuesday, July 16, 2019 09:51:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:53:43 Pacific Daylight Time

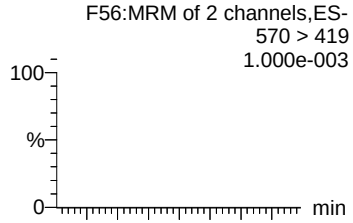
Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

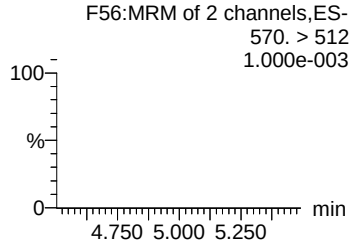
PFDA





L-MeFOSAA





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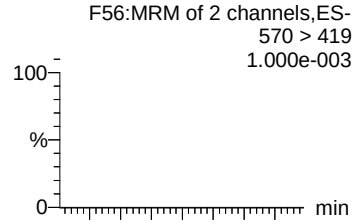
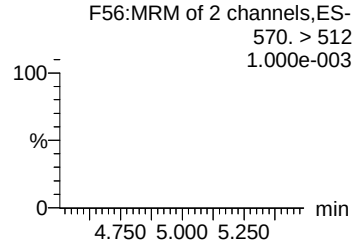
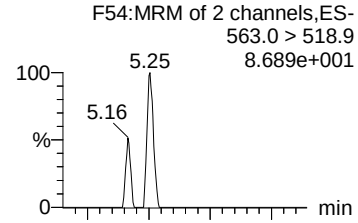
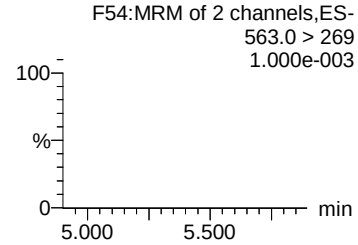


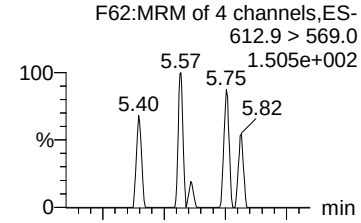


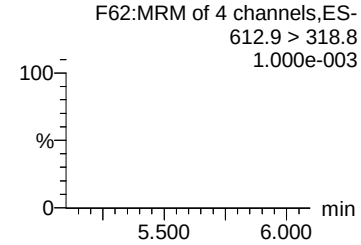
PFUdA



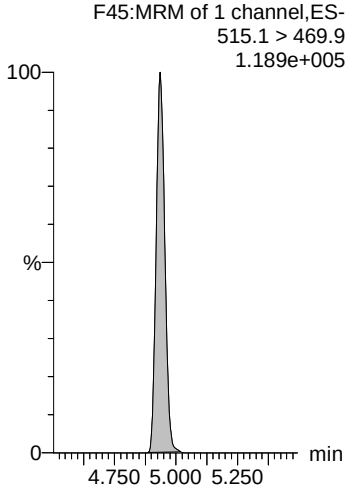


PFDoA

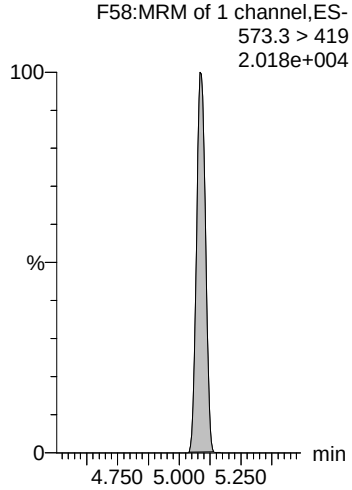




13C2-PFDA



d3-N-MeFOSAA



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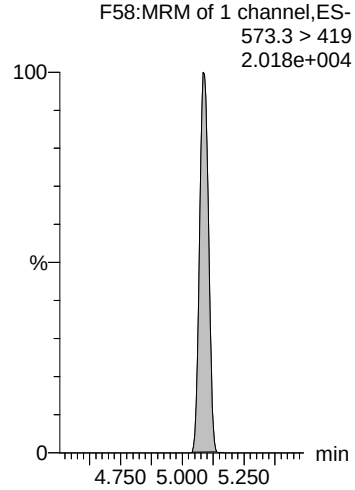
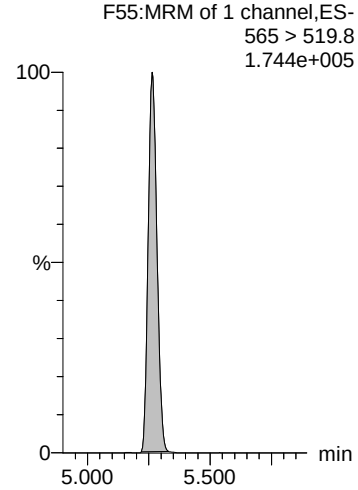


13C2-PFUdA



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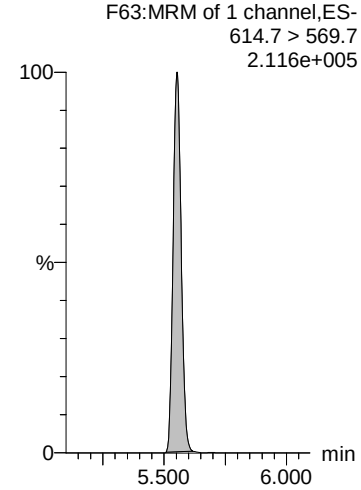


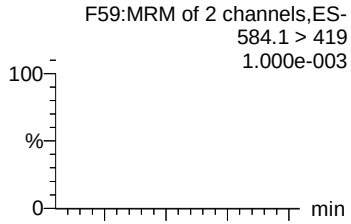
Review: AMR 7/16/2019

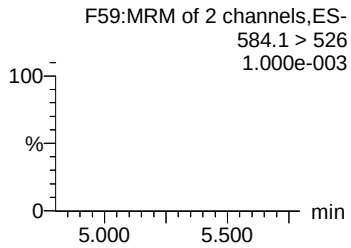
Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-52.qld

Last Altered: Tuesday, July 16, 2019 09:51:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:53:43 Pacific Daylight Time

Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

L-EtFOSAA





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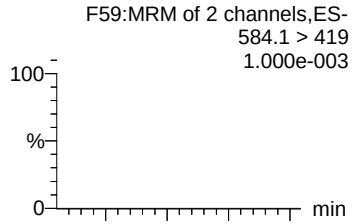
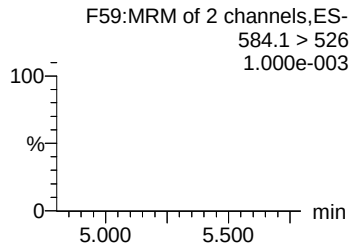
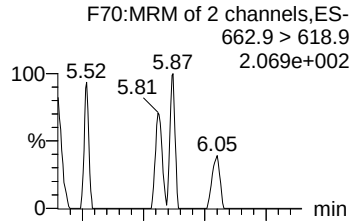
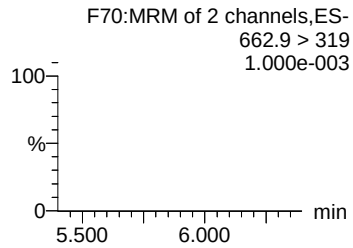


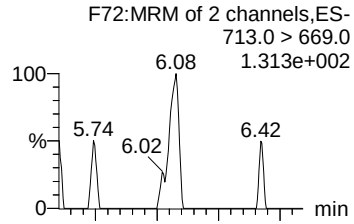


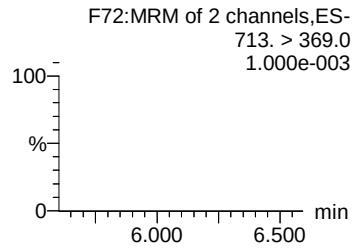
PFTrDA



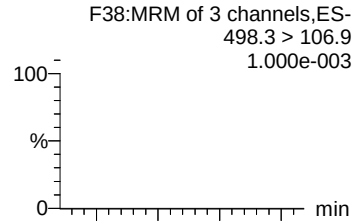


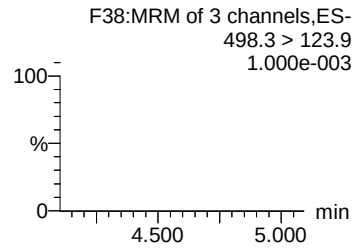
PFTeDA



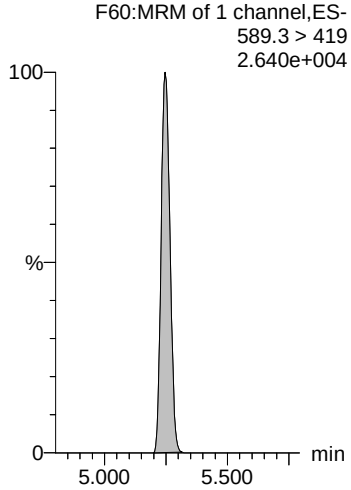


TDCA

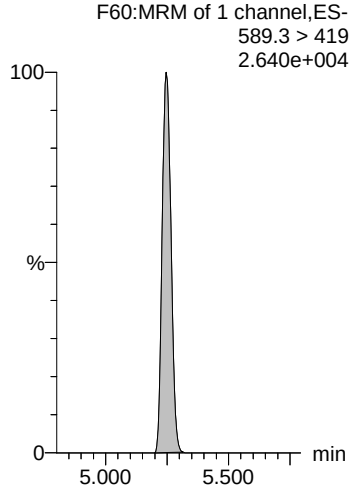




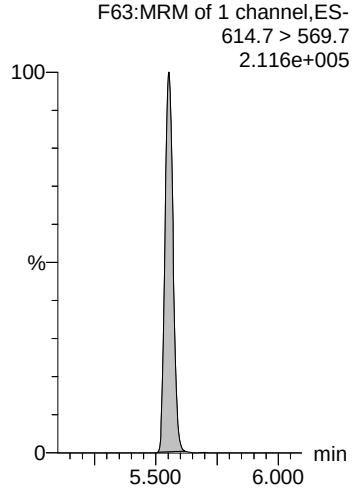
d5-N-EtFOSAA



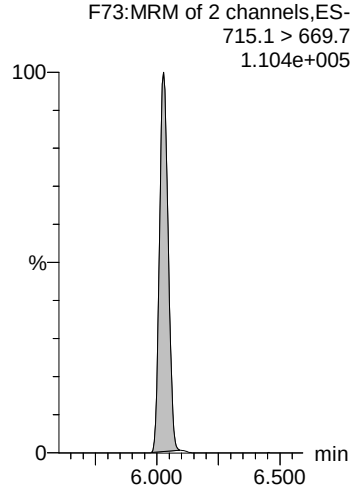
d5-N-EtFOSAA



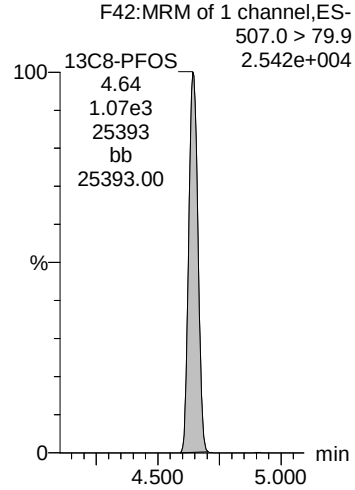
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



FBR 7/16/2019

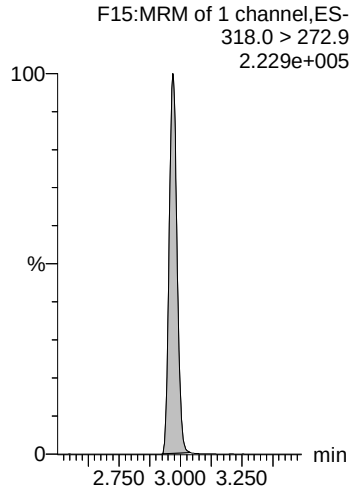
Review: AMR 7/16/2019

Dataset: Z:\PFAS.PRO\Results\190711M3\190711M3-52.qld

Last Altered: Tuesday, July 16, 2019 09:51:39 Pacific Daylight Time
Printed: Tuesday, July 16, 2019 09:53:43 Pacific Daylight Time

Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

13C5-PFHxA



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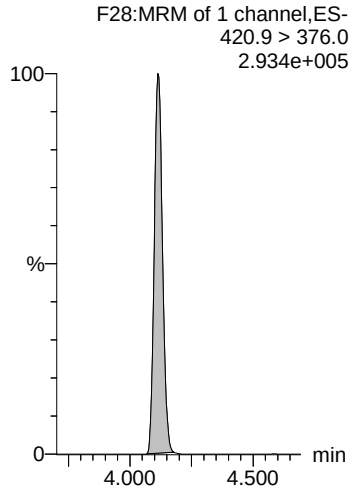
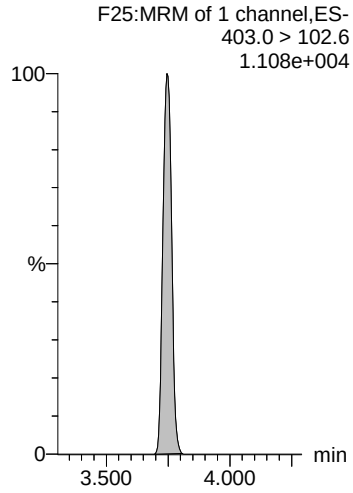


18O2-PFHxS



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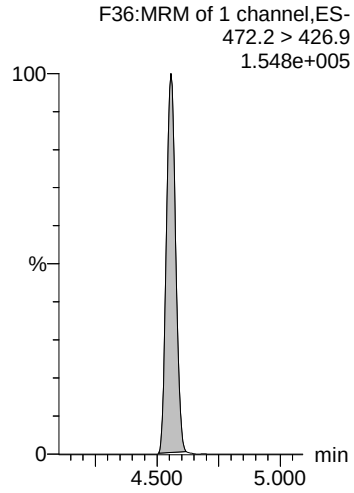

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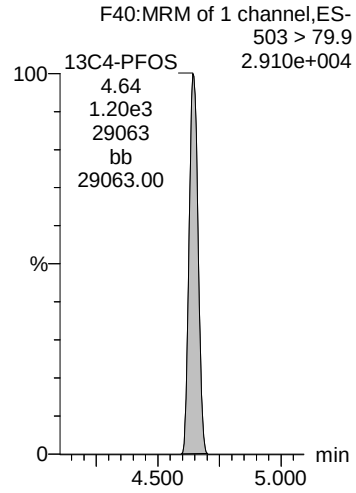
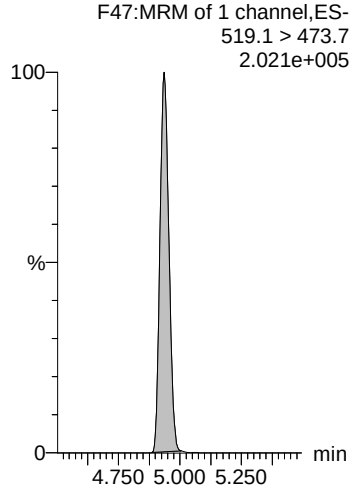
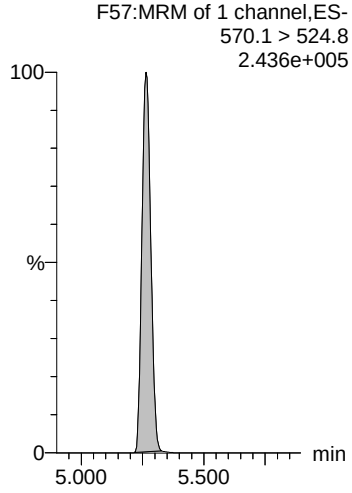


13C6-PFDA



13C7-PFUdA



FBR 7/16/2019

INJECTION INTERNAL STANDARD (IIS) AREAS,

INSTRUMENT BLANKS (IB)

AND

CONTINUTING CALIBRATION VERIFICATIONS CCV)

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 12, 2019 15:56:55 Pacific Daylight Time
Printed: Friday, July 12, 2019 15:56:58 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_RS-07-11-19.mdb 11 Jul 2019 15:12:17
Calibration: 12 Jul 2019 15:56:55

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

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2	2	13C5-PFHxA	ST190711M3-3 PFC CS0 19G1103	1.12e4	100.0	NO
3	3	18O2-PFHxS	ST190711M3-3 PFC CS0 19G1103	5.41e2	100.0	NO
4	4	13C8-PFOA	ST190711M3-3 PFC CS0 19G1103	1.48e4	100.0	NO
5	5	13C9-PFNA	ST190711M3-3 PFC CS0 19G1103	8.34e3	100.0	NO
6	6	13C4-PFOS	ST190711M3-3 PFC CS0 19G1103	1.44e3	100.0	NO
7	7	13C6-PFDA	ST190711M3-3 PFC CS0 19G1103	1.12e4	100.0	NO
8	8	13C7-PFUdA	ST190711M3-3 PFC CS0 19G1103	1.41e4	100.0	NO

Name: 190711M3_5, Date: 11-Jul-2019, Time: 22:09:33, ID: ST190711M3-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-4 PFC CS1 19G1104	3.72e3	116.5	NO
2	2	13C5-PFHxA	ST190711M3-4 PFC CS1 19G1104	1.18e4	105.6	NO
3	3	18O2-PFHxS	ST190711M3-4 PFC CS1 19G1104	5.97e2	110.5	NO
4	4	13C8-PFOA	ST190711M3-4 PFC CS1 19G1104	1.55e4	105.0	NO
5	5	13C9-PFNA	ST190711M3-4 PFC CS1 19G1104	9.65e3	115.7	NO
6	6	13C4-PFOS	ST190711M3-4 PFC CS1 19G1104	1.57e3	108.5	NO
7	7	13C6-PFDA	ST190711M3-4 PFC CS1 19G1104	1.19e4	106.4	NO
8	8	13C7-PFUdA	ST190711M3-4 PFC CS1 19G1104	1.40e4	99.3	NO

Name: 190711M3_6, Date: 11-Jul-2019, Time: 22:20:12, ID: ST190711M3-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-5 PFC CS2 19G1105	3.27e3	102.3	NO
2	2	13C5-PFHxA	ST190711M3-5 PFC CS2 19G1105	1.10e4	98.7	NO
3	3	18O2-PFHxS	ST190711M3-5 PFC CS2 19G1105	5.35e2	99.0	NO
4	4	13C8-PFOA	ST190711M3-5 PFC CS2 19G1105	1.41e4	95.7	NO
5	5	13C9-PFNA	ST190711M3-5 PFC CS2 19G1105	9.01e3	108.1	NO
6	6	13C4-PFOS	ST190711M3-5 PFC CS2 19G1105	1.41e3	98.0	NO
7	7	13C6-PFDA	ST190711M3-5 PFC CS2 19G1105	1.06e4	94.1	NO
8	8	13C7-PFUdA	ST190711M3-5 PFC CS2 19G1105	1.33e4	94.1	NO

Name: 190711M3_7, Date: 11-Jul-2019, Time: 22:30:45, ID: ST190711M3-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-6 PFC CS3 19G1106	3.26e3	102.0	NO
2	2	13C5-PFHxA	ST190711M3-6 PFC CS3 19G1106	1.06e4	94.7	NO
3	3	18O2-PFHxS	ST190711M3-6 PFC CS3 19G1106	5.77e2	106.8	NO
4	4	13C8-PFOA	ST190711M3-6 PFC CS3 19G1106	1.45e4	98.4	NO
5	5	13C9-PFNA	ST190711M3-6 PFC CS3 19G1106	8.64e3	103.6	NO
6	6	13C4-PFOS	ST190711M3-6 PFC CS3 19G1106	1.39e3	96.6	NO
7	7	13C6-PFDA	ST190711M3-6 PFC CS3 19G1106	1.04e4	92.7	NO
8	8	13C7-PFUdA	ST190711M3-6 PFC CS3 19G1106	1.27e4	90.2	NO

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Name: 190711M3_8, Date: 11-Jul-2019, Time: 22:41:23, ID: ST190711M3-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-7 PFC CS4 19G1107	3.37e3	105.4	NO
2	2	13C5-PFHxA	ST190711M3-7 PFC CS4 19G1107	1.06e4	94.9	NO
3	3	18O2-PFHxS	ST190711M3-7 PFC CS4 19G1107	6.09e2	112.6	NO
4	4	13C8-PFOA	ST190711M3-7 PFC CS4 19G1107	1.37e4	92.8	NO
5	5	13C9-PFNA	ST190711M3-7 PFC CS4 19G1107	8.12e3	97.3	NO
6	6	13C4-PFOS	ST190711M3-7 PFC CS4 19G1107	1.47e3	101.9	NO
7	7	13C6-PFDA	ST190711M3-7 PFC CS4 19G1107	1.06e4	94.2	NO
8	8	13C7-PFUdA	ST190711M3-7 PFC CS4 19G1107	1.22e4	86.7	NO

Name: 190711M3_9, Date: 11-Jul-2019, Time: 22:51:57, ID: ST190711M3-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-8 PFC CS5 19G1108	3.27e3	102.4	NO
2	2	13C5-PFHxA	ST190711M3-8 PFC CS5 19G1108	1.02e4	91.4	NO
3	3	18O2-PFHxS	ST190711M3-8 PFC CS5 19G1108	6.28e2	116.1	NO
4	4	13C8-PFOA	ST190711M3-8 PFC CS5 19G1108	1.26e4	85.4	NO
5	5	13C9-PFNA	ST190711M3-8 PFC CS5 19G1108	8.05e3	96.5	NO
6	6	13C4-PFOS	ST190711M3-8 PFC CS5 19G1108	1.25e3	86.6	NO
7	7	13C6-PFDA	ST190711M3-8 PFC CS5 19G1108	9.53e3	84.9	NO
8	8	13C7-PFUdA	ST190711M3-8 PFC CS5 19G1108	1.16e4	82.0	NO

Name: 190711M3_10, Date: 11-Jul-2019, Time: 23:02:37, ID: ST190711M3-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-9 PFC CS6 19G1109	3.39e3	106.0	NO
2	2	13C5-PFHxA	ST190711M3-9 PFC CS6 19G1109	8.90e3	79.5	NO
3	3	18O2-PFHxS	ST190711M3-9 PFC CS6 19G1109	4.58e2	84.7	NO
4	4	13C8-PFOA	ST190711M3-9 PFC CS6 19G1109	1.06e4	71.6	NO
5	5	13C9-PFNA	ST190711M3-9 PFC CS6 19G1109	7.48e3	89.6	NO
6	6	13C4-PFOS	ST190711M3-9 PFC CS6 19G1109	1.16e3	80.2	NO
7	7	13C6-PFDA	ST190711M3-9 PFC CS6 19G1109	8.83e3	78.6	NO
8	8	13C7-PFUdA	ST190711M3-9 PFC CS6 19G1109	1.02e4	72.1	NO

Name: 190711M3_11, Date: 11-Jul-2019, Time: 23:13:13, ID: ST190711M3-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-10 PFC CS7 19G1110	3.35e3	104.7	NO
2	2	13C5-PFHxA	ST190711M3-10 PFC CS7 19G1110	8.41e3	75.2	NO
3	3	18O2-PFHxS	ST190711M3-10 PFC CS7 19G1110	4.42e2	81.8	NO
4	4	13C8-PFOA	ST190711M3-10 PFC CS7 19G1110	9.42e3	63.8	NO
5	5	13C9-PFNA	ST190711M3-10 PFC CS7 19G1110	6.52e3	78.2	NO
6	6	13C4-PFOS	ST190711M3-10 PFC CS7 19G1110	1.09e3	75.3	NO
7	7	13C6-PFDA	ST190711M3-10 PFC CS7 19G1110	7.69e3	68.5	NO
8	8	13C7-PFUdA	ST190711M3-10 PFC CS7 19G1110	8.80e3	62.5	NO

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Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IB	3.39e3	106.2	NO
2	2	13C5-PFHxA	IB	1.12e4	99.9	NO
3	3	18O2-PFHxS	IB	6.46e2	119.4	NO
4	4	13C8-PFOA	IB	1.54e4	104.2	NO
5	5	13C9-PFNA	IB	9.15e3	109.7	NO
6	6	13C4-PFOS	IB	1.44e3	100.1	NO
7	7	13C6-PFDA	IB	1.13e4	100.7	NO
8	8	13C7-PFUdA	IB	1.39e4	98.5	NO

Name: 190711M3_13, Date: 11-Jul-2019, Time: 23:34:17, ID: ST190711M3-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-1 PFC ICV 19G1111	3.42e3	107.0	NO
2	2	13C5-PFHxA	ST190711M3-1 PFC ICV 19G1111	1.07e4	95.5	NO
3	3	18O2-PFHxS	ST190711M3-1 PFC ICV 19G1111	6.15e2	113.8	NO
4	4	13C8-PFOA	ST190711M3-1 PFC ICV 19G1111	1.48e4	100.0	NO
5	5	13C9-PFNA	ST190711M3-1 PFC ICV 19G1111	9.07e3	108.7	NO
6	6	13C4-PFOS	ST190711M3-1 PFC ICV 19G1111	1.42e3	98.4	NO
7	7	13C6-PFDA	ST190711M3-1 PFC ICV 19G1111	1.12e4	100.0	NO
8	8	13C7-PFUdA	ST190711M3-1 PFC ICV 19G1111	1.30e4	92.5	NO

Name: 190711M3_14, Date: 11-Jul-2019, Time: 23:44:56, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190711M3_15, Date: 11-Jul-2019, Time: 23:55:34, ID: B9G0061-BS1 OPR 0.250, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0061-BS1 OPR 0.250	8.04e3	125.9	NO
2	2	13C5-PFHxA	B9G0061-BS1 OPR 0.250	1.45e4	64.9	NO
3	3	18O2-PFHxS	B9G0061-BS1 OPR 0.250	8.85e2	81.8	NO
4	4	13C8-PFOA	B9G0061-BS1 OPR 0.250	2.01e4	67.9	NO
5	5	13C9-PFNA	B9G0061-BS1 OPR 0.250	1.24e4	74.6	NO
6	6	13C4-PFOS	B9G0061-BS1 OPR 0.250	2.04e3	70.7	NO
7	7	13C6-PFDA	B9G0061-BS1 OPR 0.250	1.55e4	69.1	NO
8	8	13C7-PFUdA	B9G0061-BS1 OPR 0.250	1.87e4	66.4	NO

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Name: 190711M3_16, Date: 12-Jul-2019, Time: 00:06:07, ID: B9F0279-BS1 OPR 1, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9F0279-BS1 OPR 1	3.79e3	118.6	NO
2	2	13C5-PFHxA	B9F0279-BS1 OPR 1	7.08e3	63.3	NO
3	3	18O2-PFHxS	B9F0279-BS1 OPR 1	5.30e2	98.0	NO
4	4	13C8-PFOA	B9F0279-BS1 OPR 1	1.06e4	71.8	NO
5	5	13C9-PFNA	B9F0279-BS1 OPR 1	6.92e3	83.0	NO
6	6	13C4-PFOS	B9F0279-BS1 OPR 1	1.26e3	87.1	NO
7	7	13C6-PFDA	B9F0279-BS1 OPR 1	8.72e3	77.7	NO
8	8	13C7-PFUdA	B9F0279-BS1 OPR 1	1.04e4	73.9	NO

Name: 190711M3_17, Date: 12-Jul-2019, Time: 00:16:45, ID: B9F0279-BLK1 Method Blank 1, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9F0279-BLK1 Method Blank 1	3.68e3	115.1	NO
2	2	13C5-PFHxA	B9F0279-BLK1 Method Blank 1	7.23e3	64.6	NO
3	3	18O2-PFHxS	B9F0279-BLK1 Method Blank 1	4.49e2	83.1	NO
4	4	13C8-PFOA	B9F0279-BLK1 Method Blank 1	1.01e4	68.5	NO
5	5	13C9-PFNA	B9F0279-BLK1 Method Blank 1	6.97e3	83.6	NO
6	6	13C4-PFOS	B9F0279-BLK1 Method Blank 1	1.15e3	79.9	NO
7	7	13C6-PFDA	B9F0279-BLK1 Method Blank 1	8.48e3	75.5	NO
8	8	13C7-PFUdA	B9F0279-BLK1 Method Blank 1	1.08e4	76.8	NO

Name: 190711M3_18, Date: 12-Jul-2019, Time: 00:27:18, ID: 1901784-02RE1 FRB-1 0.24972, Description: FRB-1

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901784-02RE1 FRB-1 0.24972	2.89e3	90.6	NO
2	2	13C5-PFHxA	1901784-02RE1 FRB-1 0.24972	5.14e3	45.9	YES
3	3	18O2-PFHxS	1901784-02RE1 FRB-1 0.24972	4.13e2	76.3	NO
4	4	13C8-PFOA	1901784-02RE1 FRB-1 0.24972	7.27e3	49.2	YES
5	5	13C9-PFNA	1901784-02RE1 FRB-1 0.24972	4.31e3	51.6	NO
6	6	13C4-PFOS	1901784-02RE1 FRB-1 0.24972	1.08e3	74.5	NO
7	7	13C6-PFDA	1901784-02RE1 FRB-1 0.24972	5.65e3	50.3	NO
8	8	13C7-PFUdA	1901784-02RE1 FRB-1 0.24972	7.29e3	51.8	NO

Name: 190711M3_19, Date: 12-Jul-2019, Time: 00:37:57, ID: 1901683-03 Hagatna 1 3.93, Description: Hagatna 1

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901683-03 Hagatna 1 3.93	4.57e3	143.0	NO
2	2	13C5-PFHxA	1901683-03 Hagatna 1 3.93	8.50e3	75.9	NO
3	3	18O2-PFHxS	1901683-03 Hagatna 1 3.93	5.36e2	99.2	NO
4	4	13C8-PFOA	1901683-03 Hagatna 1 3.93	1.26e4	85.0	NO
5	5	13C9-PFNA	1901683-03 Hagatna 1 3.93	7.36e3	88.2	NO
6	6	13C4-PFOS	1901683-03 Hagatna 1 3.93	1.33e3	92.4	NO
7	7	13C6-PFDA	1901683-03 Hagatna 1 3.93	8.45e3	75.2	NO
8	8	13C7-PFUdA	1901683-03 Hagatna 1 3.93	6.75e3	47.9	YES

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Name: 190711M3_20, Date: 12-Jul-2019, Time: 00:48:35, ID: 1901910-01 SW1906280950KME 0.24336, Description: SW1906280950KME

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901910-01 SW1906280950KME 0.243...	4.22e3	132.1	NO
2	2	13C5-PFHxA	1901910-01 SW1906280950KME 0.243...	7.72e3	69.0	NO
3	3	18O2-PFHxS	1901910-01 SW1906280950KME 0.243...	5.67e2	104.9	NO
4	4	13C8-PFOA	1901910-01 SW1906280950KME 0.243...	1.01e4	68.6	NO
5	5	13C9-PFNA	1901910-01 SW1906280950KME 0.243...	6.65e3	79.7	NO
6	6	13C4-PFOS	1901910-01 SW1906280950KME 0.243...	1.19e3	82.6	NO
7	7	13C6-PFDA	1901910-01 SW1906280950KME 0.243...	7.93e3	70.6	NO
8	8	13C7-PFUdA	1901910-01 SW1906280950KME 0.243...	9.29e3	66.0	NO

Name: 190711M3_21, Date: 12-Jul-2019, Time: 00:59:09, ID: 1901910-02 SW1906281025KME 0.24464, Description: SW1906281025KME

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901910-02 SW1906281025KME 0.244...	3.60e3	112.9	NO
2	2	13C5-PFHxA	1901910-02 SW1906281025KME 0.244...	6.46e3	57.8	NO
3	3	18O2-PFHxS	1901910-02 SW1906281025KME 0.244...	5.17e2	95.5	NO
4	4	13C8-PFOA	1901910-02 SW1906281025KME 0.244...	9.61e3	65.1	NO
5	5	13C9-PFNA	1901910-02 SW1906281025KME 0.244...	5.97e3	71.6	NO
6	6	13C4-PFOS	1901910-02 SW1906281025KME 0.244...	1.12e3	77.4	NO
7	7	13C6-PFDA	1901910-02 SW1906281025KME 0.244...	7.48e3	66.6	NO
8	8	13C7-PFUdA	1901910-02 SW1906281025KME 0.244...	8.58e3	60.9	NO

Name: 190711M3_22, Date: 12-Jul-2019, Time: 01:09:47, ID: 1901910-03 SW1906281035KME 0.24318, Description: SW1906281035KME

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901910-03 SW1906281035KME 0.243...	4.10e3	128.3	NO
2	2	13C5-PFHxA	1901910-03 SW1906281035KME 0.243...	7.57e3	67.7	NO
3	3	18O2-PFHxS	1901910-03 SW1906281035KME 0.243...	5.50e2	101.6	NO
4	4	13C8-PFOA	1901910-03 SW1906281035KME 0.243...	9.89e3	67.0	NO
5	5	13C9-PFNA	1901910-03 SW1906281035KME 0.243...	6.10e3	73.2	NO
6	6	13C4-PFOS	1901910-03 SW1906281035KME 0.243...	1.13e3	78.4	NO
7	7	13C6-PFDA	1901910-03 SW1906281035KME 0.243...	7.28e3	64.8	NO
8	8	13C7-PFUdA	1901910-03 SW1906281035KME 0.243...	8.72e3	61.9	NO

Name: 190711M3_23, Date: 12-Jul-2019, Time: 01:20:19, ID: 1901911-01 WMP1907010855JSJ 0.2509, Description: WMP1907010855JSJ

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901911-01 WMP1907010855JSJ 0.2509	3.34e3	104.6	NO
2	2	13C5-PFHxA	1901911-01 WMP1907010855JSJ 0.2509	5.99e3	53.6	NO
3	3	18O2-PFHxS	1901911-01 WMP1907010855JSJ 0.2509	4.69e2	86.7	NO
4	4	13C8-PFOA	1901911-01 WMP1907010855JSJ 0.2509	6.73e3	45.6	YES
5	5	13C9-PFNA	1901911-01 WMP1907010855JSJ 0.2509	4.99e3	59.9	NO
6	6	13C4-PFOS	1901911-01 WMP1907010855JSJ 0.2509	1.09e3	75.2	NO
7	7	13C6-PFDA	1901911-01 WMP1907010855JSJ 0.2509	6.48e3	57.7	NO
8	8	13C7-PFUdA	1901911-01 WMP1907010855JSJ 0.2509	7.52e3	53.4	NO

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Name: 190711M3_24, Date: 12-Jul-2019, Time: 01:30:58, ID: B9G0095-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0095-BS1 OPR 0.25	9.59e3	150.1	YES
2	2	13C5-PFHxA	B9G0095-BS1 OPR 0.25	1.69e4	75.5	NO
3	3	18O2-PFHxS	B9G0095-BS1 OPR 0.25	9.93e2	91.8	NO
4	4	13C8-PFOA	B9G0095-BS1 OPR 0.25	2.46e4	83.3	NO
5	5	13C9-PFNA	B9G0095-BS1 OPR 0.25	1.57e4	94.3	NO
6	6	13C4-PFOS	B9G0095-BS1 OPR 0.25	2.59e3	89.9	NO
7	7	13C6-PFDA	B9G0095-BS1 OPR 0.25	1.80e4	80.3	NO
8	8	13C7-PFUdA	B9G0095-BS1 OPR 0.25	2.28e4	81.0	NO

Name: 190711M3_25, Date: 12-Jul-2019, Time: 01:41:36, ID: B9G0095-BSD1 LCSD 0.25, Description: LCSD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0095-BSD1 LCSD 0.25	1.05e4	164.9	YES
2	2	13C5-PFHxA	B9G0095-BSD1 LCSD 0.25	1.87e4	83.6	NO
3	3	18O2-PFHxS	B9G0095-BSD1 LCSD 0.25	1.02e3	94.5	NO
4	4	13C8-PFOA	B9G0095-BSD1 LCSD 0.25	2.53e4	85.7	NO
5	5	13C9-PFNA	B9G0095-BSD1 LCSD 0.25	1.53e4	91.6	NO
6	6	13C4-PFOS	B9G0095-BSD1 LCSD 0.25	2.59e3	89.7	NO
7	7	13C6-PFDA	B9G0095-BSD1 LCSD 0.25	1.87e4	83.4	NO
8	8	13C7-PFUdA	B9G0095-BSD1 LCSD 0.25	2.30e4	81.6	NO

Name: 190711M3_26, Date: 12-Jul-2019, Time: 01:52:09, ID: B9G0095-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0095-BLK1 Method Blank 0.25	9.93e3	155.4	YES
2	2	13C5-PFHxA	B9G0095-BLK1 Method Blank 0.25	1.79e4	79.8	NO
3	3	18O2-PFHxS	B9G0095-BLK1 Method Blank 0.25	1.04e3	96.6	NO
4	4	13C8-PFOA	B9G0095-BLK1 Method Blank 0.25	2.53e4	85.5	NO
5	5	13C9-PFNA	B9G0095-BLK1 Method Blank 0.25	1.55e4	92.9	NO
6	6	13C4-PFOS	B9G0095-BLK1 Method Blank 0.25	2.55e3	88.5	NO
7	7	13C6-PFDA	B9G0095-BLK1 Method Blank 0.25	1.90e4	84.8	NO
8	8	13C7-PFUdA	B9G0095-BLK1 Method Blank 0.25	2.29e4	81.1	NO

Name: 190711M3_27, Date: 12-Jul-2019, Time: 02:02:47, ID: 1901759-01 HW-AF-01-01-420-062419 0.11818, Description: HW-AF-01-01-420-062419

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901759-01 HW-AF-01-01-420-062419 ...	8.08e3	126.5	NO
2	2	13C5-PFHxA	1901759-01 HW-AF-01-01-420-062419 ...	1.53e4	68.3	NO
3	3	18O2-PFHxS	1901759-01 HW-AF-01-01-420-062419 ...	9.46e2	87.4	NO
4	4	13C8-PFOA	1901759-01 HW-AF-01-01-420-062419 ...	2.23e4	75.6	NO
5	5	13C9-PFNA	1901759-01 HW-AF-01-01-420-062419 ...	1.27e4	76.1	NO
6	6	13C4-PFOS	1901759-01 HW-AF-01-01-420-062419 ...	2.26e3	78.4	NO
7	7	13C6-PFDA	1901759-01 HW-AF-01-01-420-062419 ...	1.60e4	71.3	NO
8	8	13C7-PFUdA	1901759-01 HW-AF-01-01-420-062419 ...	1.62e4	57.4	NO

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Name: 190711M3_28, Date: 12-Jul-2019, Time: 02:13:26, ID: 1901992-01 WIN1907081315GGA 0.24256, Description: WIN1907081315GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901992-01 WIN1907081315GGA 0.24...	1.05e4	165.0	YES
2	2	13C5-PFHxA	1901992-01 WIN1907081315GGA 0.24...	1.90e4	85.0	NO
3	3	18O2-PFHxS	1901992-01 WIN1907081315GGA 0.24...	1.08e3	99.7	NO
4	4	13C8-PFOA	1901992-01 WIN1907081315GGA 0.24...	2.70e4	91.6	NO
5	5	13C9-PFNA	1901992-01 WIN1907081315GGA 0.24...	1.63e4	98.0	NO
6	6	13C4-PFOS	1901992-01 WIN1907081315GGA 0.24...	2.44e3	84.4	NO
7	7	13C6-PFDA	1901992-01 WIN1907081315GGA 0.24...	2.01e4	89.5	NO
8	8	13C7-PFUdA	1901992-01 WIN1907081315GGA 0.24...	2.46e4	87.2	NO

Name: 190711M3_29, Date: 12-Jul-2019, Time: 02:23:58, ID: 1901992-02 WMP1907081305GGA 0.23352, Description: WMP1907081305GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901992-02 WMP1907081305GGA 0.2...	8.79e3	137.6	NO
2	2	13C5-PFHxA	1901992-02 WMP1907081305GGA 0.2...	1.60e4	71.4	NO
3	3	18O2-PFHxS	1901992-02 WMP1907081305GGA 0.2...	9.72e2	89.8	NO
4	4	13C8-PFOA	1901992-02 WMP1907081305GGA 0.2...	2.28e4	77.1	NO
5	5	13C9-PFNA	1901992-02 WMP1907081305GGA 0.2...	1.45e4	87.2	NO
6	6	13C4-PFOS	1901992-02 WMP1907081305GGA 0.2...	2.71e3	93.9	NO
7	7	13C6-PFDA	1901992-02 WMP1907081305GGA 0.2...	1.90e4	84.5	NO
8	8	13C7-PFUdA	1901992-02 WMP1907081305GGA 0.2...	2.17e4	77.0	NO

Name: 190711M3_30, Date: 12-Jul-2019, Time: 02:34:37, ID: 1901992-03 WEF1907081310GGA 0.24328, Description: WEF1907081310GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901992-03 WEF1907081310GGA 0.24...	8.61e3	134.8	NO
2	2	13C5-PFHxA	1901992-03 WEF1907081310GGA 0.24...	1.56e4	69.8	NO
3	3	18O2-PFHxS	1901992-03 WEF1907081310GGA 0.24...	1.02e3	94.2	NO
4	4	13C8-PFOA	1901992-03 WEF1907081310GGA 0.24...	2.29e4	77.4	NO
5	5	13C9-PFNA	1901992-03 WEF1907081310GGA 0.24...	1.40e4	83.7	NO
6	6	13C4-PFOS	1901992-03 WEF1907081310GGA 0.24...	2.34e3	80.9	NO
7	7	13C6-PFDA	1901992-03 WEF1907081310GGA 0.24...	1.67e4	74.3	NO
8	8	13C7-PFUdA	1901992-03 WEF1907081310GGA 0.24...	2.09e4	74.1	NO

Name: 190711M3_31, Date: 12-Jul-2019, Time: 02:45:10, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

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Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-11 PFC CS3 19G1106	3.26e3	102.1	NO
2	2	13C5-PFHxA	ST190711M3-11 PFC CS3 19G1106	1.07e4	95.5	NO
3	3	18O2-PFHxS	ST190711M3-11 PFC CS3 19G1106	5.26e2	97.3	NO
4	4	13C8-PFOA	ST190711M3-11 PFC CS3 19G1106	1.42e4	95.9	NO
5	5	13C9-PFNA	ST190711M3-11 PFC CS3 19G1106	8.50e3	101.9	NO
6	6	13C4-PFOS	ST190711M3-11 PFC CS3 19G1106	1.36e3	94.5	NO
7	7	13C6-PFDA	ST190711M3-11 PFC CS3 19G1106	1.08e4	96.4	NO
8	8	13C7-PFUdA	ST190711M3-11 PFC CS3 19G1106	1.28e4	90.8	NO

Name: 190711M3_33, Date: 12-Jul-2019, Time: 03:06:21, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190711M3_34, Date: 12-Jul-2019, Time: 03:16:59, ID: B9G0062-BS1 OPR 0.125, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0062-BS1 OPR 0.125	5.21e3	163.3	YES
2	2	13C5-PFHxA	B9G0062-BS1 OPR 0.125	9.48e3	84.8	NO
3	3	18O2-PFHxS	B9G0062-BS1 OPR 0.125	6.11e2	113.0	NO
4	4	13C8-PFOA	B9G0062-BS1 OPR 0.125	1.24e4	83.7	NO
5	5	13C9-PFNA	B9G0062-BS1 OPR 0.125	7.11e3	85.2	NO
6	6	13C4-PFOS	B9G0062-BS1 OPR 0.125	1.42e3	98.3	NO
7	7	13C6-PFDA	B9G0062-BS1 OPR 0.125	9.08e3	80.8	NO
8	8	13C7-PFUdA	B9G0062-BS1 OPR 0.125	1.13e4	80.3	NO

Name: 190711M3_35, Date: 12-Jul-2019, Time: 03:27:38, ID: B9G0062-BSD1 LCSD 0.125, Description: LCSD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0062-BSD1 LCSD 0.125	5.35e3	167.6	YES
2	2	13C5-PFHxA	B9G0062-BSD1 LCSD 0.125	9.46e3	84.6	NO
3	3	18O2-PFHxS	B9G0062-BSD1 LCSD 0.125	5.93e2	109.7	NO
4	4	13C8-PFOA	B9G0062-BSD1 LCSD 0.125	1.42e4	96.2	NO
5	5	13C9-PFNA	B9G0062-BSD1 LCSD 0.125	8.54e3	102.4	NO
6	6	13C4-PFOS	B9G0062-BSD1 LCSD 0.125	1.39e3	96.5	NO
7	7	13C6-PFDA	B9G0062-BSD1 LCSD 0.125	1.01e4	90.1	NO
8	8	13C7-PFUdA	B9G0062-BSD1 LCSD 0.125	1.26e4	89.2	NO

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Name: 190711M3_36, Date: 12-Jul-2019, Time: 03:38:11, ID: B9G0062-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0062-BLK1 Method Blank 0.125	5.44e3	170.5	YES
2	2	13C5-PFHxA	B9G0062-BLK1 Method Blank 0.125	9.67e3	86.5	NO
3	3	18O2-PFHxS	B9G0062-BLK1 Method Blank 0.125	5.72e2	105.8	NO
4	4	13C8-PFOA	B9G0062-BLK1 Method Blank 0.125	1.45e4	98.2	NO
5	5	13C9-PFNA	B9G0062-BLK1 Method Blank 0.125	8.35e3	100.1	NO
6	6	13C4-PFOS	B9G0062-BLK1 Method Blank 0.125	1.38e3	95.8	NO
7	7	13C6-PFDA	B9G0062-BLK1 Method Blank 0.125	1.03e4	91.4	NO
8	8	13C7-PFUdA	B9G0062-BLK1 Method Blank 0.125	1.23e4	87.6	NO

Name: 190711M3_37, Date: 12-Jul-2019, Time: 03:48:49, ID: 1901922-01 FRB-07022019 0.10709, Description: FRB-07022019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901922-01 FRB-07022019 0.10709	4.53e3	142.0	NO
2	2	13C5-PFHxA	1901922-01 FRB-07022019 0.10709	9.02e3	80.6	NO
3	3	18O2-PFHxS	1901922-01 FRB-07022019 0.10709	5.51e2	102.0	NO
4	4	13C8-PFOA	1901922-01 FRB-07022019 0.10709	1.29e4	87.3	NO
5	5	13C9-PFNA	1901922-01 FRB-07022019 0.10709	7.74e3	92.8	NO
6	6	13C4-PFOS	1901922-01 FRB-07022019 0.10709	1.18e3	81.5	NO
7	7	13C6-PFDA	1901922-01 FRB-07022019 0.10709	9.58e3	85.3	NO
8	8	13C7-PFUdA	1901922-01 FRB-07022019 0.10709	1.12e4	79.2	NO

Name: 190711M3_38, Date: 12-Jul-2019, Time: 03:59:23, ID: 1901922-02 CAOA-B02-GW 0.1205, Description: CAOA-B02-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901922-02 CAOA-B02-GW 0.1205	4.26e3	133.3	NO
2	2	13C5-PFHxA	1901922-02 CAOA-B02-GW 0.1205	8.33e3	74.4	NO
3	3	18O2-PFHxS	1901922-02 CAOA-B02-GW 0.1205	5.39e2	99.7	NO
4	4	13C8-PFOA	1901922-02 CAOA-B02-GW 0.1205	1.15e4	77.8	NO
5	5	13C9-PFNA	1901922-02 CAOA-B02-GW 0.1205	7.51e3	90.1	NO
6	6	13C4-PFOS	1901922-02 CAOA-B02-GW 0.1205	1.14e3	79.3	NO
7	7	13C6-PFDA	1901922-02 CAOA-B02-GW 0.1205	8.56e3	76.2	NO
8	8	13C7-PFUdA	1901922-02 CAOA-B02-GW 0.1205	1.01e4	71.4	NO

Name: 190711M3_39, Date: 12-Jul-2019, Time: 04:10:01, ID: 1901920-02 SAOA-B08-GW 0.13318, Description: SAOA-B08-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-02 SAOA-B08-GW 0.13318	3.61e3	113.1	NO
2	2	13C5-PFHxA	1901920-02 SAOA-B08-GW 0.13318	6.63e3	59.2	NO
3	3	18O2-PFHxS	1901920-02 SAOA-B08-GW 0.13318	5.08e2	93.9	NO
4	4	13C8-PFOA	1901920-02 SAOA-B08-GW 0.13318	9.30e3	63.0	NO
5	5	13C9-PFNA	1901920-02 SAOA-B08-GW 0.13318	6.00e3	71.9	NO
6	6	13C4-PFOS	1901920-02 SAOA-B08-GW 0.13318	9.76e2	67.6	NO
7	7	13C6-PFDA	1901920-02 SAOA-B08-GW 0.13318	7.57e3	67.4	NO
8	8	13C7-PFUdA	1901920-02 SAOA-B08-GW 0.13318	9.39e3	66.6	NO

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Name: 190711M3_40, Date: 12-Jul-2019, Time: 04:20:34, ID: 1901920-03 EB-06272019-GW 0.11429, Description: EB-06272019-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-03 EB-06272019-GW 0.11429	4.68e3	146.5	NO
2	2	13C5-PFHxA	1901920-03 EB-06272019-GW 0.11429	8.48e3	75.8	NO
3	3	18O2-PFHxS	1901920-03 EB-06272019-GW 0.11429	5.44e2	100.6	NO
4	4	13C8-PFOA	1901920-03 EB-06272019-GW 0.11429	1.28e4	86.5	NO
5	5	13C9-PFNA	1901920-03 EB-06272019-GW 0.11429	8.42e3	100.9	NO
6	6	13C4-PFOS	1901920-03 EB-06272019-GW 0.11429	1.34e3	93.1	NO
7	7	13C6-PFDA	1901920-03 EB-06272019-GW 0.11429	9.41e3	83.8	NO
8	8	13C7-PFUdA	1901920-03 EB-06272019-GW 0.11429	1.22e4	86.7	NO

Name: 190711M3_41, Date: 12-Jul-2019, Time: 04:31:13, ID: 1901920-04 FRB-06282019 0.11576, Description: FRB-06282019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-04 FRB-06282019 0.11576	5.21e3	163.2	YES
2	2	13C5-PFHxA	1901920-04 FRB-06282019 0.11576	9.33e3	83.4	NO
3	3	18O2-PFHxS	1901920-04 FRB-06282019 0.11576	5.69e2	105.2	NO
4	4	13C8-PFOA	1901920-04 FRB-06282019 0.11576	1.31e4	88.4	NO
5	5	13C9-PFNA	1901920-04 FRB-06282019 0.11576	7.85e3	94.1	NO
6	6	13C4-PFOS	1901920-04 FRB-06282019 0.11576	1.32e3	91.6	NO
7	7	13C6-PFDA	1901920-04 FRB-06282019 0.11576	9.53e3	84.9	NO
8	8	13C7-PFUdA	1901920-04 FRB-06282019 0.11576	1.17e4	83.3	NO

Name: 190711M3_42, Date: 12-Jul-2019, Time: 04:41:51, ID: 1901920-05 SAOA-B12-GW 0.12204, Description: SAOA-B12-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-05 SAOA-B12-GW 0.12204	3.93e3	123.1	NO
2	2	13C5-PFHxA	1901920-05 SAOA-B12-GW 0.12204	7.04e3	62.9	NO
3	3	18O2-PFHxS	1901920-05 SAOA-B12-GW 0.12204	4.90e2	90.7	NO
4	4	13C8-PFOA	1901920-05 SAOA-B12-GW 0.12204	9.84e3	66.6	NO
5	5	13C9-PFNA	1901920-05 SAOA-B12-GW 0.12204	6.43e3	77.1	NO
6	6	13C4-PFOS	1901920-05 SAOA-B12-GW 0.12204	1.32e3	91.5	NO
7	7	13C6-PFDA	1901920-05 SAOA-B12-GW 0.12204	8.26e3	73.6	NO
8	8	13C7-PFUdA	1901920-05 SAOA-B12-GW 0.12204	1.04e4	73.5	NO

Name: 190711M3_43, Date: 12-Jul-2019, Time: 04:52:24, ID: 1901920-06 SAOA-B12-GW-D 0.12639, Description: SAOA-B12-GW-D

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-06 SAOA-B12-GW-D 0.12639	3.36e3	105.1	NO
2	2	13C5-PFHxA	1901920-06 SAOA-B12-GW-D 0.12639	6.30e3	56.3	NO
3	3	18O2-PFHxS	1901920-06 SAOA-B12-GW-D 0.12639	5.40e2	99.9	NO
4	4	13C8-PFOA	1901920-06 SAOA-B12-GW-D 0.12639	9.25e3	62.6	NO
5	5	13C9-PFNA	1901920-06 SAOA-B12-GW-D 0.12639	6.01e3	72.0	NO
6	6	13C4-PFOS	1901920-06 SAOA-B12-GW-D 0.12639	1.10e3	76.5	NO
7	7	13C6-PFDA	1901920-06 SAOA-B12-GW-D 0.12639	7.55e3	67.2	NO
8	8	13C7-PFUdA	1901920-06 SAOA-B12-GW-D 0.12639	9.76e3	69.3	NO

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Name: 190711M3_44, Date: 12-Jul-2019, Time: 05:03:03, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-11 NAOA-B02-GW 0.122	4.54e3	142.3	NO
2	2	13C5-PFHxA	1901920-11 NAOA-B02-GW 0.122	8.60e3	76.8	NO
3	3	18O2-PFHxS	1901920-11 NAOA-B02-GW 0.122	5.59e2	103.3	NO
4	4	13C8-PFOA	1901920-11 NAOA-B02-GW 0.122	1.18e4	79.7	NO
5	5	13C9-PFNA	1901920-11 NAOA-B02-GW 0.122	7.50e3	89.9	NO
6	6	13C4-PFOS	1901920-11 NAOA-B02-GW 0.122	1.22e3	84.5	NO
7	7	13C6-PFDA	1901920-11 NAOA-B02-GW 0.122	9.46e3	84.2	NO
8	8	13C7-PFUdA	1901920-11 NAOA-B02-GW 0.122	1.13e4	80.2	NO

Name: 190711M3_45, Date: 12-Jul-2019, Time: 05:13:36, ID: 1901920-12 EB-07012019 0.11155, Description: EB-07012019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-12 EB-07012019 0.11155	4.84e3	151.7	YES
2	2	13C5-PFHxA	1901920-12 EB-07012019 0.11155	9.27e3	82.8	NO
3	3	18O2-PFHxS	1901920-12 EB-07012019 0.11155	5.50e2	101.8	NO
4	4	13C8-PFOA	1901920-12 EB-07012019 0.11155	1.29e4	87.3	NO
5	5	13C9-PFNA	1901920-12 EB-07012019 0.11155	8.00e3	96.0	NO
6	6	13C4-PFOS	1901920-12 EB-07012019 0.11155	1.35e3	93.5	NO
7	7	13C6-PFDA	1901920-12 EB-07012019 0.11155	1.04e4	92.4	NO
8	8	13C7-PFUdA	1901920-12 EB-07012019 0.11155	1.26e4	89.6	NO

Name: 190711M3_46, Date: 12-Jul-2019, Time: 05:24:14, ID: 1901920-14 FRB-07012019 0.11643, Description: FRB-07012019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-14 FRB-07012019 0.11643	4.96e3	155.3	YES
2	2	13C5-PFHxA	1901920-14 FRB-07012019 0.11643	8.93e3	79.8	NO
3	3	18O2-PFHxS	1901920-14 FRB-07012019 0.11643	4.81e2	89.0	NO
4	4	13C8-PFOA	1901920-14 FRB-07012019 0.11643	1.19e4	80.3	NO
5	5	13C9-PFNA	1901920-14 FRB-07012019 0.11643	7.27e3	87.2	NO
6	6	13C4-PFOS	1901920-14 FRB-07012019 0.11643	1.07e3	74.2	NO
7	7	13C6-PFDA	1901920-14 FRB-07012019 0.11643	8.55e3	76.2	NO
8	8	13C7-PFUdA	1901920-14 FRB-07012019 0.11643	1.05e4	74.9	NO

Name: 190711M3_47, Date: 12-Jul-2019, Time: 05:34:46, ID: 1901920-16 NAOA-B01-GW 0.1294, Description: NAOA-B01-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-16 NAOA-B01-GW 0.1294	4.36e3	136.6	NO
2	2	13C5-PFHxA	1901920-16 NAOA-B01-GW 0.1294	8.41e3	75.1	NO
3	3	18O2-PFHxS	1901920-16 NAOA-B01-GW 0.1294	5.31e2	98.2	NO
4	4	13C8-PFOA	1901920-16 NAOA-B01-GW 0.1294	1.24e4	83.8	NO
5	5	13C9-PFNA	1901920-16 NAOA-B01-GW 0.1294	7.63e3	91.5	NO
6	6	13C4-PFOS	1901920-16 NAOA-B01-GW 0.1294	1.16e3	80.1	NO
7	7	13C6-PFDA	1901920-16 NAOA-B01-GW 0.1294	9.00e3	80.1	NO
8	8	13C7-PFUdA	1901920-16 NAOA-B01-GW 0.1294	1.11e4	79.1	NO

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Name: 190711M3_48, Date: 12-Jul-2019, Time: 05:45:25, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-12 PFC CS3 19G1106	3.35e3	104.8	NO
2	2	13C5-PFHxA	ST190711M3-12 PFC CS3 19G1106	1.08e4	96.3	NO
3	3	18O2-PFHxS	ST190711M3-12 PFC CS3 19G1106	5.66e2	104.6	NO
4	4	13C8-PFOA	ST190711M3-12 PFC CS3 19G1106	1.41e4	95.6	NO
5	5	13C9-PFNA	ST190711M3-12 PFC CS3 19G1106	9.26e3	111.0	NO
6	6	13C4-PFOS	ST190711M3-12 PFC CS3 19G1106	1.56e3	107.9	NO
7	7	13C6-PFDA	ST190711M3-12 PFC CS3 19G1106	1.07e4	95.5	NO
8	8	13C7-PFUdA	ST190711M3-12 PFC CS3 19G1106	1.27e4	89.9	NO

Name: 190711M3_50, Date: 12-Jul-2019, Time: 06:06:35, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190711M3_51, Date: 12-Jul-2019, Time: 06:17:14, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-17 NAOA-B01-GW-D 0.13768	3.80e3	119.0	NO
2	2	13C5-PFHxA	1901920-17 NAOA-B01-GW-D 0.13768	7.44e3	66.5	NO
3	3	18O2-PFHxS	1901920-17 NAOA-B01-GW-D 0.13768	5.73e2	105.9	NO
4	4	13C8-PFOA	1901920-17 NAOA-B01-GW-D 0.13768	1.15e4	78.1	NO
5	5	13C9-PFNA	1901920-17 NAOA-B01-GW-D 0.13768	6.81e3	81.7	NO
6	6	13C4-PFOS	1901920-17 NAOA-B01-GW-D 0.13768	1.24e3	86.3	NO
7	7	13C6-PFDA	1901920-17 NAOA-B01-GW-D 0.13768	9.18e3	81.8	NO
8	8	13C7-PFUdA	1901920-17 NAOA-B01-GW-D 0.13768	1.10e4	77.8	NO

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Name: 190711M3_52, Date: 12-Jul-2019, Time: 06:27:47, ID: 1901920-20 EB-07022019 0.11644, Description: EB-07022019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-20 EB-07022019 0.11644	4.52e3	141.4	NO
2	2	13C5-PFHxA	1901920-20 EB-07022019 0.11644	8.13e3	72.7	NO
3	3	18O2-PFHxS	1901920-20 EB-07022019 0.11644	4.44e2	82.1	NO
4	4	13C8-PFOA	1901920-20 EB-07022019 0.11644	1.14e4	76.9	NO
5	5	13C9-PFNA	1901920-20 EB-07022019 0.11644	6.65e3	79.7	NO
6	6	13C4-PFOS	1901920-20 EB-07022019 0.11644	1.20e3	83.1	NO
7	7	13C6-PFDA	1901920-20 EB-07022019 0.11644	8.40e3	74.8	NO
8	8	13C7-PFUdA	1901920-20 EB-07022019 0.11644	1.00e4	71.2	NO

Name: 190711M3_53, Date: 12-Jul-2019, Time: 06:38:25, ID: B9G0065-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0065-BS1 OPR 0.25	4.49e3	140.6	NO
2	2	13C5-PFHxA	B9G0065-BS1 OPR 0.25	8.37e3	74.8	NO
3	3	18O2-PFHxS	B9G0065-BS1 OPR 0.25	4.46e2	82.4	NO
4	4	13C8-PFOA	B9G0065-BS1 OPR 0.25	1.11e4	75.4	NO
5	5	13C9-PFNA	B9G0065-BS1 OPR 0.25	7.27e3	87.1	NO
6	6	13C4-PFOS	B9G0065-BS1 OPR 0.25	1.18e3	81.8	NO
7	7	13C6-PFDA	B9G0065-BS1 OPR 0.25	8.59e3	76.5	NO
8	8	13C7-PFUdA	B9G0065-BS1 OPR 0.25	1.05e4	74.8	NO

Name: 190711M3_54, Date: 12-Jul-2019, Time: 06:48:58, ID: B9G0065-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0065-BLK1 Method Blank 0.25	4.23e3	132.3	NO
2	2	13C5-PFHxA	B9G0065-BLK1 Method Blank 0.25	7.81e3	69.8	NO
3	3	18O2-PFHxS	B9G0065-BLK1 Method Blank 0.25	4.99e2	92.2	NO
4	4	13C8-PFOA	B9G0065-BLK1 Method Blank 0.25	1.09e4	73.8	NO
5	5	13C9-PFNA	B9G0065-BLK1 Method Blank 0.25	7.05e3	84.5	NO
6	6	13C4-PFOS	B9G0065-BLK1 Method Blank 0.25	9.85e2	68.2	NO
7	7	13C6-PFDA	B9G0065-BLK1 Method Blank 0.25	8.06e3	71.8	NO
8	8	13C7-PFUdA	B9G0065-BLK1 Method Blank 0.25	9.84e3	69.8	NO

Name: 190711M3_55, Date: 12-Jul-2019, Time: 06:59:37, ID: 1901781-01 GW1906241425SK 0.24561, Description: GW1906241425SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-01 GW1906241425SK 0.24561	4.51e3	141.3	NO
2	2	13C5-PFHxA	1901781-01 GW1906241425SK 0.24561	8.11e3	72.4	NO
3	3	18O2-PFHxS	1901781-01 GW1906241425SK 0.24561	4.90e2	90.6	NO
4	4	13C8-PFOA	1901781-01 GW1906241425SK 0.24561	1.09e4	73.7	NO
5	5	13C9-PFNA	1901781-01 GW1906241425SK 0.24561	6.86e3	82.3	NO
6	6	13C4-PFOS	1901781-01 GW1906241425SK 0.24561	1.15e3	79.8	NO
7	7	13C6-PFDA	1901781-01 GW1906241425SK 0.24561	8.12e3	72.3	NO
8	8	13C7-PFUdA	1901781-01 GW1906241425SK 0.24561	1.00e4	71.0	NO

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Name: 190711M3_56, Date: 12-Jul-2019, Time: 07:10:15, ID: 1901781-02 GW1906241605SK 0.25501, Description: GW1906241605SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-02 GW1906241605SK 0.25501	4.72e3	147.7	NO
2	2	13C5-PFHxA	1901781-02 GW1906241605SK 0.25501	8.56e3	76.5	NO
3	3	18O2-PFHxS	1901781-02 GW1906241605SK 0.25501	5.27e2	97.4	NO
4	4	13C8-PFOA	1901781-02 GW1906241605SK 0.25501	1.17e4	79.3	NO
5	5	13C9-PFNA	1901781-02 GW1906241605SK 0.25501	6.98e3	83.7	NO
6	6	13C4-PFOS	1901781-02 GW1906241605SK 0.25501	1.08e3	75.1	NO
7	7	13C6-PFDA	1901781-02 GW1906241605SK 0.25501	8.55e3	76.1	NO
8	8	13C7-PFUdA	1901781-02 GW1906241605SK 0.25501	9.97e3	70.8	NO

Name: 190711M3_57, Date: 12-Jul-2019, Time: 07:20:48, ID: 1901781-03 GW1906250855KME 0.24339, Description: GW1906250855KME

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-03 GW1906250855KME 0.24...	3.58e3	112.2	NO
2	2	13C5-PFHxA	1901781-03 GW1906250855KME 0.24...	7.02e3	62.7	NO
3	3	18O2-PFHxS	1901781-03 GW1906250855KME 0.24...	4.71e2	87.1	NO
4	4	13C8-PFOA	1901781-03 GW1906250855KME 0.24...	1.06e4	71.7	NO
5	5	13C9-PFNA	1901781-03 GW1906250855KME 0.24...	6.73e3	80.7	NO
6	6	13C4-PFOS	1901781-03 GW1906250855KME 0.24...	1.16e3	80.7	NO
7	7	13C6-PFDA	1901781-03 GW1906250855KME 0.24...	8.00e3	71.2	NO
8	8	13C7-PFUdA	1901781-03 GW1906250855KME 0.24...	9.56e3	67.9	NO

Name: 190711M3_58, Date: 12-Jul-2019, Time: 07:31:26, ID: 1901781-04 GW1906250855KME-FD 0.24341, Description: GW1906250855KME-FD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-04 GW1906250855KME-FD 0...	4.08e3	127.6	NO
2	2	13C5-PFHxA	1901781-04 GW1906250855KME-FD 0...	8.26e3	73.8	NO
3	3	18O2-PFHxS	1901781-04 GW1906250855KME-FD 0...	5.20e2	96.2	NO
4	4	13C8-PFOA	1901781-04 GW1906250855KME-FD 0...	1.21e4	81.7	NO
5	5	13C9-PFNA	1901781-04 GW1906250855KME-FD 0...	7.71e3	92.4	NO
6	6	13C4-PFOS	1901781-04 GW1906250855KME-FD 0...	1.39e3	96.1	NO
7	7	13C6-PFDA	1901781-04 GW1906250855KME-FD 0...	9.49e3	84.5	NO
8	8	13C7-PFUdA	1901781-04 GW1906250855KME-FD 0...	1.11e4	79.0	NO

Name: 190711M3_59, Date: 12-Jul-2019, Time: 07:41:59, ID: 1901781-05 GW1906250935SK 0.24535, Description: GW1906250935SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-05 GW1906250935SK 0.24535	4.68e3	146.6	NO
2	2	13C5-PFHxA	1901781-05 GW1906250935SK 0.24535	9.59e3	85.7	NO
3	3	18O2-PFHxS	1901781-05 GW1906250935SK 0.24535	5.15e2	95.3	NO
4	4	13C8-PFOA	1901781-05 GW1906250935SK 0.24535	1.34e4	90.6	NO
5	5	13C9-PFNA	1901781-05 GW1906250935SK 0.24535	7.88e3	94.5	NO
6	6	13C4-PFOS	1901781-05 GW1906250935SK 0.24535	1.37e3	94.8	NO
7	7	13C6-PFDA	1901781-05 GW1906250935SK 0.24535	9.42e3	83.8	NO
8	8	13C7-PFUdA	1901781-05 GW1906250935SK 0.24535	1.13e4	80.4	NO

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Name: 190711M3_60, Date: 12-Jul-2019, Time: 07:52:37, ID: 1901781-06 GW1906251040KME 0.24373, Description: GW1906251040KME

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-06 GW1906251040KME 0.24...	5.29e3	165.7	YES
2	2	13C5-PFHxA	1901781-06 GW1906251040KME 0.24...	9.75e3	87.1	NO
3	3	18O2-PFHxS	1901781-06 GW1906251040KME 0.24...	5.39e2	99.7	NO
4	4	13C8-PFOA	1901781-06 GW1906251040KME 0.24...	1.25e4	84.8	NO
5	5	13C9-PFNA	1901781-06 GW1906251040KME 0.24...	7.95e3	95.3	NO
6	6	13C4-PFOS	1901781-06 GW1906251040KME 0.24...	1.27e3	88.1	NO
7	7	13C6-PFDA	1901781-06 GW1906251040KME 0.24...	1.03e4	91.9	NO
8	8	13C7-PFUdA	1901781-06 GW1906251040KME 0.24...	1.18e4	83.8	NO

Name: 190711M3_61, Date: 12-Jul-2019, Time: 08:03:15, ID: 1901781-07 GW1906251120SK 0.24467, Description: GW1906251120SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-07 GW1906251120SK 0.24467	4.68e3	146.5	NO
2	2	13C5-PFHxA	1901781-07 GW1906251120SK 0.24467	8.99e3	80.4	NO
3	3	18O2-PFHxS	1901781-07 GW1906251120SK 0.24467	4.85e2	89.7	NO
4	4	13C8-PFOA	1901781-07 GW1906251120SK 0.24467	1.24e4	84.0	NO
5	5	13C9-PFNA	1901781-07 GW1906251120SK 0.24467	7.64e3	91.6	NO
6	6	13C4-PFOS	1901781-07 GW1906251120SK 0.24467	1.31e3	90.7	NO
7	7	13C6-PFDA	1901781-07 GW1906251120SK 0.24467	9.71e3	86.4	NO
8	8	13C7-PFUdA	1901781-07 GW1906251120SK 0.24467	1.03e4	73.3	NO

Name: 190711M3_62, Date: 12-Jul-2019, Time: 08:13:48, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-13 PFC CS3 19G1106	3.44e3	107.7	NO
2	2	13C5-PFHxA	ST190711M3-13 PFC CS3 19G1106	1.11e4	99.5	NO
3	3	18O2-PFHxS	ST190711M3-13 PFC CS3 19G1106	6.06e2	112.0	NO
4	4	13C8-PFOA	ST190711M3-13 PFC CS3 19G1106	1.48e4	100.3	NO
5	5	13C9-PFNA	ST190711M3-13 PFC CS3 19G1106	8.90e3	106.7	NO
6	6	13C4-PFOS	ST190711M3-13 PFC CS3 19G1106	1.46e3	101.2	NO
7	7	13C6-PFDA	ST190711M3-13 PFC CS3 19G1106	1.12e4	100.1	NO
8	8	13C7-PFUdA	ST190711M3-13 PFC CS3 19G1106	1.30e4	92.3	NO

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Name: 190711M3_64, Date: 12-Jul-2019, Time: 08:34:58, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190711M3_65, Date: 12-Jul-2019, Time: 08:45:54, ID: 1901781-08 GMW1906251200KME 0.24756, Description: GMW1906251200KME

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-08 GMW1906251200KME 0.2...	4.71e3	147.4	NO
2	2	13C5-PFHxA	1901781-08 GMW1906251200KME 0.2...	8.25e3	73.7	NO
3	3	18O2-PFHxS	1901781-08 GMW1906251200KME 0.2...	4.72e2	87.2	NO
4	4	13C8-PFOA	1901781-08 GMW1906251200KME 0.2...	1.22e4	82.5	NO
5	5	13C9-PFNA	1901781-08 GMW1906251200KME 0.2...	7.51e3	90.1	NO
6	6	13C4-PFOS	1901781-08 GMW1906251200KME 0.2...	1.23e3	85.4	NO
7	7	13C6-PFDA	1901781-08 GMW1906251200KME 0.2...	8.52e3	75.9	NO
8	8	13C7-PFUdA	1901781-08 GMW1906251200KME 0.2...	1.05e4	74.6	NO

Name: 190711M3_66, Date: 12-Jul-2019, Time: 08:56:32, ID: 1901781-09 FB1906251135SK 0.25189, Description: FB1906251135SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901781-09 FB1906251135SK 0.25189	4.58e3	143.4	NO
2	2	13C5-PFHxA	1901781-09 FB1906251135SK 0.25189	8.25e3	73.8	NO
3	3	18O2-PFHxS	1901781-09 FB1906251135SK 0.25189	5.36e2	99.1	NO
4	4	13C8-PFOA	1901781-09 FB1906251135SK 0.25189	1.21e4	82.2	NO
5	5	13C9-PFNA	1901781-09 FB1906251135SK 0.25189	7.53e3	90.2	NO
6	6	13C4-PFOS	1901781-09 FB1906251135SK 0.25189	1.20e3	83.0	NO
7	7	13C6-PFDA	1901781-09 FB1906251135SK 0.25189	9.05e3	80.6	NO
8	8	13C7-PFUdA	1901781-09 FB1906251135SK 0.25189	1.10e4	78.3	NO

Name: 190711M3_67, Date: 12-Jul-2019, Time: 09:07:05, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

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Name: 190711M3_68, Date: 12-Jul-2019, Time: 09:17:43, ID: ST190711M3-14 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190711M3-14 PFC CS3 19G1106	3.37e3	105.7	NO
2	2	13C5-PFHxA	ST190711M3-14 PFC CS3 19G1106	1.03e4	92.4	NO
3	3	18O2-PFHxS	ST190711M3-14 PFC CS3 19G1106	5.56e2	102.8	NO
4	4	13C8-PFOA	ST190711M3-14 PFC CS3 19G1106	1.45e4	98.1	NO
5	5	13C9-PFNA	ST190711M3-14 PFC CS3 19G1106	8.67e3	104.0	NO
6	6	13C4-PFOS	ST190711M3-14 PFC CS3 19G1106	1.43e3	98.9	NO
7	7	13C6-PFDA	ST190711M3-14 PFC CS3 19G1106	1.06e4	94.6	NO
8	8	13C7-PFUdA	ST190711M3-14 PFC CS3 19G1106	1.25e4	88.8	NO

Name: 190711M3_69, Date: 12-Jul-2019, Time: 09:28:22, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190711M3_70, Date: 12-Jul-2019, Time: 09:38:55, ID: IB tester, Description: MeOH

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IB tester	2.63e3	82.3	NO
2	2	13C5-PFHxA	IB tester	8.52e3	76.1	NO
3	3	18O2-PFHxS	IB tester	5.54e2	102.5	NO
4	4	13C8-PFOA	IB tester	1.35e4	91.5	NO
5	5	13C9-PFNA	IB tester	8.80e3	105.5	NO
6	6	13C4-PFOS	IB tester	1.37e3	94.8	NO
7	7	13C6-PFDA	IB tester	1.01e4	89.6	NO
8	8	13C7-PFUdA	IB tester	1.22e4	86.8	NO

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Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-IB.qld

Last Altered: Friday, July 12, 2019 09:29:49 Pacific Daylight Time
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Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8		2169.162	1.00					NO		
2	2	PFPrS	248.9 > 79.9		658.630	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		4335.059	1.00					NO		
4	4	PFPeA	263.1 > 218.9		4335.059	1.00					NO		
5	5	PFBS	299.0 > 79.7		658.630	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		1393.920	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	2169.162	3391.515	1.00	1.18	7.995	12.3	98.4	NO		
8	49	13C3-PFBS	302.0 > 98.8	658.630	645.575	1.00	2.46	12.753	12.3	98.6	NO		
9	48	13C3-PFPeA	266.0 > 221.8	4335.059	11174.867	1.00	2.17	4.849	11.9	95.2	NO		
10	48	13C3-PFPeA	266.0 > 221.8	4335.059	11174.867	1.00	2.17	4.849	11.9	95.2	NO		
11	49	13C3-PFBS	302.0 > 98.8	658.630	645.575	1.00	2.46	12.753	12.3	98.6	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1393.920	645.575	1.00	2.88	26.990	12.1	96.4	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0		3474.314	1.00					NO		
15	8	PFPeS	349.1>80.1		658.630	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1278.940	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		4347.714	1.00					NO		
18	11	PFHpA	363.0 > 318.9		4347.714	1.00					NO		
19	12	ADONA	376.8 > 250.9		4347.714	1.00					NO		
20	52	13C2-PFHxA	315.0 > 270.0	3474.314	11174.867	1.00	2.96	3.886	4.9	98.1	NO		
21	49	13C3-PFBS	302.0 > 98.8	658.630	645.575	1.00	2.46	12.753	12.3	98.6	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1278.940	11174.867	1.00	3.18	1.431	4.7	93.4	NO		
23	53	13C4-PFHpA	367.2 > 321.8	4347.714	11174.867	1.00	3.58	4.863	12.4	99.5	NO		
24	53	13C4-PFHpA	367.2 > 321.8	4347.714	11174.867	1.00	3.58	4.863	12.4	99.5	NO		
25	53	13C4-PFHpA	367.2 > 321.8	4347.714	11174.867	1.00	3.58	4.863	12.4	99.5	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6		1497.795	1.00					NO		
28	15	6:2 FTS	427.0 > 406.9		1169.839	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	50.243	8479.957	1.00	4.11	0.074	0.0		NO	10.472	YES
30	18	PFecHS	460.8 > 381.0		8479.957	1.00					NO		
31	19	PFHpS	449.0 > 80.0		1397.016	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		9163.891	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	1497.795	645.575	1.00	3.74	29.001	11.4	91.1	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1169.839	1444.856	1.00	4.05	10.121	13.7	110.0	NO		
35	58	13C2-PFOA	414.9 > 369.7	8479.957	15397.797	1.00	4.11	6.884	12.2	97.6	NO		
36	58	13C2-PFOA	414.9 > 369.7	8479.957	15397.797	1.00	4.11	6.884	12.2	97.6	NO		

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Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	1397.016	1444.856	1.00	4.64	12.086	11.4	91.2	NO		
38	56	13C5-PFNA	468.2 > 422.9	9163.891	9162.572	1.00	4.55	12.502	12.7	101.8	NO		
39	-1												
40	21	PFNA	463.0 > 418.8		9163.891	1.00					NO		
41	22	PFOSA	497.9 > 77.9		1767.577	1.00					NO		
42	23	L-PFOS	498.9 > 79.9		1397.016	1.00					NO		
43	25	9Cl-PF30NS	530.7 > 350.8		1397.016	1.00					NO		
44	26	PFDA	513 > 468.8		7527.925	1.00					NO		
45	27	8:2 FTS	527.0 > 506.9		1117.957	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	9163.891	9162.572	1.00	4.55	12.502	12.7	101.8	NO		
47	57	13C8-PFOSA	506.1 > 77.7	1767.577	13872.562	1.00	4.62	1.593	12.2	97.8	NO		
48	59	13C8-PFOS	507.0 > 79.9	1397.016	1444.856	1.00	4.64	12.086	11.4	91.2	NO		
49	59	13C8-PFOS	507.0 > 79.9	1397.016	1444.856	1.00	4.64	12.086	11.4	91.2	NO		
50	60	13C2-PFDA	515.1 > 469.9	7527.925	11306.739	1.00	4.93	8.322	12.6	100.5	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1117.957	1444.856	1.00	4.90	9.672	13.9	111.3	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		1397.016	1.00					NO		
54	29	L-MeFOSAA	570 > 419		1463.168	1.00					NO		
55	31	L-EtFOSAA	584.1 > 419		1896.617	1.00					NO		
56	33	PFUdA	563.0 > 518.9	27.150	11955.964	1.00	5.26	0.028	0.0		NO	20.292	YES
57	34	PFDS	598.8 > 79.9		1117.957	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		13471.563	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	1397.016	1444.856	1.00	4.64	12.086	11.4	91.2	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1463.168	13872.562	1.00	5.08	1.318	10.2	81.7	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1896.617	13872.562	1.00	5.24	1.709	11.6	92.7	NO		
62	63	13C2-PFUdA	565 > 519.8	11955.964	13872.562	1.00	5.26	10.773	12.6	100.6	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1117.957	1444.856	1.00	4.90	9.672	13.9	111.3	NO		
64	65	13C2-PFDoA	614.7 > 569.7	13471.563	11306.739	1.00	5.55	14.893	12.1	96.9	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		1117.957	1.00					NO		
67	37	PFDoA	612.9 > 569.0		13471.563	1.00					NO		
68	38	N-MeFOSA	512.1 > 168.9		3768.635	1.00					NO		
69	39	PFTrDA	662.9 > 618.9		13471.563	1.00					NO		
70	40	PFDoS	698.8 > 79.9		6802.284	1.00					NO		
71	41	PFTeDA	713.0 > 669.0		6802.284	1.00					NO		
72	65	13C2-PFDoA	614.7 > 569.7	13471.563	11306.739	1.00	5.55	14.893	12.1	96.9	NO		

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Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	13471.563	11306.739	1.00	5.55	14.893	12.1	96.9	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	3768.635	13872.562	1.00	5.70	3.396	153.2	102.2	NO		
75	65	13C2-PFDoA	614.7 > 569.7	13471.563	11306.739	1.00	5.55	14.893	12.1	96.9	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	6802.284	13872.562	1.00	6.02	6.129	12.0	95.9	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	6802.284	13872.562	1.00	6.02	6.129	12.0	95.9	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		5493.738	1.00					NO		
80	43	PFHxDA	813.1 > 768.6		3849.397	1.00					NO		
81	44	PFODA	913.1 > 868.8	22.256	3849.397	1.00	6.63	0.029	0.0		NO		
82	45	N-MeFOSE	616.1 > 58.9		5038.851	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		4912.971	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	3391.515	3391.515	1.00	1.18	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	5493.738	13872.562	1.00	6.13	4.950	158.8	105.9	NO		
86	69	13C2-PFHxDA	815 > 769.7	3849.397	13872.562	1.00	6.38	3.469	4.7	94.4	NO		
87	69	13C2-PFHxDA	815 > 769.7	3849.397	13872.562	1.00	6.38	3.469	4.7	94.4	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	5038.851	13872.562	1.00	6.29	4.540	162.4	108.3	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	4912.971	13872.562	1.00	6.44	4.427	160.9	107.3	NO		
90	73	13C5-PFHxA	318.0 > 272.9	11174.867	11174.867	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	15397.797	15397.797	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	645.575	645.575	1.00	3.74	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	9162.572	9162.572	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1444.856	1444.856	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	11306.739	11306.739	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	13872.562	13872.562	1.00	5.26	12.500	12.5	100.0	NO		

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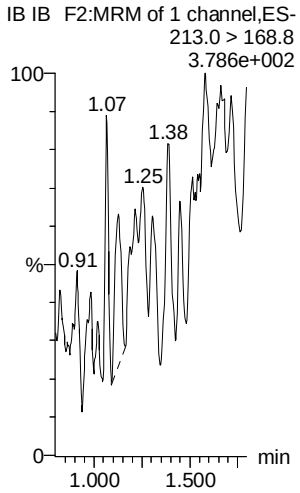
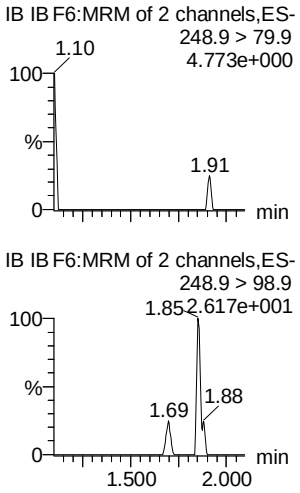
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

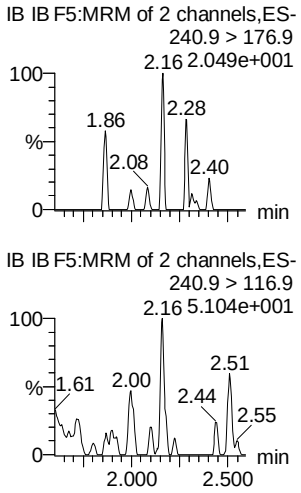
PFBA



PFPrS



3:3 FTCA



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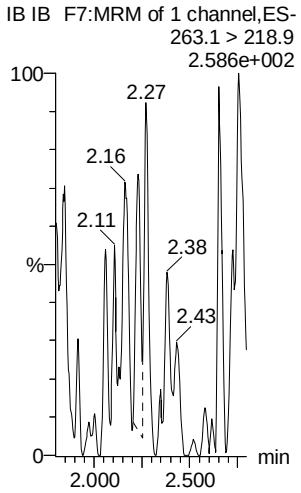

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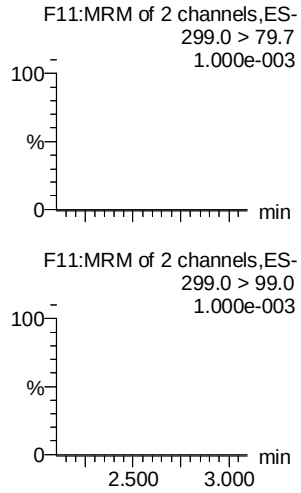
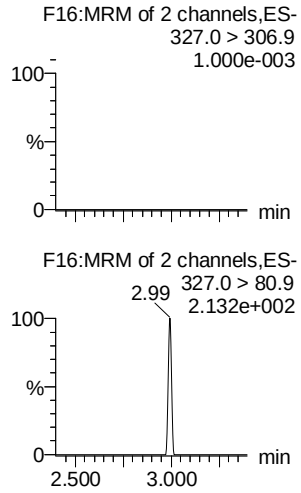
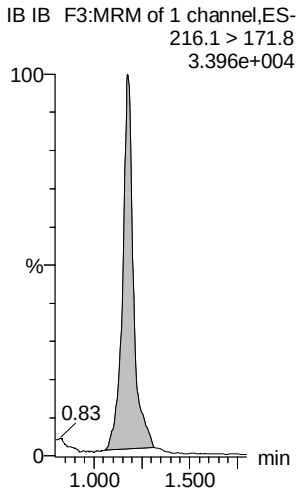


4:2 FTS



13C3-PFBA



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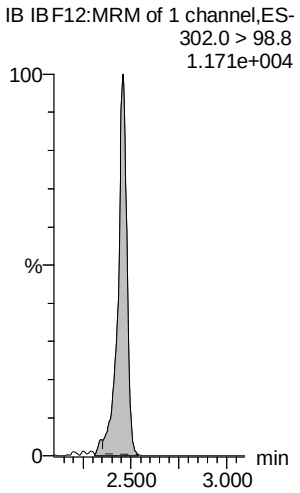
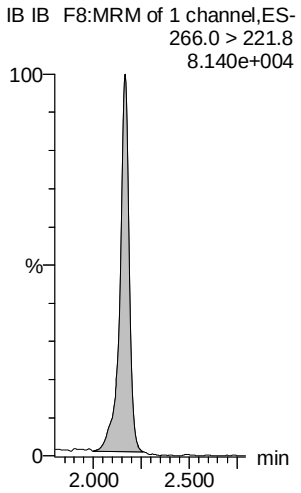


13C3-PFPeA



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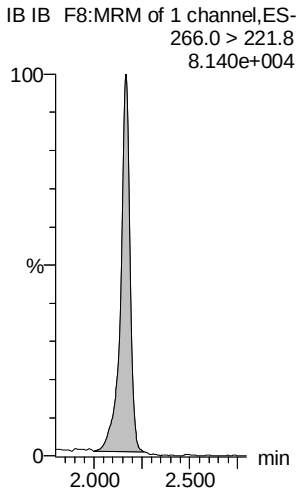
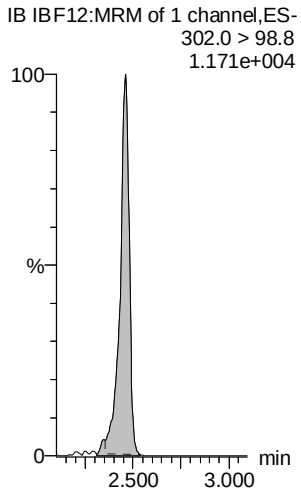
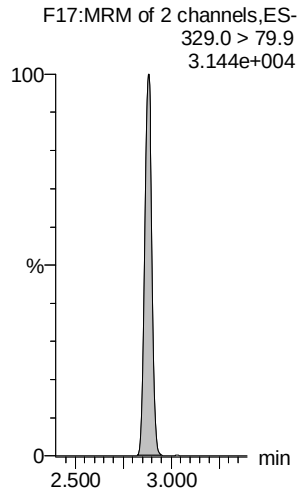


13C3-PFBS



13C2-4:2 FTS



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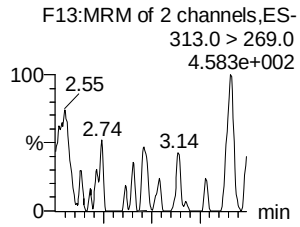
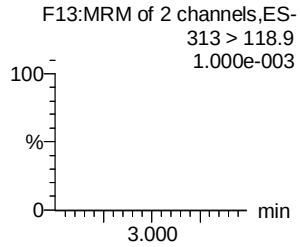
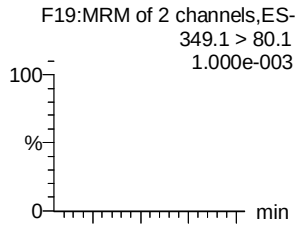
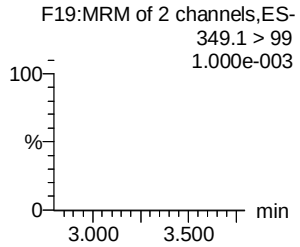
PFHxA



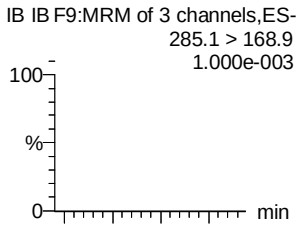


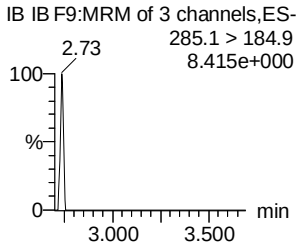
PFPeS



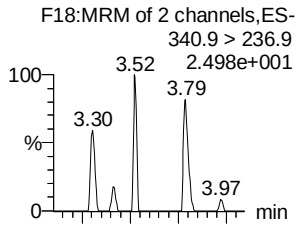


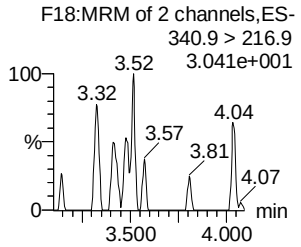
HFPO-DA



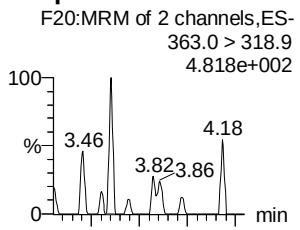


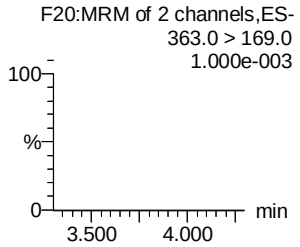
5:3 FTCA





PFHpA





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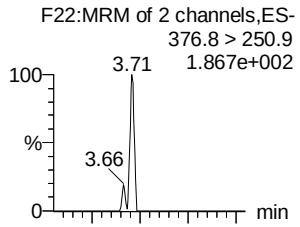
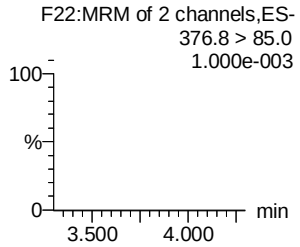
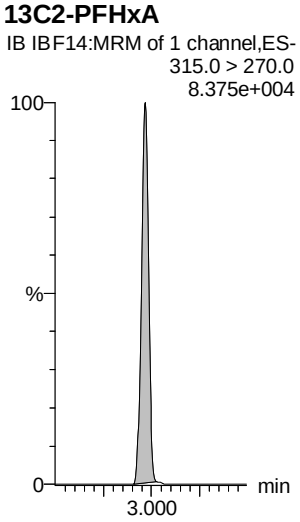
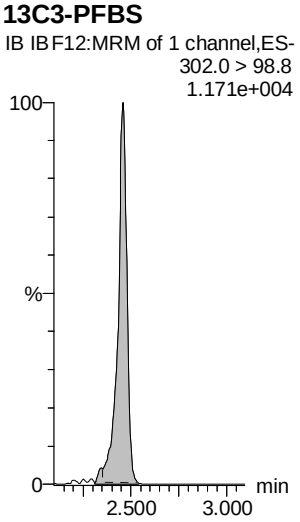




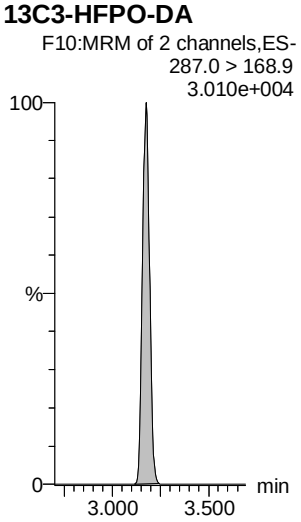
13C2-PFHxA



13C3-PFBS



13C3-HFPO-DA



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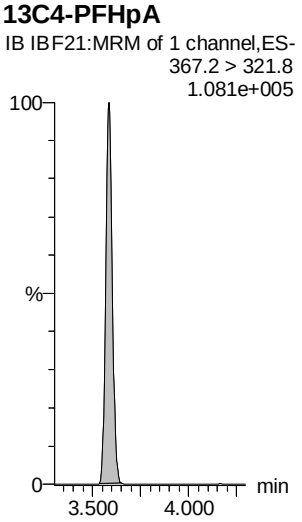

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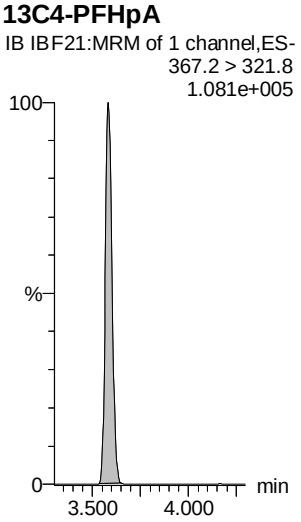

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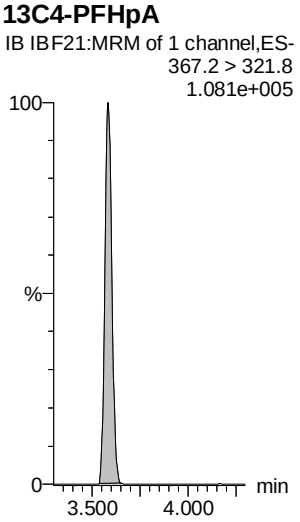


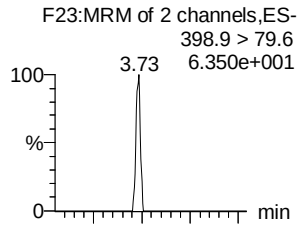
Vista Analytical Laboratory

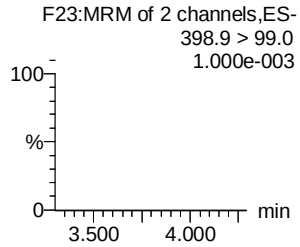
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-IB.qld

Last Altered: Friday, July 12, 2019 09:29:49 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:30:42 Pacific Daylight Time

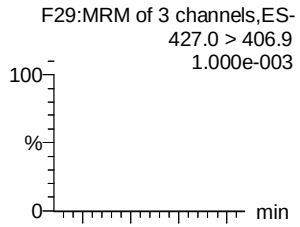
Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

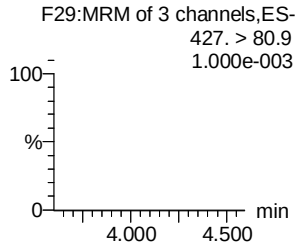
L-PFHxS





6:2 FTS





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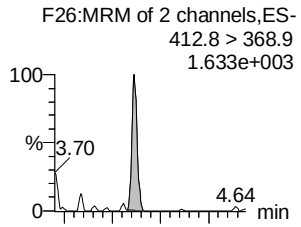

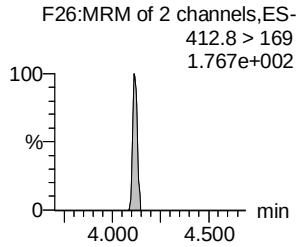

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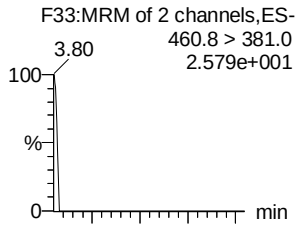

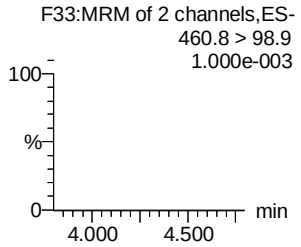

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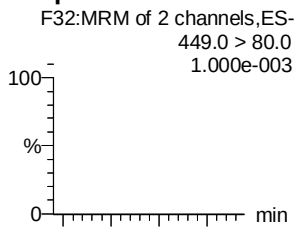
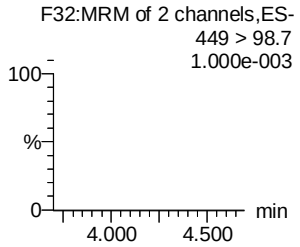
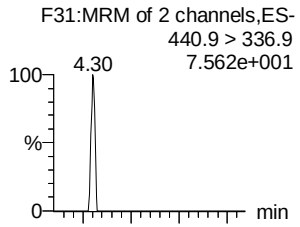
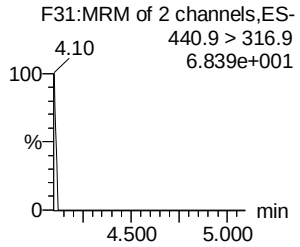




7:3 FTCA





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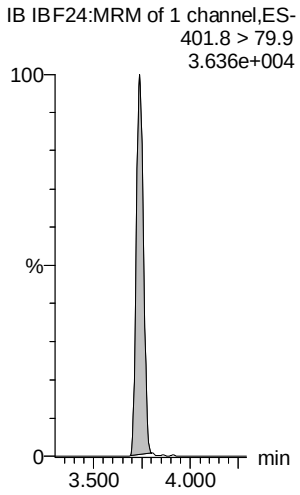
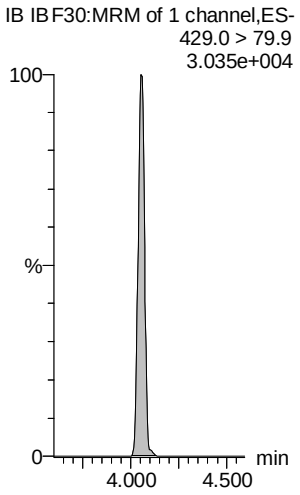


13C2-6:2 FTS



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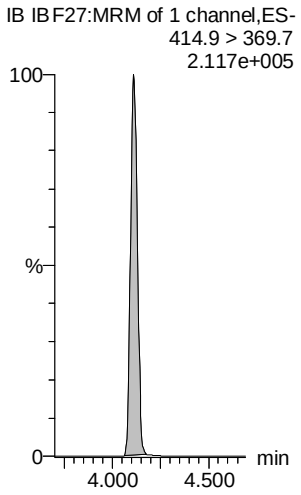

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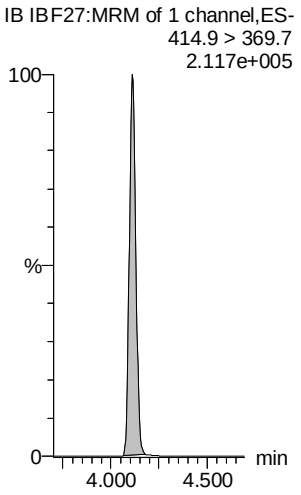
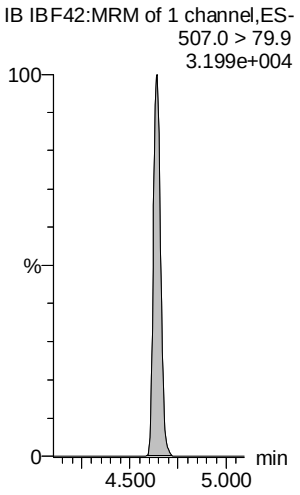
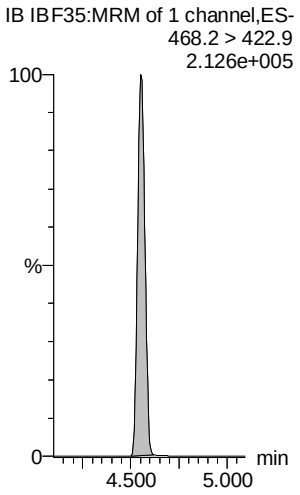


13C8-PFOS



13C5-PFNA



Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-IB.qld

Last Altered: Friday, July 12, 2019 09:29:49 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:30:42 Pacific Daylight Time

Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

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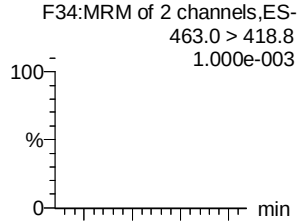

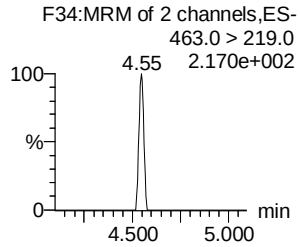

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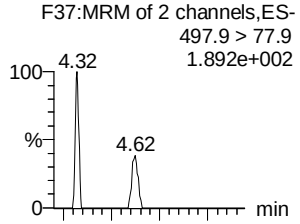
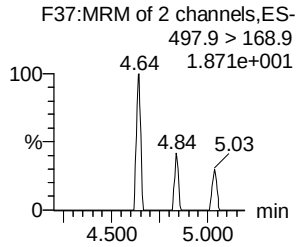
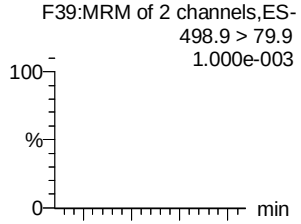
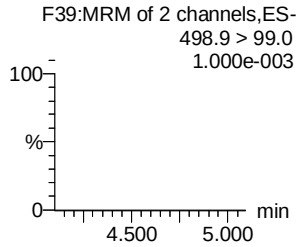


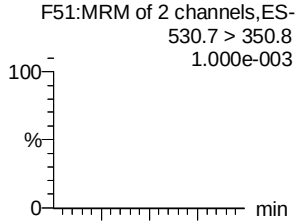


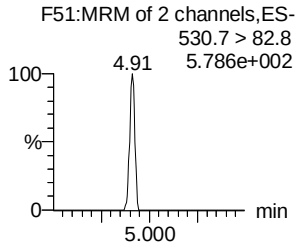
L-PFOS





9Cl-PF30NS





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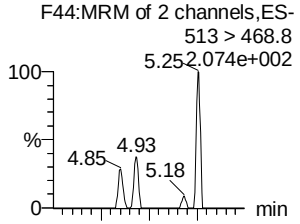

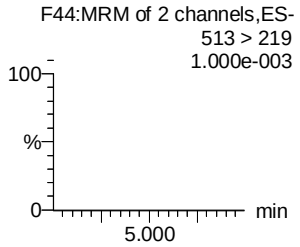

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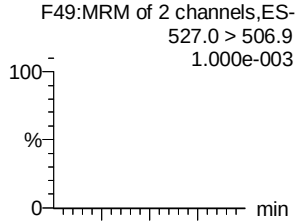

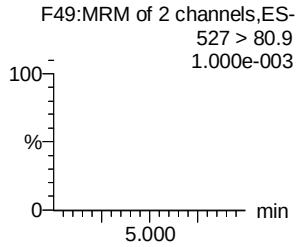

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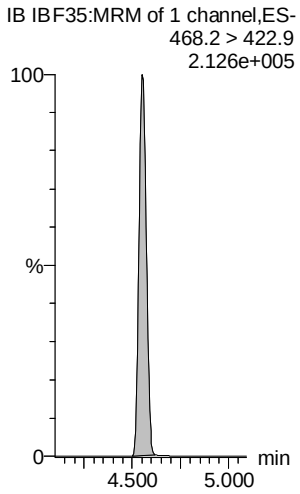

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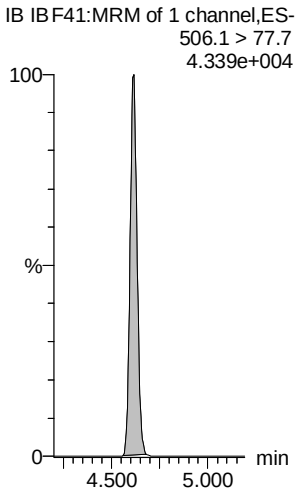
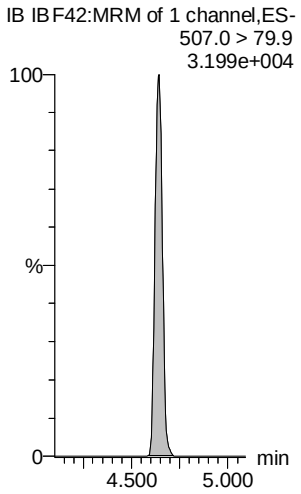


13C8-PFOS



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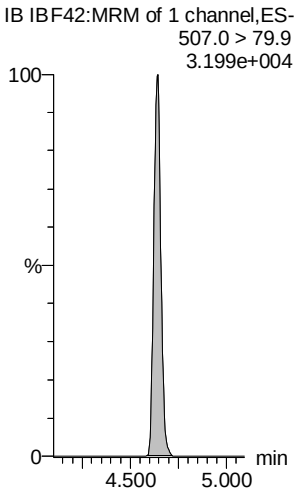

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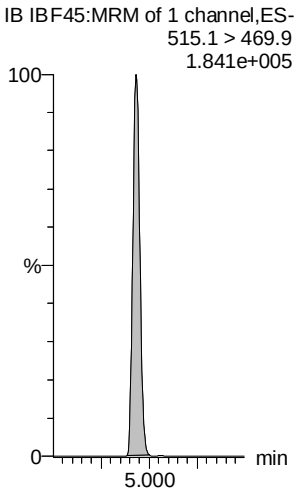

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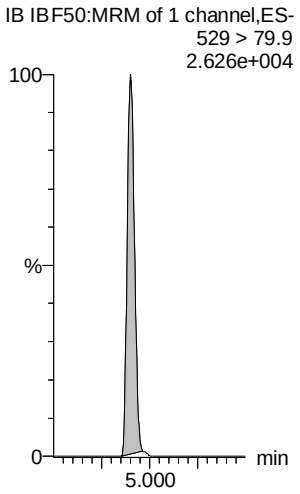
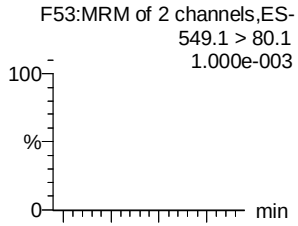


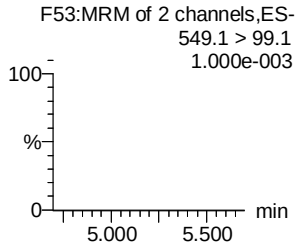
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-IB.qld

Last Altered: Friday, July 12, 2019 09:29:49 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:30:42 Pacific Daylight Time

Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

PFNS





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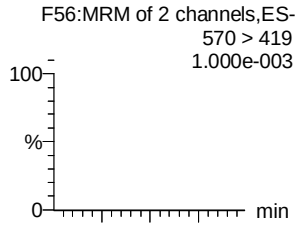

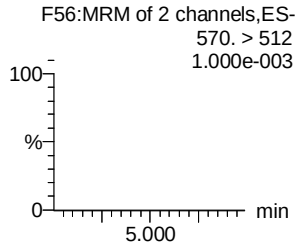

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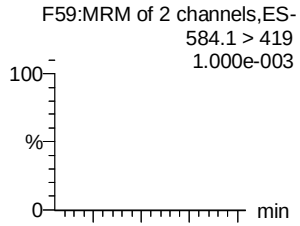
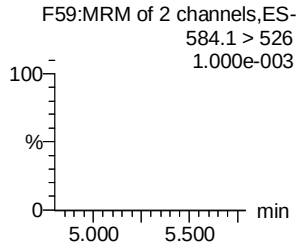
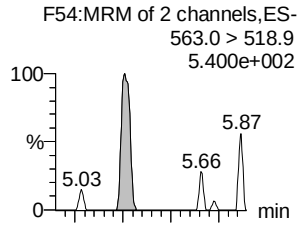
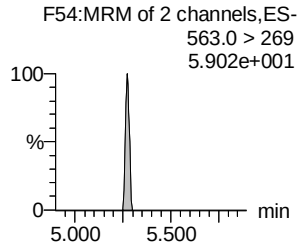


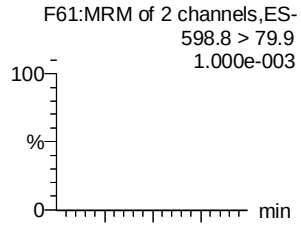


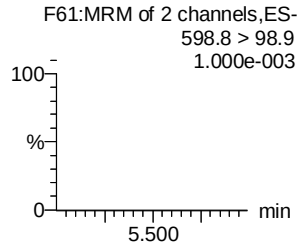
PFUdA



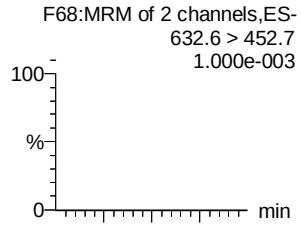


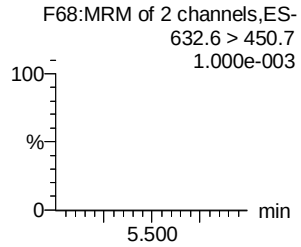
PFDS



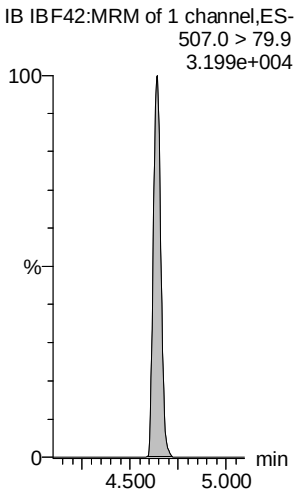


11Cl-PF30UdS

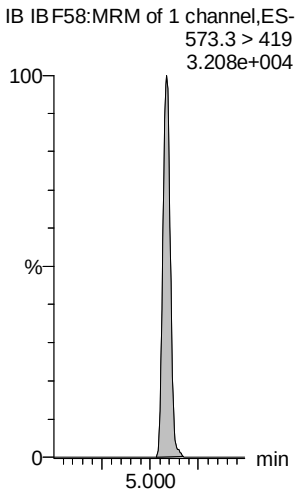




13C8-PFOS



d3-N-MeFOSAA



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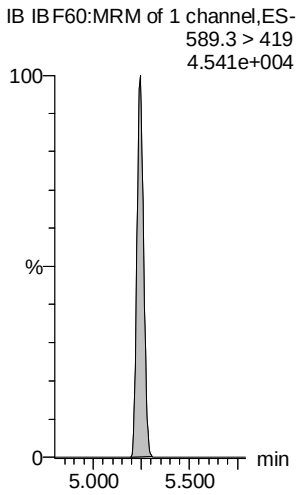

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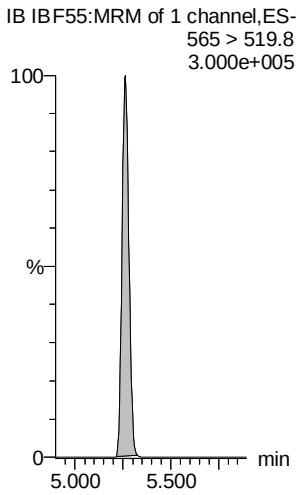
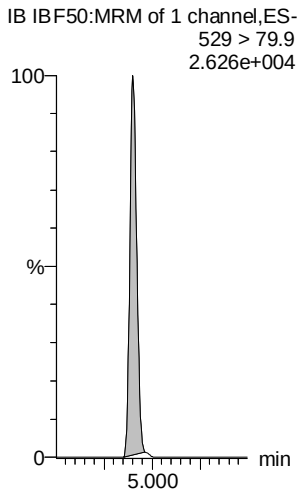
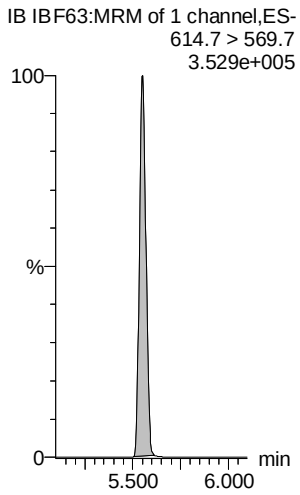


13C2-8:2 FTS



13C2-PFDoA

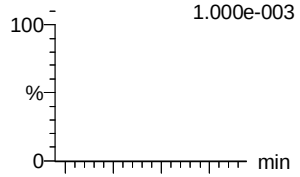


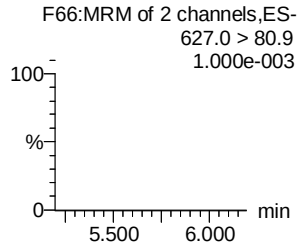
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-IB.qld

Last Altered: Friday, July 12, 2019 09:29:49 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:30:42 Pacific Daylight Time

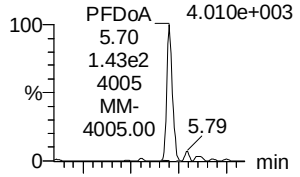
Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

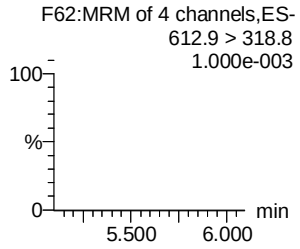
10:2 FTS





PFDoA





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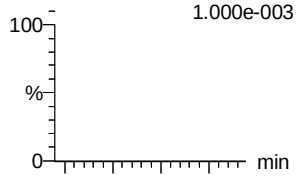

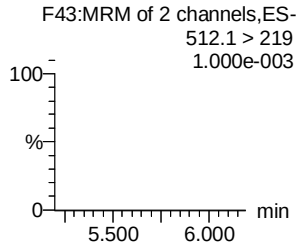

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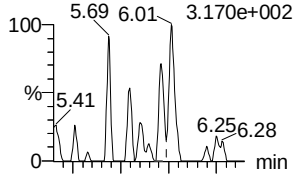

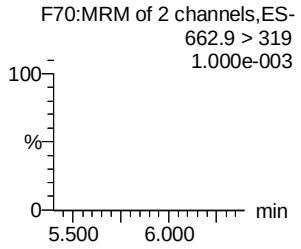

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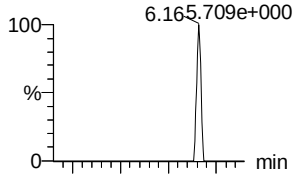

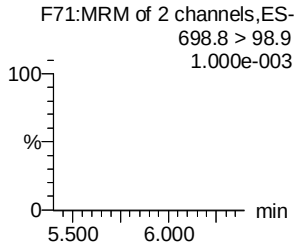

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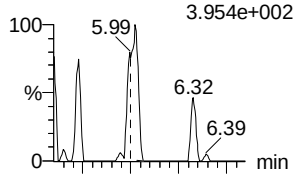

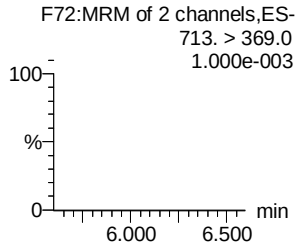

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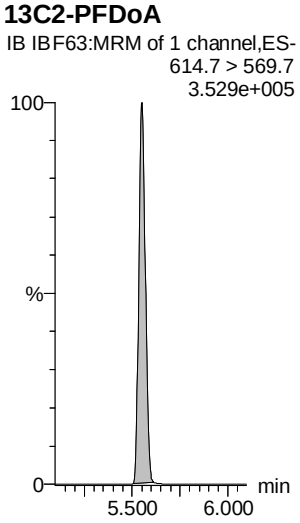
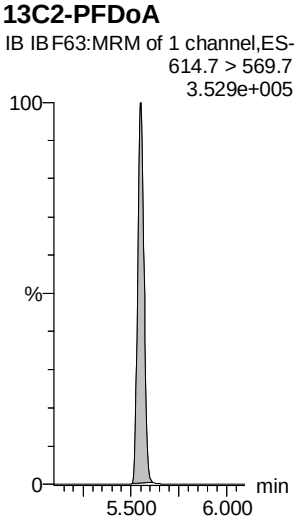
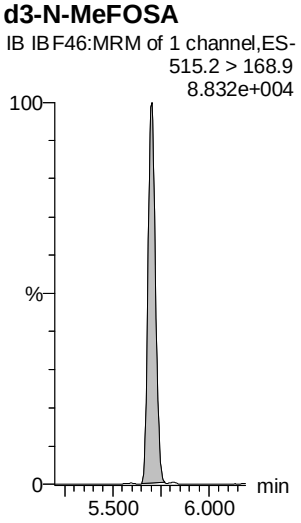


13C2-PFDoA



d3-N-MeFOSA



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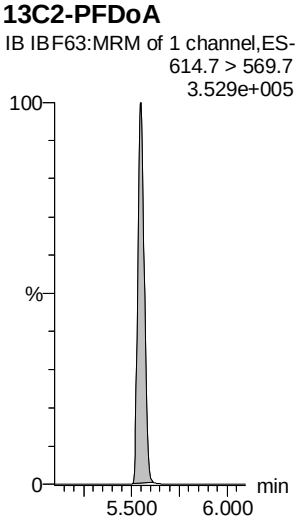

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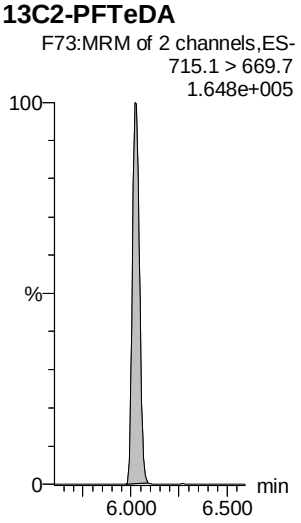

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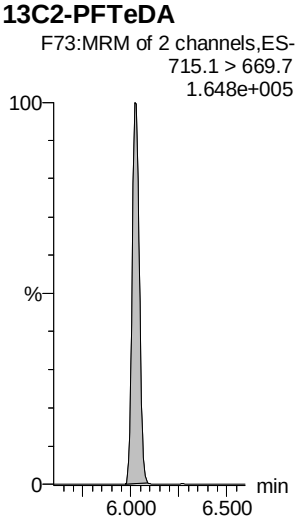
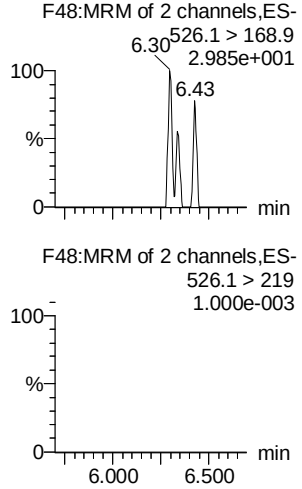


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-IB.qld

Last Altered: Friday, July 12, 2019 09:29:49 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:30:42 Pacific Daylight Time

Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

N-EtFOSA



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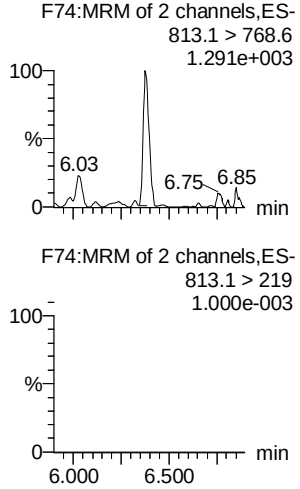

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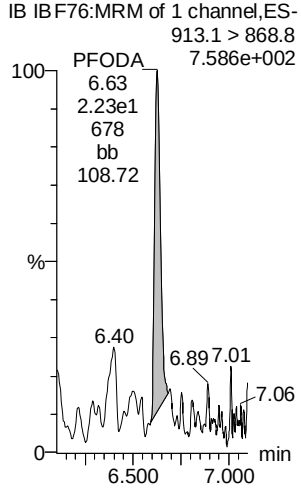
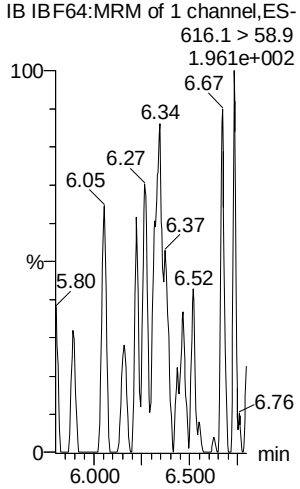


N-MeFOSE



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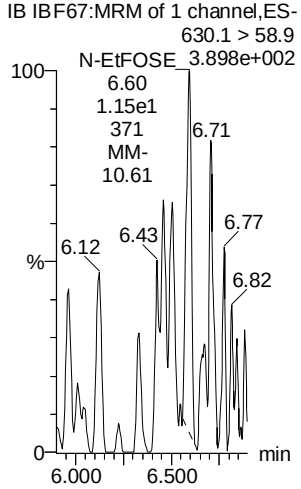

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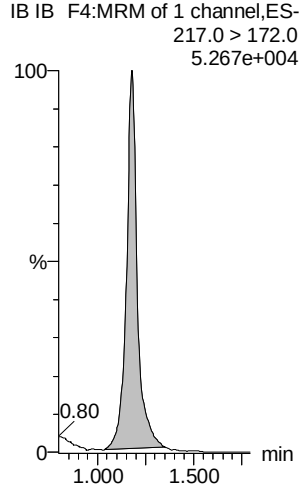
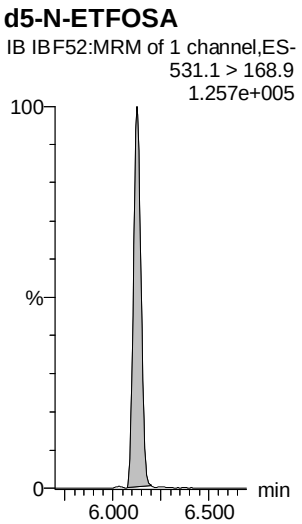


d5-N-ETFOSA



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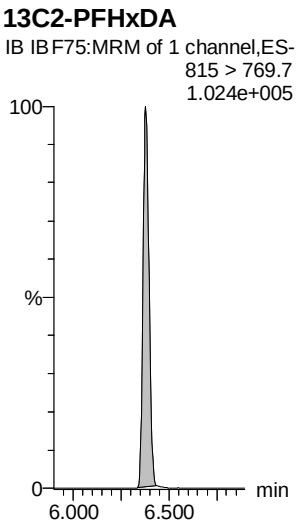

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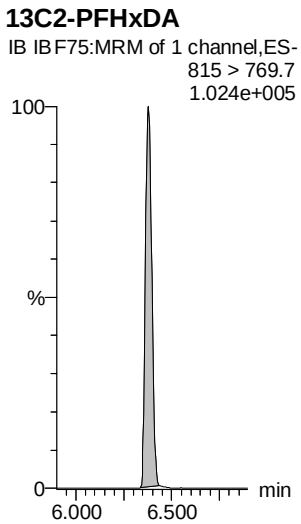

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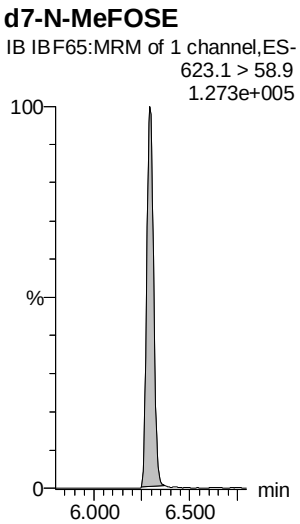

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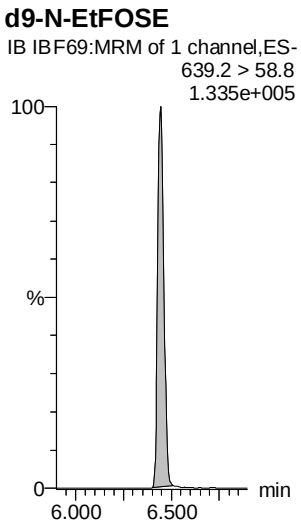

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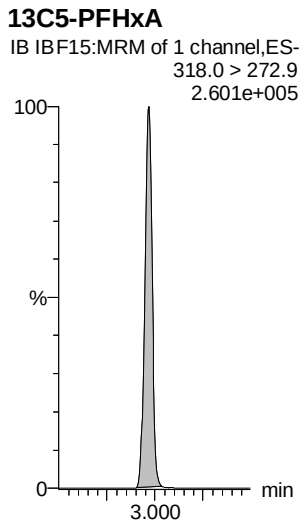
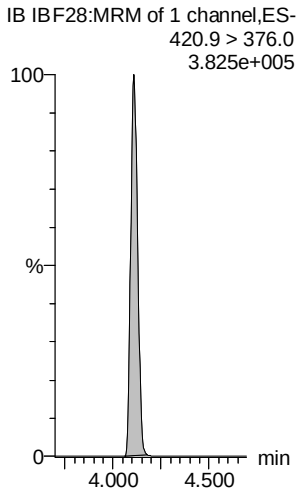


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-IB.qld

Last Altered: Friday, July 12, 2019 09:29:49 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:30:42 Pacific Daylight Time

Name: 190711M3_12, Date: 11-Jul-2019, Time: 23:23:47, ID: IB, Description: IB

13C8-PFOA



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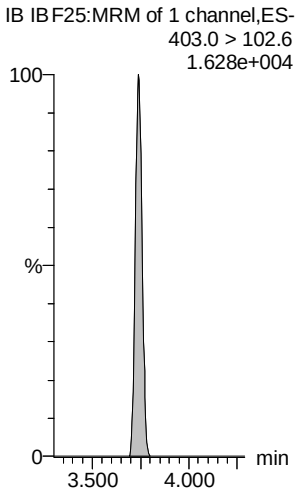

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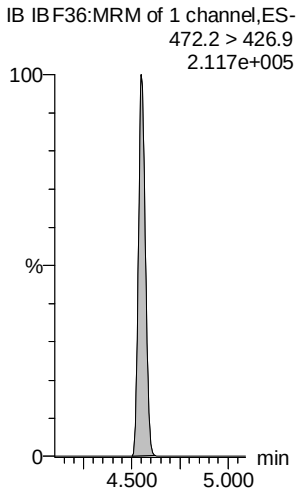

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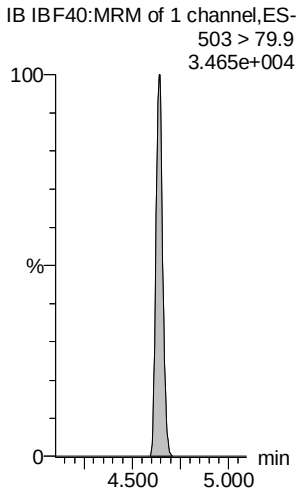

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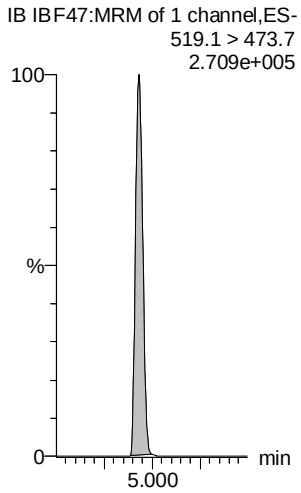
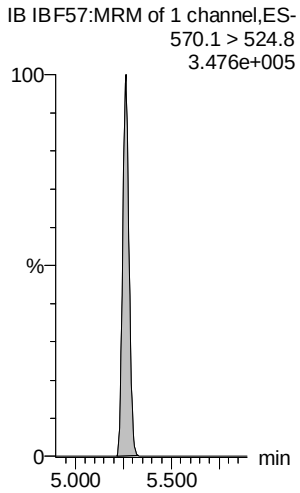


13C7-PFUdA



LC Calibration Standards Review Checklist Q4

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID:	ST190711M3-3	L M H	☑	☐ Ⓐ	☒	☑	☑	☑	☑
Calibration ID:	-11	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	-12	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	-13	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	-14	L M H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐ N/A Cal 7/12/19	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 07/03/19

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

All Branches in Acquisition Window ☑

IIS Area Saved ☑

Reviewed By: [illegible] 7/12/19
Initials/Date

Comments:

Ⓐ IICI-PF30uds < 70%.

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:42:47 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	PFBA	1.17	1.17			
2	PFPrS	1.53	1.53	2.303	2.303	NO
3	3:3 FTCA	2.03	2.01	1.893	1.893	NO
4	PFPeA	2.16	2.16			
5	PFBS	2.46	2.46	3.066	3.066	NO
6	4:2 FTS	2.88	2.88	1.967	1.967	NO
7	PFHxA	2.96	2.96	16.349	16.349	NO
8	PFPeS	3.17	3.17	1.554	1.554	NO
9	HFPO-DA	3.17	3.17	1.994	1.994	NO
10	5:3 FTCA	3.51	3.52	1.387	1.387	NO
11	PFHpA	3.58	3.58	5.744	5.744	NO
12	ADONA	3.70	3.70	3.227	3.227	NO
13	L-PFHxS	3.74	3.74	2.181	2.181	NO
14	6:2 FTS	4.05	4.05	2.109	2.109	NO
15	L-PFOA	4.11	4.11	3.450	3.450	NO
16	PFecHS	4.13	4.13	0.939	0.939	NO
17	PFHpS	4.23	4.23	2.242	2.242	NO
18	7:3 FTCA	4.55	4.54	2.024	2.024	NO
19	PFNA	4.56	4.56	2.747	2.747	NO
20	PFOSA	4.62	4.61	32.469	32.469	NO
21	L-PFOS	4.64	4.64	2.240	2.240	NO
22	9Cl-PF30NS	4.86	4.86	16.635	16.635	NO
23	PFDA	4.94	4.94	4.576	4.576	NO
24	8:2 FTS	4.90	4.90	1.464	1.464	NO
25	PFNS	5.00	5.00	1.585	1.585	NO
26	L-MeFOSAA	5.09	5.09	2.581	2.581	NO

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Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	L-EtFOSAA	5.24	5.25	1.399	1.399	NO
2	PFUdA	5.26	5.26	6.355	6.355	NO
3	PFDS	5.31	5.31	1.783	1.783	NO
4	11Cl-PF30UdS	5.48	5.48	6.844	6.844	NO
5	10:2 FTS	5.53	5.53	1.528	1.528	NO
6	PFDoA	5.55	5.55	7.294	7.294	NO
7	N-MeFOSA	5.67	5.67	1.663	1.663	NO
8	PFTrDA	5.80	5.80	15.848	15.848	NO
9	PFDoS	5.83	5.83	1.916	1.916	NO
10	PFTeDA	6.02	6.03	13.714	13.714	NO
11	N-EtFOSA	6.11	6.11	1.778	1.778	NO
12	PFHxDA	6.38	6.38	15.561	15.561	NO
13	PFODA	6.63	6.63			
14	N-MeFOSE	6.30	6.30			
15	N-EtFOSE	6.46	6.46			

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

Ⓐ 11C1-PF3Ouds < 70%.

Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

JAS 7/12/19

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	199.965	2067.945	1.00	1.18	1.209	0.9	89.4	NO		
2	2	PFPrS	248.9 > 79.9	43.861	526.839	1.00	1.54	1.041	1.0	98.2	NO	2.469	NO
3	3	3:3 FTCA	240.9 > 176.9	9.493	3889.368	1.00	2.01	0.031	0.9	85.7	NO	2.098	NO
4	4	PFPeA	263.1 > 218.9	285.547	3889.368	1.00	2.16	0.918	1.0	101.1	NO		
5	5	PFBS	299.0 > 79.7	90.047	526.839	1.00	2.46	2.136	1.0	103.3	NO	3.071	NO
6	6	4:2 FTS	327.0 > 306.9	268.281	1442.733	1.00	2.87	2.324	1.0	96.3	NO	2.291	NO
7	47	13C3-PFBA	216.1 > 171.8	2067.945	3193.654	1.00	1.18	8.094	12.5	99.6	NO		
8	49	13C3-PFBS	302.0 > 98.8	526.839	540.822	1.00	2.46	12.177	11.8	94.1	NO		
9	48	13C3-PFPeA	266.0 > 221.8	3889.368	11189.764	1.00	2.17	4.345	10.7	85.3	NO		
10	48	13C3-PFPeA	266.0 > 221.8	3889.368	11189.764	1.00	2.17	4.345	10.7	85.3	NO		
11	49	13C3-PFBS	302.0 > 98.8	526.839	540.822	1.00	2.46	12.177	11.8	94.1	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1442.733	540.822	1.00	2.88	33.346	14.9	119.2	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	734.832	3614.287	1.00	2.96	1.017	0.9	87.4	NO	15.410	NO
15	8	PFPeS	349.1>80.1	109.890	526.839	1.00	3.17	2.607	1.2	121.7	NO	1.251	NO
16	9	HFPO-DA	285.1 > 168.9	160.302	1420.385	1.00	3.18	0.564	1.0	103.7	NO	2.004	NO
17	10	5:3 FTCA	340.9 > 236.9	81.809	4256.605	1.00	3.51	0.240	1.0	103.7	NO	1.538	NO
18	11	PFHpA	363.0 > 318.9	455.800	4256.605	1.00	3.58	1.339	1.1	112.3	NO	9.096	YES
19	12	ADONA	376.8 > 250.9	1355.290	4256.605	1.00	3.70	3.980	0.9	92.2	NO	3.876	NO
20	52	13C2-PFHxA	315.0 > 270.0	3614.287	11189.764	1.00	2.96	4.037	5.1	101.9	NO		
21	49	13C3-PFBS	302.0 > 98.8	526.839	540.822	1.00	2.46	12.177	11.8	94.1	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1420.385	11189.764	1.00	3.18	1.587	5.2	103.5	NO		
23	53	13C4-PFHpA	367.2 > 321.8	4256.605	11189.764	1.00	3.58	4.755	12.2	97.3	NO		
24	53	13C4-PFHpA	367.2 > 321.8	4256.605	11189.764	1.00	3.58	4.755	12.2	97.3	NO		
25	53	13C4-PFHpA	367.2 > 321.8	4256.605	11189.764	1.00	3.58	4.755	12.2	97.3	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	83.561	1432.166	1.00	3.74	0.729	1.0	95.8	NO	1.753	NO
28	15	6:2 FTS	427.0 > 406.9	232.232	1055.665	1.00	4.06	2.750	1.0	100.7	NO	2.498	NO
29	16	L-PFOA	412.8 > 368.9	1231.637	8696.132	1.00	4.11	1.770	0.9	93.7	NO	3.332	NO
30	18	PFecHS	460.8 > 381.0	175.103	8696.132	1.00	4.12	0.252	1.0	97.8	NO	1.016	NO
31	19	PFHpS	449.0 > 80.0	102.843	1537.147	1.00	4.23	0.836	1.0	99.0	NO	8.032	YES
32	20	7:3 FTCA	440.9 > 336.9	70.857	8563.523	1.00	4.54	0.103	0.9	89.3	NO	3.345	YES
33	54	13C3-PFHxS	401.8 > 79.9	1432.166	540.822	1.00	3.74	33.102	13.0	104.0	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1055.665	1443.314	1.00	4.05	9.143	12.4	99.4	NO		
35	58	13C2-PFOA	414.9 > 369.7	8696.132	14770.249	1.00	4.11	7.360	13.0	104.3	NO		
36	58	13C2-PFOA	414.9 > 369.7	8696.132	14770.249	1.00	4.11	7.360	13.0	104.3	NO		

CH 7/12/19

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	1537.147	1443.314	1.00	4.64	13.313	12.6	100.5	NO		
38	56	13C5-PFNA	468.2 > 422.9	8563.523	8340.979	1.00	4.55	12.834	13.1	104.5	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	736.998	8563.523	1.00	4.55	1.076	1.0	95.4	NO	3.789	NO
41	22	PFOSA	497.9 > 77.9	129.996	1871.672	1.00	4.61	0.868	0.7	70.4	NO	39.803	NO
42	23	L-PFOS	498.9 > 79.9	148.648	1537.147	1.00	4.64	1.209	1.1	109.0	NO	2.829	NO
43	25	9Cl-PF30NS	530.7 > 350.8	349.698	1537.147	1.00	4.86	2.844	1.0	97.3	NO	88.554	YES
44	26	PFDA	513 > 468.8	857.462	7221.111	1.00	4.93	1.484	1.0	95.6	NO	4.508	NO
45	27	8:2 FTS	527.0 > 506.9	244.740	1038.107	1.00	4.90	2.947	1.3	129.7	NO	1.759	NO
46	56	13C5-PFNA	468.2 > 422.9	8563.523	8340.979	1.00	4.55	12.834	13.1	104.5	NO		
47	57	13C8-PFOSA	506.1 > 77.7	1871.672	14087.684	1.00	4.61	1.661	12.7	102.0	NO		
48	59	13C8-PFOS	507.0 > 79.9	1537.147	1443.314	1.00	4.64	13.313	12.6	100.5	NO		
49	59	13C8-PFOS	507.0 > 79.9	1537.147	1443.314	1.00	4.64	13.313	12.6	100.5	NO		
50	60	13C2-PFDA	515.1 > 469.9	7221.111	11232.013	1.00	4.93	8.036	12.1	97.1	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1038.107	1443.314	1.00	4.90	8.991	12.9	103.4	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	92.409	1537.147	1.00	5.00	0.751	0.9	93.7	NO	1.202	NO
54	29	L-MeFOSAA	570 > 419	377.045	1554.592	1.00	5.09	3.032	1.0	103.1	NO	2.525	NO
55	31	L-EtFOSAA	584.1 > 419	225.752	1758.010	1.00	5.25	1.605	0.9	92.8	NO	1.253	NO
56	33	PFUdA	563.0 > 518.9	833.829	11481.199	1.00	5.26	0.908	1.0	96.2	NO	7.443	NO
57	34	PFDS	598.8 > 79.9	110.114	1038.107	1.00	5.31	1.326	0.8	83.1	NO	2.878	YES
58	35	11Cl-PF30UdS	632.6 > 452.7	48.250	13223.400	1.00	5.49	0.046	0.7	69.6	YES		
59	59	13C8-PFOS	507.0 > 79.9	1537.147	1443.314	1.00	4.64	13.313	12.6	100.5	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1554.592	14087.684	1.00	5.08	1.379	10.7	85.5	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1758.010	14087.684	1.00	5.24	1.560	10.6	84.7	NO		
62	63	13C2-PFUdA	565 > 519.8	11481.199	14087.684	1.00	5.26	10.187	11.9	95.1	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1038.107	1443.314	1.00	4.90	8.991	12.9	103.4	NO		
64	65	13C2-PFDoA	614.7 > 569.7	13223.400	11232.013	1.00	5.55	14.716	12.0	95.8	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	192.572	1038.107	1.00	5.54	2.319	0.9	88.8	NO	1.464	NO
67	37	PFDoA	612.9 > 569.0	921.527	13223.400	1.00	5.55	0.871	0.9	93.8	NO	8.227	NO
68	38	N-MeFOSA	512.1 > 168.9	106.245	3520.567	1.00	5.67	4.527	3.9	78.0	NO	1.699	NO
69	39	PFTrDA	662.9 > 618.9	1226.758	13223.400	1.00	5.80	1.160	1.1	112.7	NO	20.390	NO
70	40	PFDoS	698.8 > 79.9	135.882	6850.699	1.00	5.83	0.248	1.1	109.8	NO	2.545	NO
71	41	PFTeDA	713.0 > 669.0	831.811	6850.699	1.00	6.03	1.518	1.0	99.6	NO	24.591	YES
72	65	13C2-PFDoA	614.7 > 569.7	13223.400	11232.013	1.00	5.55	14.716	12.0	95.8	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	13223.400	11232.013	1.00	5.55	14.716	12.0	95.8	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	3520.567	14087.684	1.00	5.70	3.124	141.0	94.0	NO		
75	65	13C2-PFDoA	614.7 > 569.7	13223.400	11232.013	1.00	5.55	14.716	12.0	95.8	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	6850.699	14087.684	1.00	6.02	6.079	11.9	95.1	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	6850.699	14087.684	1.00	6.02	6.079	11.9	95.1	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	152.796	5573.488	1.00	6.10	4.112	4.9	98.1	NO	2.334	NO
80	43	PFHxDA	813.1 > 768.6	582.168	3787.741	1.00	6.38	0.768	0.9	94.5	NO	17.306	NO
81	44	PFODA	913.1 > 868.8	611.984	3787.741	1.00	6.63	0.808	1.0	96.0	NO		
82	45	N-MeFOSE	616.1 > 58.9	181.463	4916.013	1.00	6.30	5.537	4.8	96.1	NO		
83	46	N-EtFOSE	630.1 > 58.9	211.362	4743.509	1.00	6.45	6.684	4.9	98.4	NO		
84	72	13C4-PFBA	217.0 > 172.0	3193.654	3193.654	1.00	1.18	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	5573.488	14087.684	1.00	6.13	4.945	158.7	105.8	NO		
86	69	13C2-PFHxDA	815 > 769.7	3787.741	14087.684	1.00	6.38	3.361	4.6	91.5	NO		
87	69	13C2-PFHxDA	815 > 769.7	3787.741	14087.684	1.00	6.38	3.361	4.6	91.5	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	4916.013	14087.684	1.00	6.29	4.362	156.0	104.0	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	4743.509	14087.684	1.00	6.44	4.209	153.0	102.0	NO		
90	73	13C5-PFHxA	318.0 > 272.9	11189.764	11189.764	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	14770.249	14770.249	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	540.822	540.822	1.00	3.74	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	8340.979	8340.979	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1443.314	1443.314	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	11232.013	11232.013	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	14087.684	14087.684	1.00	5.26	12.500	12.5	100.0	NO		

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Dataset: Untitled

Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:54:35 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190711M3_1	IPA	11-Jul-19	21:27:14
2	2	190711M3_2	ST190711M3-1 PFC CS-2 19G1101	11-Jul-19	21:37:49
3	3	190711M3_3	ST190711M3-2 PFC CS-1 19G1102	11-Jul-19	21:48:22
4	4	190711M3_4	ST190711M3-3 PFC CS0 19G1103	11-Jul-19	21:59:01
5	5	190711M3_5	ST190711M3-4 PFC CS1 19G1104	11-Jul-19	22:09:33
6	6	190711M3_6	ST190711M3-5 PFC CS2 19G1105	11-Jul-19	22:20:12
7	7	190711M3_7	ST190711M3-6 PFC CS3 19G1106	11-Jul-19	22:30:45
8	8	190711M3_8	ST190711M3-7 PFC CS4 19G1107	11-Jul-19	22:41:23
9	9	190711M3_9	ST190711M3-8 PFC CS5 19G1108	11-Jul-19	22:51:57
10	10	190711M3_10	ST190711M3-9 PFC CS6 19G1109	11-Jul-19	23:02:37
11	11	190711M3_11	ST190711M3-10 PFC CS7 19G1110	11-Jul-19	23:13:13
12	12	190711M3_12	IB	11-Jul-19	23:23:47
13	13	190711M3_13	ST190711M3-1 PFC ICV 19G1111	11-Jul-19	23:34:17
14	14	190711M3_14	IPA	11-Jul-19	23:44:56
15	15	190711M3_15	B9G0061-BS1 OPR 0.125	11-Jul-19	23:55:34
16	16	190711M3_16	B9F0279-BS1 OPR 1	12-Jul-19	00:06:07
17	17	190711M3_17	B9F0279-BLK1 Method Blank 1	12-Jul-19	00:16:45
18	18	190711M3_18	1901784-02RE1 FRB-1 0.24972	12-Jul-19	00:27:18
19	19	190711M3_19	1901683-03 Hagatna 1 3.93	12-Jul-19	00:37:57
20	20	190711M3_20	1901910-01 SW1906280950KME 0.24336	12-Jul-19	00:48:35
21	21	190711M3_21	1901910-02 SW1906281025KME 0.24464	12-Jul-19	00:59:09
22	22	190711M3_22	1901910-03 SW1906281035KME 0.24318	12-Jul-19	01:09:47
23	23	190711M3_23	1901911-01 WMP1907010855JSJ 0.2509	12-Jul-19	01:20:19
24	24	190711M3_24	B9G0095-BS1 OPR 0.25	12-Jul-19	01:30:58
25	25	190711M3_25	B9G0095-BSD1 LCSD 0.25	12-Jul-19	01:41:36
26	26	190711M3_26	B9G0095-BLK1 Method Blank 0.25	12-Jul-19	01:52:09
27	27	190711M3_27	1901759-01 HW-AF-01-01-420-062419 0.11818	12-Jul-19	02:02:47
28	28	190711M3_28	1901992-01 WIN1907081315GGA 0.24256	12-Jul-19	02:13:26
29	29	190711M3_29	1901992-02 WMP1907081305GGA 0.23352	12-Jul-19	02:23:58
30	30	190711M3_30	1901992-03 WEF1907081310GGA 0.24328	12-Jul-19	02:34:37
31	31	190711M3_31	IPA	12-Jul-19	02:45:10
32	32	190711M3_32	ST190711M3-11 PFC CS3 19G1106	12-Jul-19	02:55:49

* KCV not used
DR 7/12/19

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:54:35 Pacific Daylight Time

Compound name: PFBA

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33	33	190711M3_33	IPA	12-Jul-19	03:06:21
34	34	190711M3_34	B9G0062-BS1 OPR 0.125	12-Jul-19	03:16:59
35	35	190711M3_35	B9G0062-BSD1 LCSD 0.125	12-Jul-19	03:27:38
36	36	190711M3_36	B9G0062-BLK1 Method Blank 0.125	12-Jul-19	03:38:11
37	37	190711M3_37	1901922-01 FRB-07022019 0.10709	12-Jul-19	03:48:49
38	38	190711M3_38	1901922-02 CAOA-B02-GW 0.1205	12-Jul-19	03:59:23
39	39	190711M3_39	1901920-02 SAOA-B08-GW 0.13318	12-Jul-19	04:10:01
40	40	190711M3_40	1901920-03 EB-06272019-GW 0.11429	12-Jul-19	04:20:34
41	41	190711M3_41	1901920-04 FRB-06282019 0.11576	12-Jul-19	04:31:13
42	42	190711M3_42	1901920-05 SAOA-B12-GW 0.12204	12-Jul-19	04:41:51
43	43	190711M3_43	1901920-06 SAOA-B12-GW-D 0.12639	12-Jul-19	04:52:24
44	44	190711M3_44	1901920-11 NAOA-B02-GW 0.122	12-Jul-19	05:03:03
45	45	190711M3_45	1901920-12 EB-07012019 0.11155	12-Jul-19	05:13:36
46	46	190711M3_46	1901920-14 FRB-07012019 0.11643	12-Jul-19	05:24:14
47	47	190711M3_47	1901920-16 NAOA-B01-GW 0.1294	12-Jul-19	05:34:46
48	48	190711M3_48	IPA	12-Jul-19	05:45:25
49	49	190711M3_49	ST190711M3-12 PFC CS3 19G1106	12-Jul-19	05:56:03
50	50	190711M3_50	IPA	12-Jul-19	06:06:35
51	51	190711M3_51	1901920-17 NAOA-B01-GW-D 0.13768	12-Jul-19	06:17:14
52	52	190711M3_52	1901920-20 EB-07022019 0.11644	12-Jul-19	06:27:47
53	53	190711M3_53	B9G0065-BS1 OPR 0.25	12-Jul-19	06:38:25
54	54	190711M3_54	B9G0065-BLK1 Method Blank 0.25	12-Jul-19	06:48:58
55	55	190711M3_55	1901781-01 GW1906241425SK 0.24561	12-Jul-19	06:59:37
56	56	190711M3_56	1901781-02 GW1906241605SK 0.25501	12-Jul-19	07:10:15
57	57	190711M3_57	1901781-03 GW1906250855KME 0.24339	12-Jul-19	07:20:48
58	58	190711M3_58	1901781-04 GW1906250855KME-FD 0.24341	12-Jul-19	07:31:26
59	59	190711M3_59	1901781-05 GW1906250935SK 0.24535	12-Jul-19	07:41:59
60	60	190711M3_60	1901781-06 GW1906251040KME 0.24373	12-Jul-19	07:52:37
61	61	190711M3_61	1901781-07 GW1906251120SK 0.24467	12-Jul-19	08:03:15
62	62	190711M3_62	IPA	12-Jul-19	08:13:48
63	63	190711M3_63	ST190711M3-13 PFC CS3 19G1106	12-Jul-19	08:24:26
64	64	190711M3_64	IPA	12-Jul-19	08:34:58
65	65	190711M3_65	1901781-08 GMW1906251200KME 0.24756	12-Jul-19	08:45:54
66	66	190711M3_66	1901781-09 FB1906251135SK 0.25189	12-Jul-19	08:56:32
67	67	190711M3_67	IPA	12-Jul-19	09:07:05
68	68	190711M3_68	ST190711M3-14 PFC CS3 19G1106	12-Jul-19	09:17:43

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:54:35 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 190711M3_69	IPA	12-Jul-19	09:28:22
70	70 190711M3_70	IB tester	12-Jul-19	09:38:55

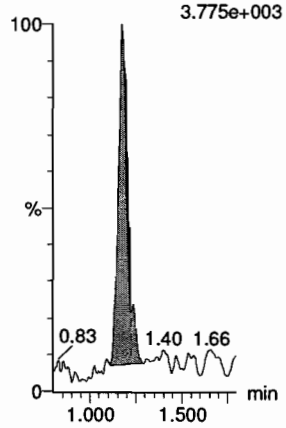
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

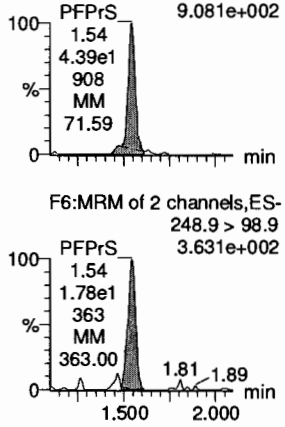
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

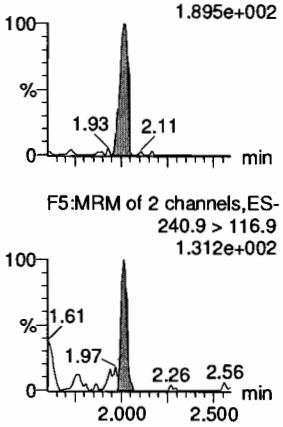
PFBA



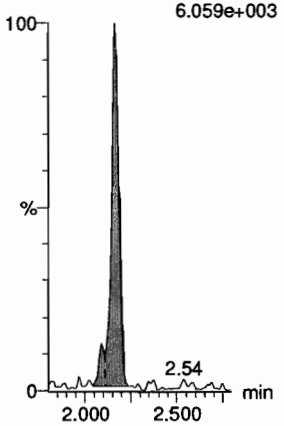
PFPrS



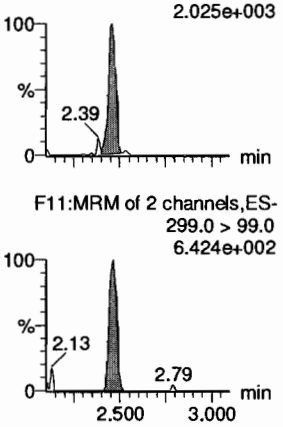
3:3 FTCA



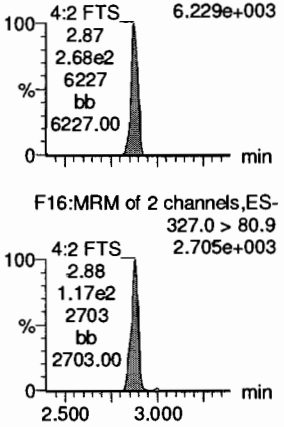
PFPeA



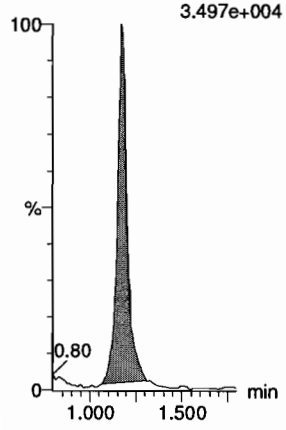
PFBS



4:2 FTS



13C3-PFBA



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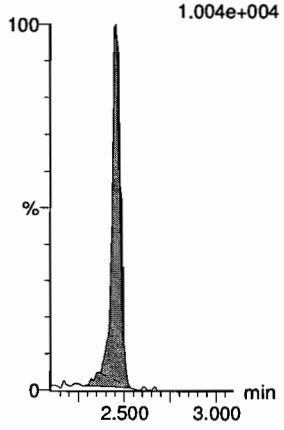

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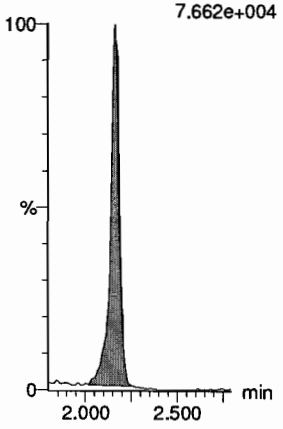

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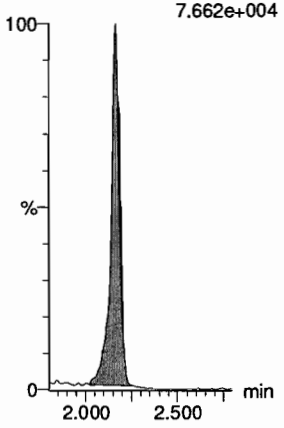

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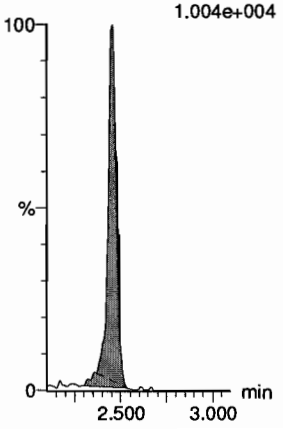
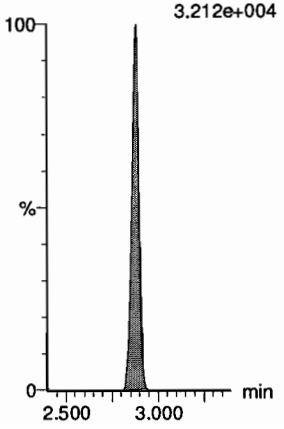


13C2-4:2 FTS

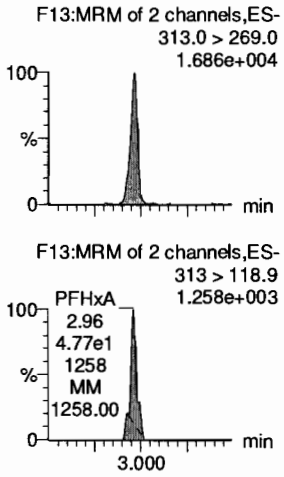


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

PFHxA



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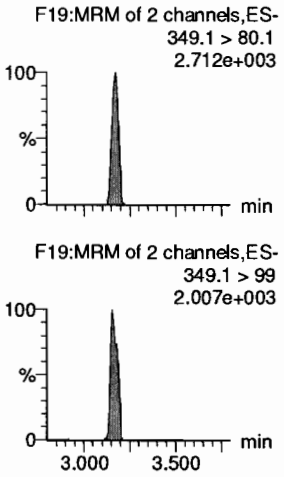
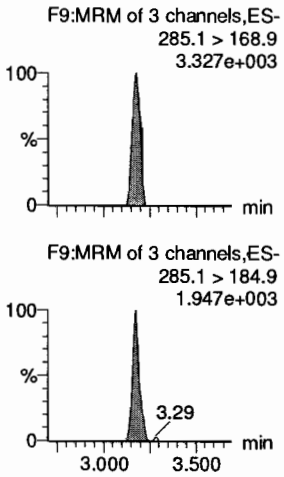
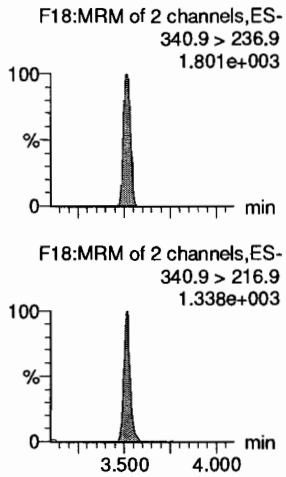


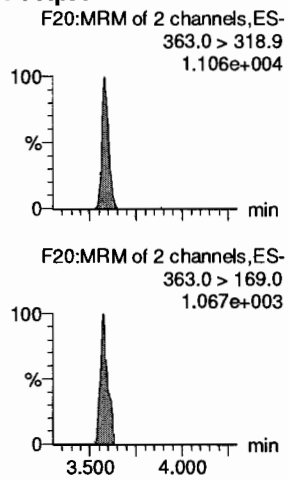
HFPO-DA



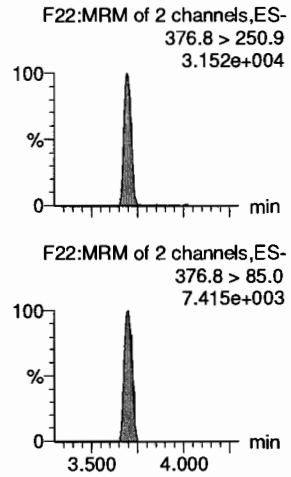
5:3 FTCA



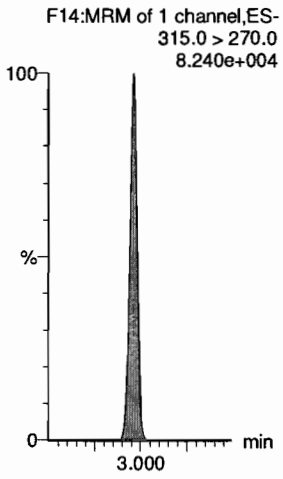
PFHpA



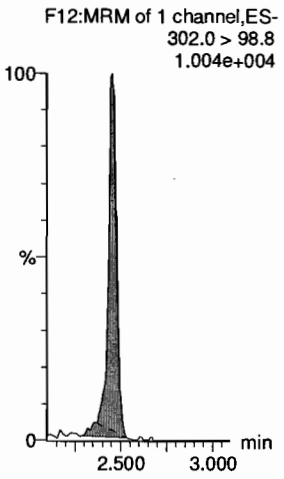
ADONA



13C2-PFHxA



13C3-PFBS



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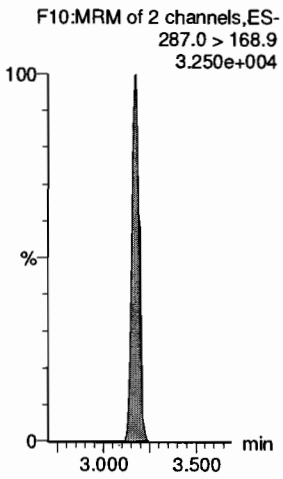

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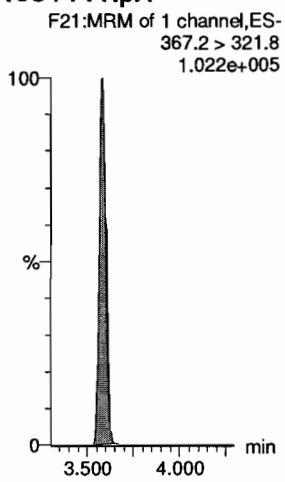

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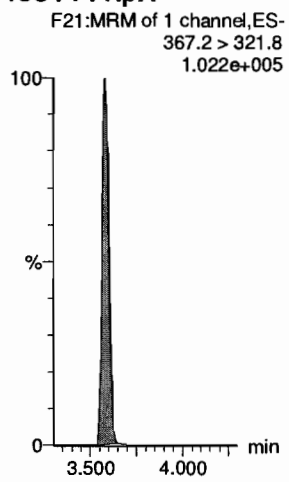

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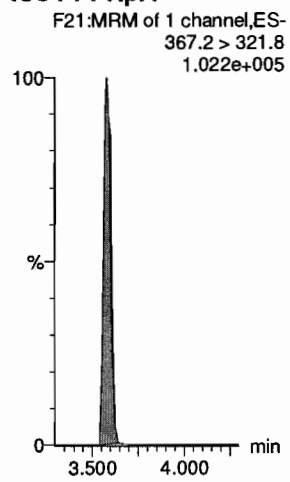

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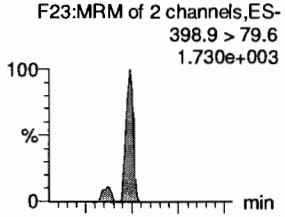
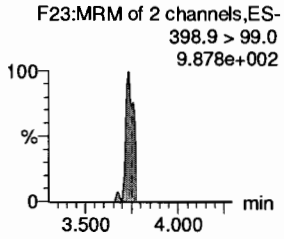
Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

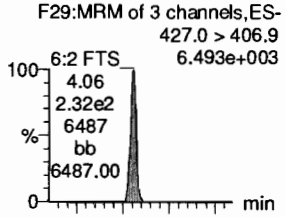
Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

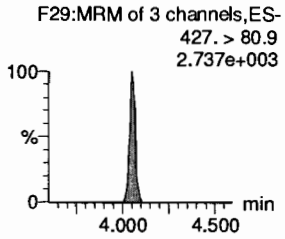
L-PFHxS



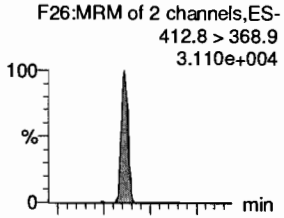


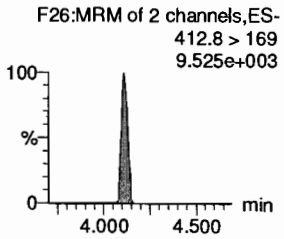
6:2 FTS





L-PFOA





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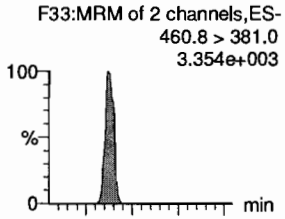

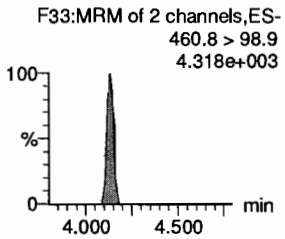

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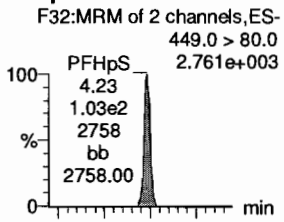
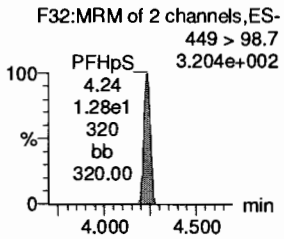
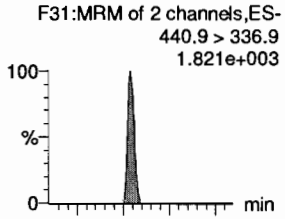
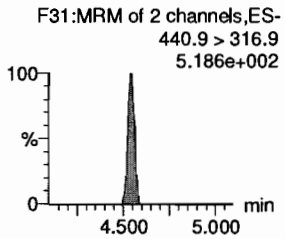


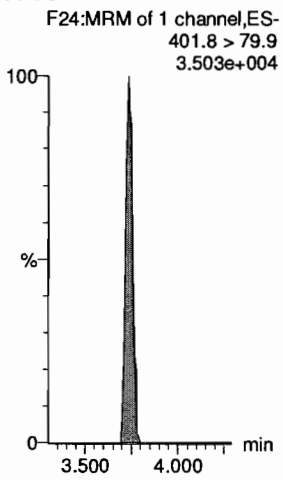


7:3 FTCA

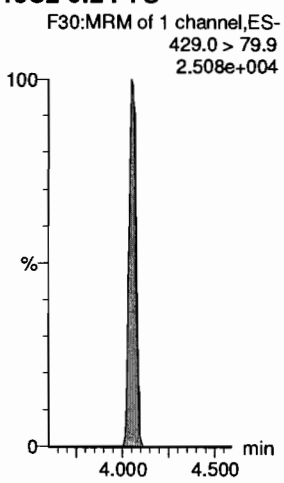




13C3-PFHxS



13C2-6:2 FTS



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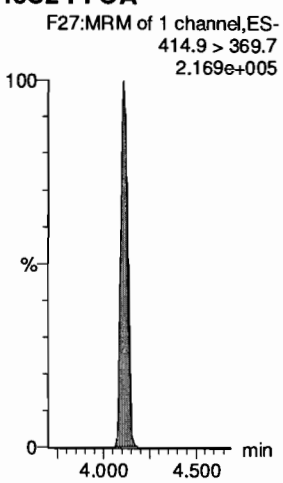
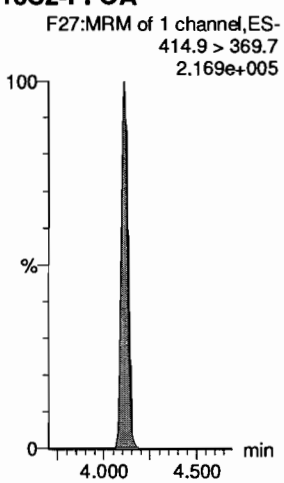
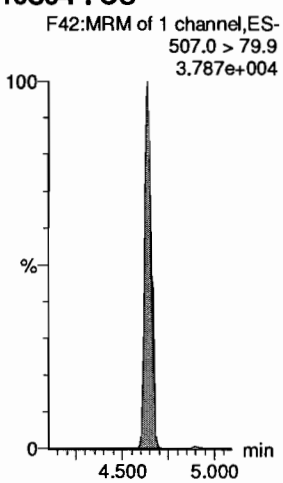


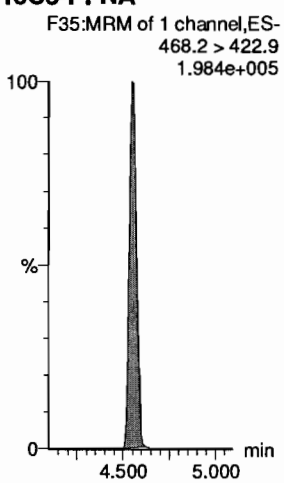
13C2-PFOA



13C8-PFOS



13C5-PFNA

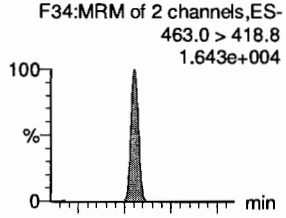


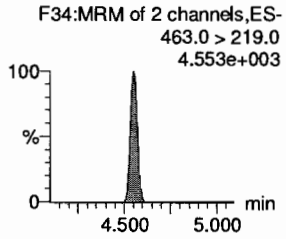
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

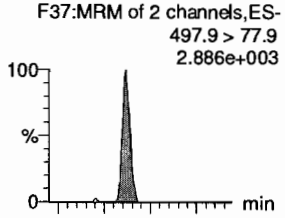
Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

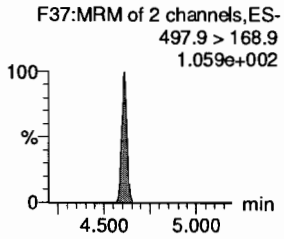
PFNA



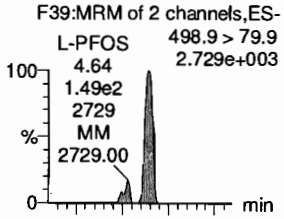


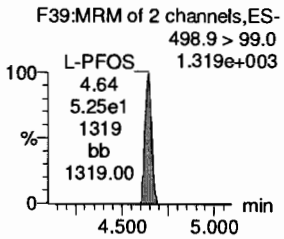
PFOSA



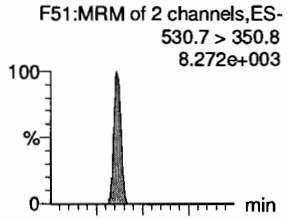


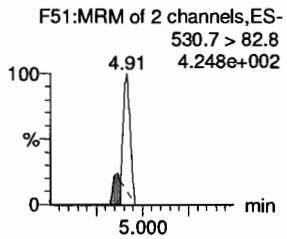
L-PFOS



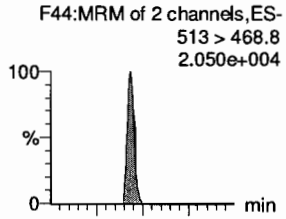


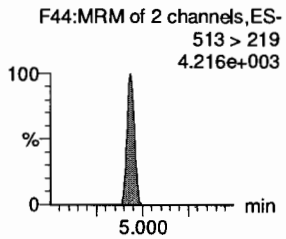
9Cl-PF30NS



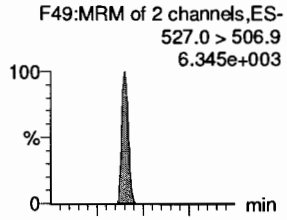


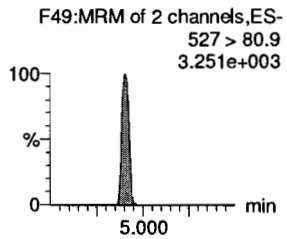
PFDA



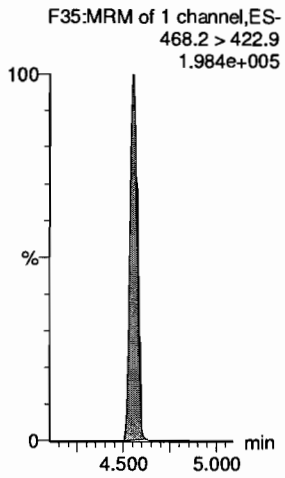


8:2 FTS

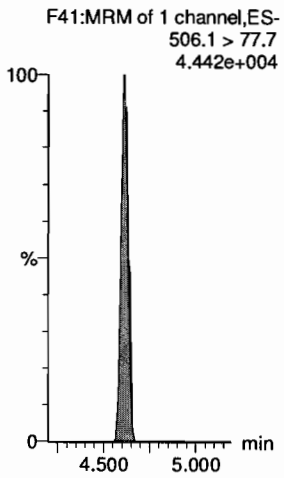




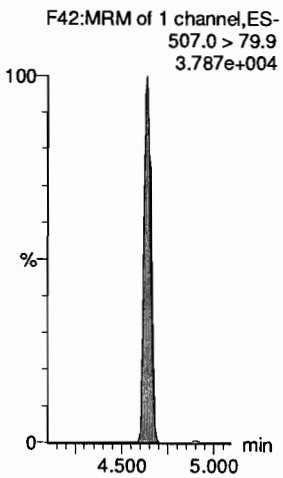
13C5-PFNA



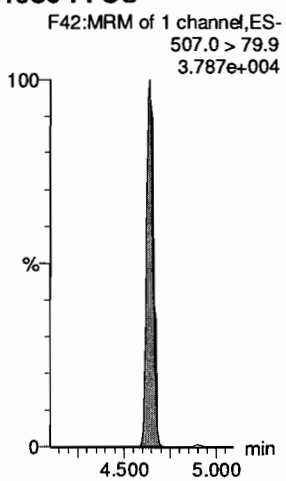
13C8-PFOSA



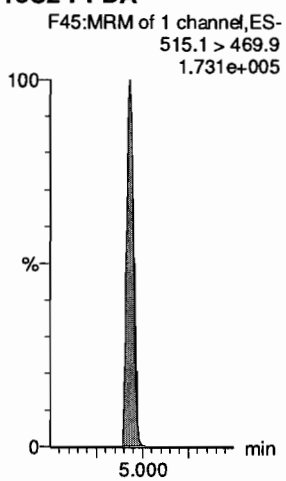
13C8-PFOS



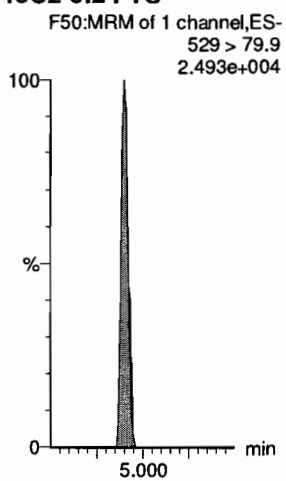
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

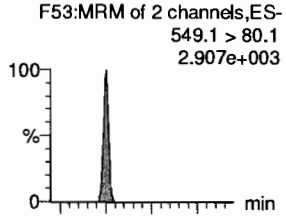


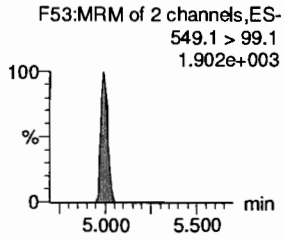
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

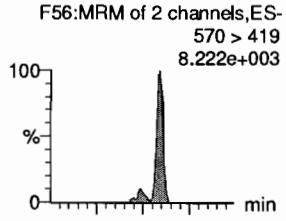
Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

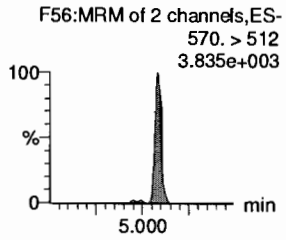
PFNS



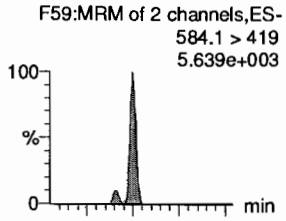


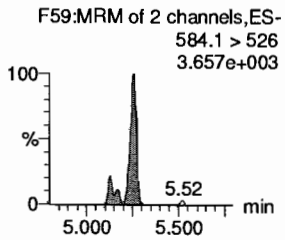
L-MeFOSAA



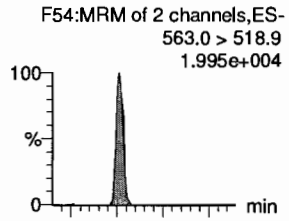


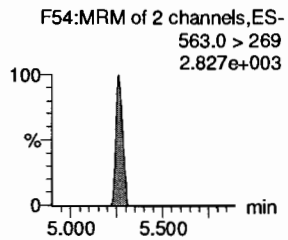
L-EtFOSAA



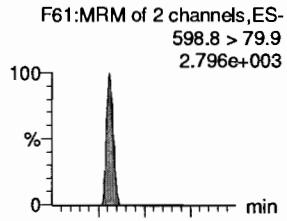


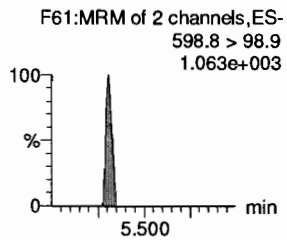
PFUdA



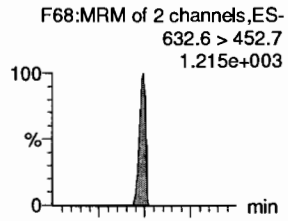


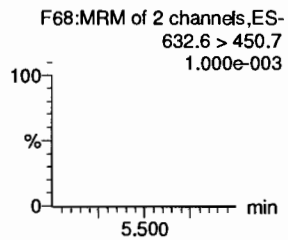
PFDS



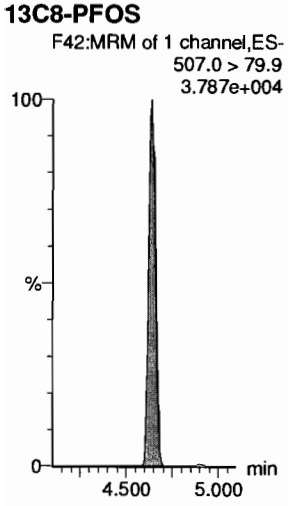


11Cl-PF30UdS

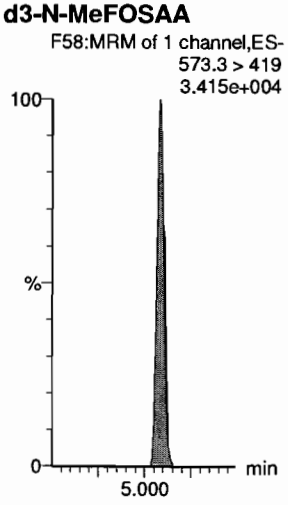




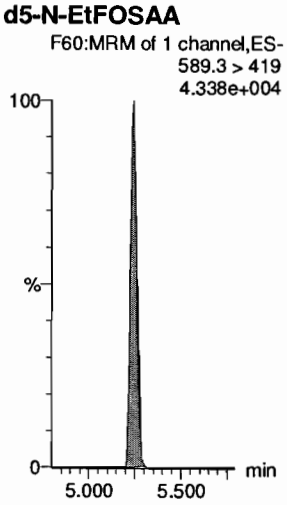
13C8-PFOS



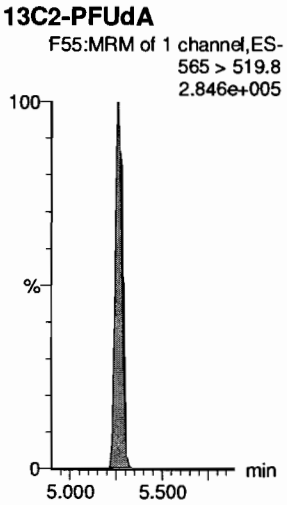
d3-N-MeFOSAA



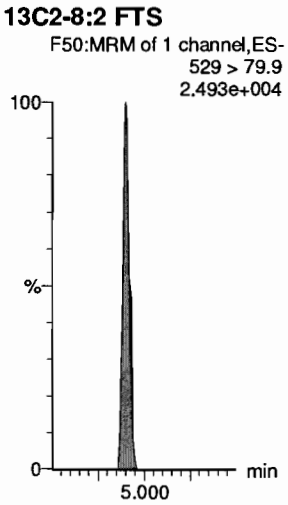
d5-N-EtFOSAA



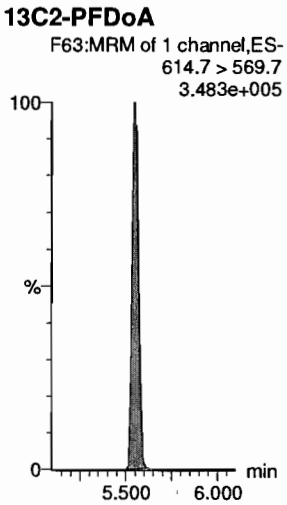
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

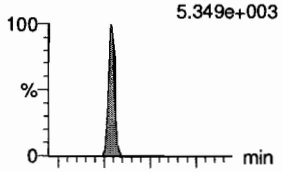


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

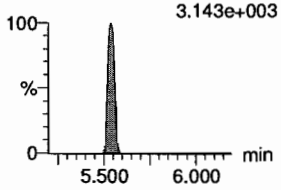
Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

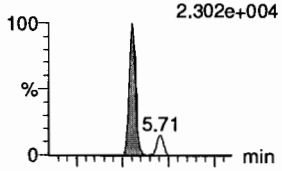
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
5.349e+003



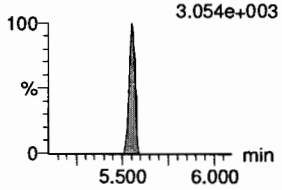
F66:MRM of 2 channels,ES-
627.0 > 80.9
3.143e+003



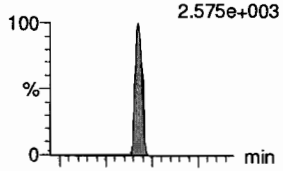
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
2.302e+004



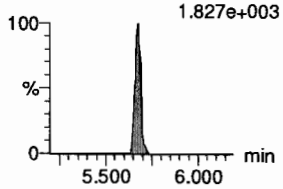
F62:MRM of 4 channels,ES-
612.9 > 318.8
3.054e+003



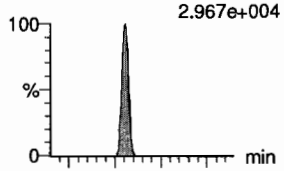
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
2.575e+003



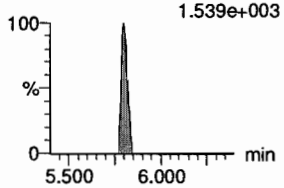
F43:MRM of 2 channels,ES-
512.1 > 219
1.827e+003



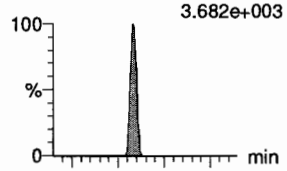
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
2.967e+004



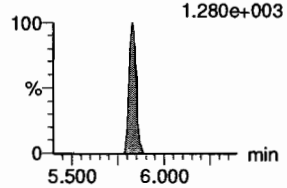
F70:MRM of 2 channels,ES-
662.9 > 319
1.539e+003



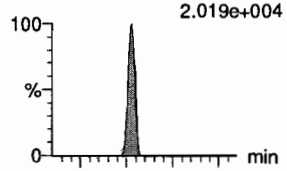
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
3.682e+003



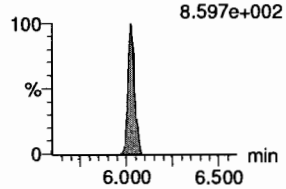
F71:MRM of 2 channels,ES-
698.8 > 98.9
1.280e+003



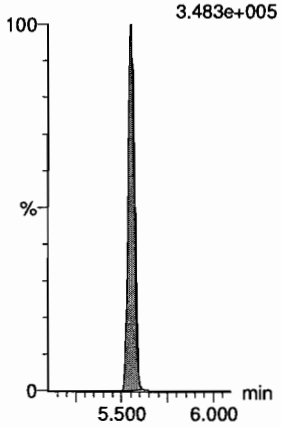
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
2.019e+004



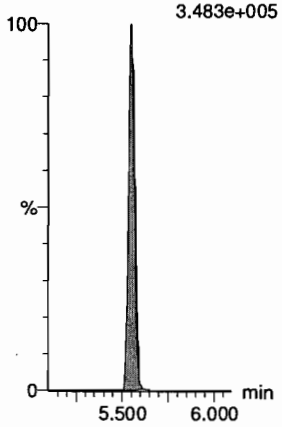
F72:MRM of 2 channels,ES-
713. > 369.0
8.597e+002



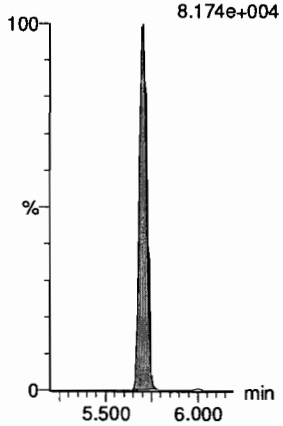
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.483e+005



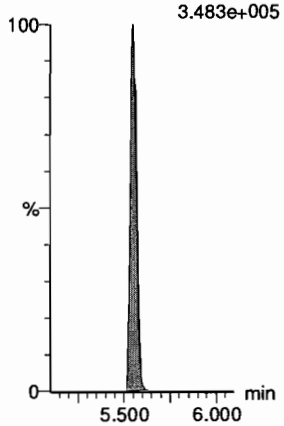
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.483e+005



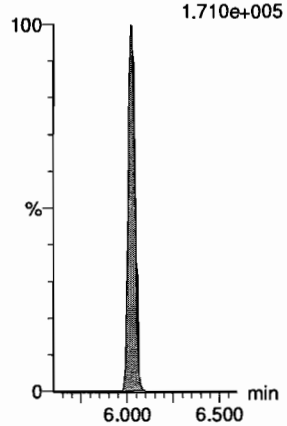
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
8.174e+004



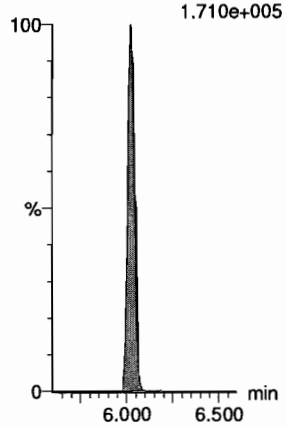
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.483e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.710e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.710e+005

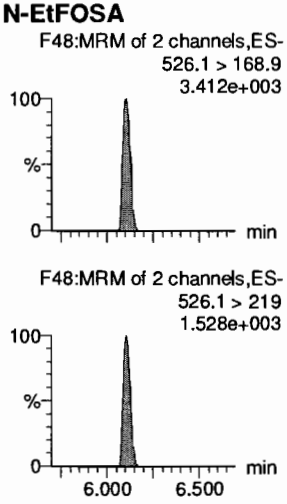


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

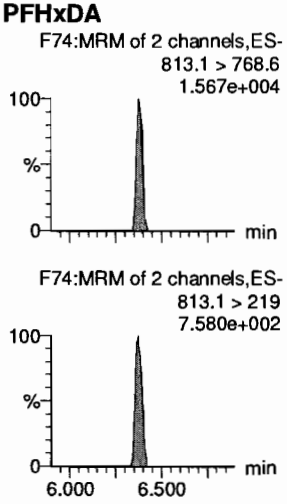
Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

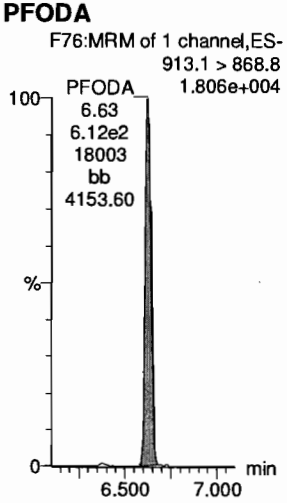
N-EtFOSA



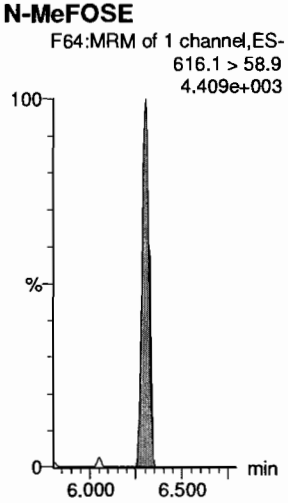
PFHxDA



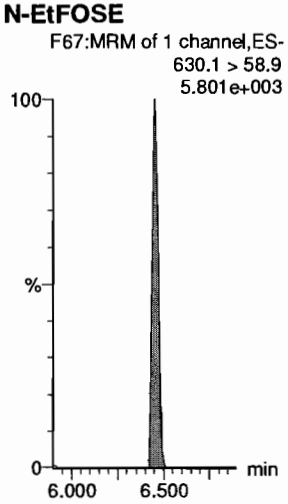
PFODA



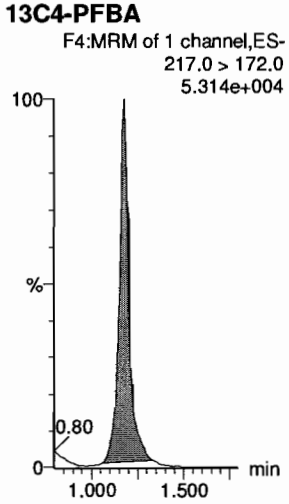
N-MeFOSE



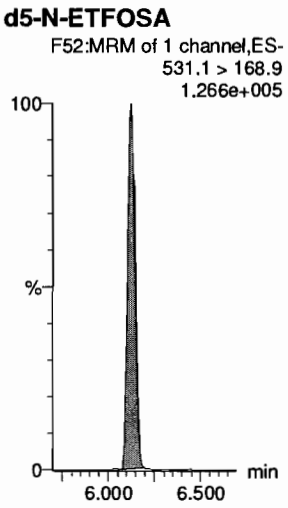
N-EtFOSE



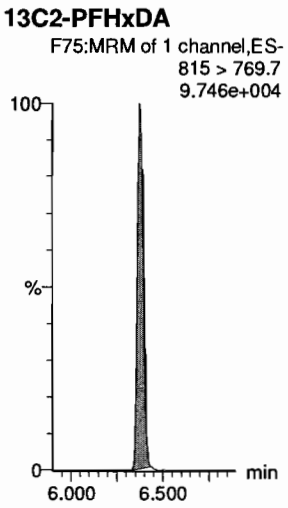
13C4-PFBA



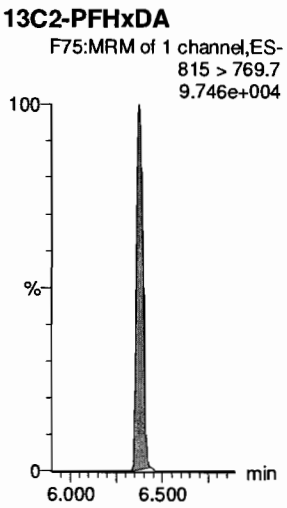
d5-N-ETFOSA



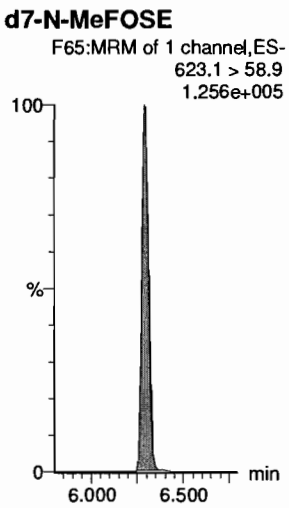
13C2-PFHxDA



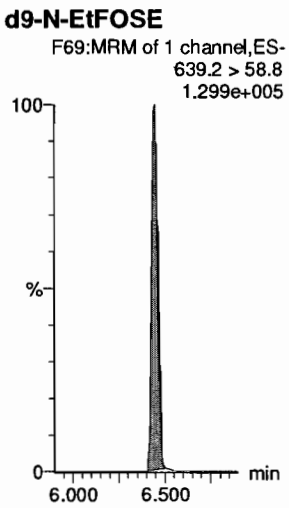
13C2-PFHxDA



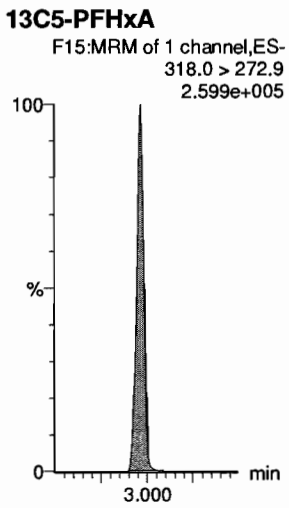
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

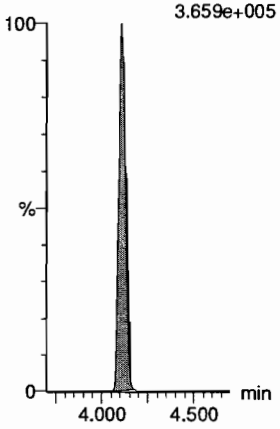


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-4.qld

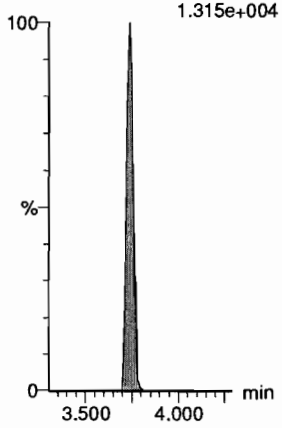
Last Altered: Friday, July 12, 2019 08:53:31 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:54:22 Pacific Daylight Time

Name: 190711M3_4, Date: 11-Jul-2019, Time: 21:59:01, ID: ST190711M3-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

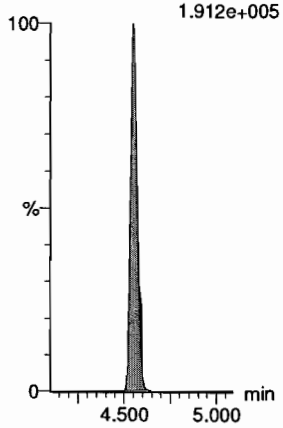
13C8-PFOA



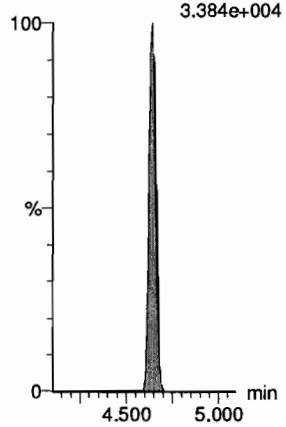
18O2-PFHxS



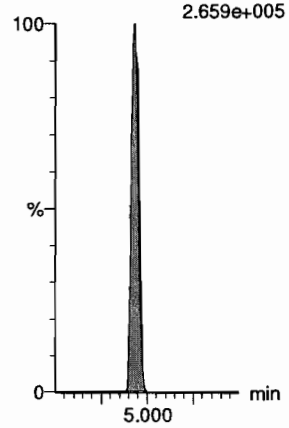
13C9-PFNA



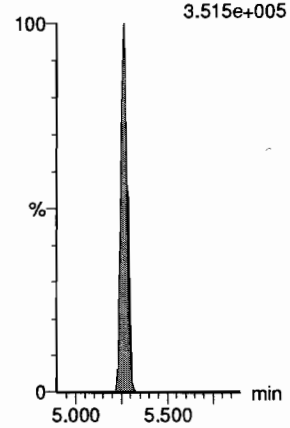
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

JA2 7/12/19

Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	2296.135	2230.605	1.00	1.17	12.867	9.1	90.6	NO		
2	2	PFPrS	248.9 > 79.9	497.080	589.033	1.00	1.53	10.549	10.0	100.2	NO	2.303	NO
3	3	3:3 FTCA	240.9 > 176.9	143.146	4136.219	1.00	2.01	0.433	10.5	104.5	NO	1.893	NO
4	4	PFPeA	263.1 > 218.9	3152.229	4136.219	1.00	2.16	9.526	10.0	100.0	NO		
5	5	PFBS	299.0 > 79.7	1134.603	589.033	1.00	2.46	24.078	10.5	104.8	NO	3.066	NO
6	6	4:2 FTS	327.0 > 306.9	2597.562	1300.071	1.00	2.88	24.975	10.2	102.2	NO	1.967	NO
7	47	13C3-PFBA	216.1 > 171.8	2230.605	3260.294	1.00	1.17	8.552	13.2	105.3	NO		
8	49	13C3-PFBS	302.0 > 98.8	589.033	525.983	1.00	2.46	13.998	13.5	108.2	NO		
9	48	13C3-PFPeA	266.0 > 221.8	4136.219	10681.250	1.00	2.16	4.841	11.9	95.0	NO		
10	48	13C3-PFPeA	266.0 > 221.8	4136.219	10681.250	1.00	2.16	4.841	11.9	95.0	NO		
11	49	13C3-PFBS	302.0 > 98.8	589.033	525.983	1.00	2.46	13.998	13.5	108.2	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1300.071	525.983	1.00	2.88	30.896	13.8	110.4	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	7978.475	3219.933	1.00	2.96	12.389	10.7	106.6	NO	16.349	NO
15	8	PFPeS	349.1>80.1	1090.994	589.033	1.00	3.17	23.152	10.9	108.6	NO	1.554	NO
16	9	HFPO-DA	285.1 > 168.9	1507.225	1353.469	1.00	3.17	5.568	10.0	100.5	NO	1.994	NO
17	10	5:3 FTCA	340.9 > 236.9	749.062	4042.534	1.00	3.52	2.316	9.1	91.0	NO	1.387	NO
18	11	PFHpA	363.0 > 318.9	4135.116	4042.534	1.00	3.58	12.786	10.4	104.2	NO	5.744	NO
19	12	ADONA	376.8 > 250.9	13610.604	4042.534	1.00	3.70	42.086	9.7	97.1	NO	3.227	NO
20	52	13C2-PFHxA	315.0 > 270.0	3219.933	10681.250	1.00	2.96	3.768	4.8	95.1	NO		
21	49	13C3-PFBS	302.0 > 98.8	589.033	525.983	1.00	2.46	13.998	13.5	108.2	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1353.469	10681.250	1.00	3.17	1.584	5.2	103.4	NO		
23	53	13C4-PFHpA	367.2 > 321.8	4042.534	10681.250	1.00	3.58	4.731	12.1	96.8	NO		
24	53	13C4-PFHpA	367.2 > 321.8	4042.534	10681.250	1.00	3.58	4.731	12.1	96.8	NO		
25	53	13C4-PFHpA	367.2 > 321.8	4042.534	10681.250	1.00	3.58	4.731	12.1	96.8	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	1010.501	1419.481	1.00	3.74	8.899	10.6	106.3	NO	2.181	NO
28	15	6:2 FTS	427.0 > 406.9	2401.790	1069.224	1.00	4.05	28.079	9.6	96.2	NO	2.109	NO
29	16	L-PFOA	412.8 > 368.9	12496.430	8165.792	1.00	4.11	19.129	10.3	103.3	NO	3.450	NO
30	18	PFecHS	460.8 > 381.0	1824.164	8165.792	1.00	4.13	2.792	10.0	99.9	NO	0.939	NO
31	19	PFHpS	449.0 > 80.0	1158.833	1401.038	1.00	4.23	10.339	11.8	118.1	NO	2.242	NO
32	20	7:3 FTCA	440.9 > 336.9	830.156	8515.538	1.00	4.54	1.219	9.1	91.1	NO	2.024	NO
33	54	13C3-PFHxS	401.8 > 79.9	1419.481	525.983	1.00	3.74	33.734	13.2	106.0	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1069.224	1363.537	1.00	4.05	9.802	13.3	106.5	NO		
35	58	13C2-PFOA	414.9 > 369.7	8165.792	14158.793	1.00	4.11	7.209	12.8	102.2	NO		
36	58	13C2-PFOA	414.9 > 369.7	8165.792	14158.793	1.00	4.11	7.209	12.8	102.2	NO		

CGH 7/12/19

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

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Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	1401.038	1363.537	1.00	4.64	12.844	12.1	96.9	NO		
38	56	13C5-PFNA	468.2 > 422.9	8515.538	8496.886	1.00	4.56	12.527	12.7	102.0	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	7460.492	8515.538	1.00	4.56	10.951	10.0	99.6	NO	2.747	NO
41	22	PFOSA	497.9 > 77.9	1774.579	1525.120	1.00	4.61	14.545	11.4	113.9	NO	32.469	NO
42	23	L-PFOS	498.9 > 79.9	1435.584	1401.038	1.00	4.64	12.808	10.2	102.3	NO	2.240	NO
43	25	9Cl-PF30NS	530.7 > 350.8	3806.272	1401.038	1.00	4.86	33.959	10.8	107.7	NO	16.635	NO
44	26	PFDA	513 > 468.8	9042.676	6971.401	1.00	4.94	16.214	9.8	97.6	NO	4.576	NO
45	27	8:2 FTS	527.0 > 506.9	1910.527	1114.549	1.00	4.90	21.427	9.5	95.2	NO	1.464	NO
46	56	13C5-PFNA	468.2 > 422.9	8515.538	8496.886	1.00	4.56	12.527	12.7	102.0	NO		
47	57	13C8-PFOSA	506.1 > 77.7	1525.120	12786.682	1.00	4.62	1.491	11.4	91.6	NO		
48	59	13C8-PFOS	507.0 > 79.9	1401.038	1363.537	1.00	4.64	12.844	12.1	96.9	NO		
49	59	13C8-PFOS	507.0 > 79.9	1401.038	1363.537	1.00	4.64	12.844	12.1	96.9	NO		
50	60	13C2-PFDA	515.1 > 469.9	6971.401	10829.662	1.00	4.94	8.047	12.2	97.2	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1114.549	1363.537	1.00	4.90	10.217	14.7	117.5	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	1040.144	1401.038	1.00	5.00	9.280	10.6	105.9	NO	1.585	NO
54	29	L-MeFOSAA	570 > 419	4125.132	1514.425	1.00	5.09	34.049	11.4	113.8	NO	2.581	NO
55	31	L-EtFOSAA	584.1 > 419	2821.183	1689.962	1.00	5.25	20.867	10.5	105.3	NO	1.399	NO
56	33	PFUdA	563.0 > 518.9	8140.202	11510.665	1.00	5.26	8.840	9.5	94.9	NO	6.355	NO
57	34	PFDS	598.8 > 79.9	1510.760	1114.549	1.00	5.31	16.944	8.4	84.0	NO	1.783	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	714.987	12278.030	1.00	5.48	0.728	11.3	113.1	NO	6.844	NO
59	59	13C8-PFOS	507.0 > 79.9	1401.038	1363.537	1.00	4.64	12.844	12.1	96.9	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1514.425	12786.682	1.00	5.09	1.480	11.5	91.8	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1689.962	12786.682	1.00	5.24	1.652	11.2	89.7	NO		
62	63	13C2-PFUdA	565 > 519.8	11510.665	12786.682	1.00	5.26	11.253	13.1	105.0	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1114.549	1363.537	1.00	4.90	10.217	14.7	117.5	NO		
64	65	13C2-PFDoA	614.7 > 569.7	12278.030	10829.662	1.00	5.55	14.172	11.5	92.2	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	1953.175	1114.549	1.00	5.53	21.905	8.2	82.5	NO	1.528	NO
67	37	PFDoA	612.9 > 569.0	9923.921	12278.030	1.00	5.55	10.103	10.6	105.9	NO	7.294	NO
68	38	N-MeFOSA	512.1 > 168.9	1404.152	3637.441	1.00	5.67	57.904	45.3	90.6	NO	1.663	NO
69	39	PFTrDA	662.9 > 618.9	10736.150	12278.030	1.00	5.80	10.930	10.3	103.1	NO	15.848	NO
70	40	PFDoS	698.8 > 79.9	1215.990	6391.971	1.00	5.83	2.378	9.8	98.5	NO	1.916	NO
71	41	PFTeDA	713.0 > 669.0	8078.837	6391.971	1.00	6.03	15.799	10.5	105.4	NO	13.714	NO
72	65	13C2-PFDoA	614.7 > 569.7	12278.030	10829.662	1.00	5.55	14.172	11.5	92.2	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
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Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	12278.030	10829.662	1.00	5.55	14.172	11.5	92.2	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	3637.441	12786.682	1.00	5.70	3.556	160.5	107.0	NO		
75	65	13C2-PFDoA	614.7 > 569.7	12278.030	10829.662	1.00	5.55	14.172	11.5	92.2	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	6391.971	12786.682	1.00	6.02	6.249	12.2	97.8	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	6391.971	12786.682	1.00	6.02	6.249	12.2	97.8	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	1512.230	5379.544	1.00	6.11	42.166	46.0	91.9	NO	1.778	NO
80	43	PFHxDA	813.1 > 768.6	5454.731	3667.506	1.00	6.38	7.437	9.8	98.2	NO	15.561	NO
81	44	PFODA	913.1 > 868.8	6219.668	3667.506	1.00	6.63	8.479	10.1	101.4	NO		
82	45	N-MeFOSE	616.1 > 58.9	1740.919	4729.849	1.00	6.30	55.211	49.2	98.4	NO		
83	46	N-EtFOSE	630.1 > 58.9	2237.700	4507.340	1.00	6.46	74.469	52.9	105.9	NO		
84	72	13C4-PFBA	217.0 > 172.0	3260.294	3260.294	1.00	1.17	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	5379.544	12786.682	1.00	6.13	5.259	168.7	112.5	NO		
86	69	13C2-PFHxDA	815 > 769.7	3667.506	12786.682	1.00	6.38	3.585	4.9	97.6	NO		
87	69	13C2-PFHxDA	815 > 769.7	3667.506	12786.682	1.00	6.38	3.585	4.9	97.6	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	4729.849	12786.682	1.00	6.29	4.624	165.4	110.3	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	4507.340	12786.682	1.00	6.44	4.406	160.2	106.8	NO		
90	73	13C5-PFHxA	318.0 > 272.9	10681.250	10681.250	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	14158.793	14158.793	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	525.983	525.983	1.00	3.74	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	8496.886	8496.886	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1363.537	1363.537	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	10829.662	10829.662	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	12786.682	12786.682	1.00	5.26	12.500	12.5	100.0	NO		

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Dataset: Untitled

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190711M3_1	IPA	11-Jul-19	21:27:14
2	2	190711M3_2	ST190711M3-1 PFC CS-2 19G1101	11-Jul-19	21:37:49
3	3	190711M3_3	ST190711M3-2 PFC CS-1 19G1102	11-Jul-19	21:48:22
4	4	190711M3_4	ST190711M3-3 PFC CS0 19G1103	11-Jul-19	21:59:01
5	5	190711M3_5	ST190711M3-4 PFC CS1 19G1104	11-Jul-19	22:09:33
6	6	190711M3_6	ST190711M3-5 PFC CS2 19G1105	11-Jul-19	22:20:12
7	7	190711M3_7	ST190711M3-6 PFC CS3 19G1106	11-Jul-19	22:30:45
8	8	190711M3_8	ST190711M3-7 PFC CS4 19G1107	11-Jul-19	22:41:23
9	9	190711M3_9	ST190711M3-8 PFC CS5 19G1108	11-Jul-19	22:51:57
10	10	190711M3_10	ST190711M3-9 PFC CS6 19G1109	11-Jul-19	23:02:37
11	11	190711M3_11	ST190711M3-10 PFC CS7 19G1110	11-Jul-19	23:13:13
12	12	190711M3_12	IB	11-Jul-19	23:23:47
13	13	190711M3_13	ST190711M3-1 PFC ICV 19G1111	11-Jul-19	23:34:17
14	14	190711M3_14	IPA	11-Jul-19	23:44:56
15	15	190711M3_15	B9G0061-BS1 OPR 0.125	11-Jul-19	23:55:34
16	16	190711M3_16	B9F0279-BS1 OPR 1	12-Jul-19	00:06:07
17	17	190711M3_17	B9F0279-BLK1 Method Blank 1	12-Jul-19	00:16:45
18	18	190711M3_18	1901784-02RE1 FRB-1 0.24972	12-Jul-19	00:27:18
19	19	190711M3_19	1901683-03 Hagatna 1 3.93	12-Jul-19	00:37:57
20	20	190711M3_20	1901910-01 SW1906280950KME 0.24336	12-Jul-19	00:48:35
21	21	190711M3_21	1901910-02 SW1906281025KME 0.24464	12-Jul-19	00:59:09
22	22	190711M3_22	1901910-03 SW1906281035KME 0.24318	12-Jul-19	01:09:47
23	23	190711M3_23	1901911-01 WMP1907010855JSJ 0.2509	12-Jul-19	01:20:19
24	24	190711M3_24	B9G0095-BS1 OPR 0.25	12-Jul-19	01:30:58
25	25	190711M3_25	B9G0095-BSD1 LCSD 0.25	12-Jul-19	01:41:36
26	26	190711M3_26	B9G0095-BLK1 Method Blank 0.25	12-Jul-19	01:52:09
27	27	190711M3_27	1901759-01 HW-AF-01-01-420-062419 0.11818	12-Jul-19	02:02:47
28	28	190711M3_28	1901992-01 WIN1907081315GGA 0.24256	12-Jul-19	02:13:26
29	29	190711M3_29	1901992-02 WMP1907081305GGA 0.23352	12-Jul-19	02:23:58
30	30	190711M3_30	1901992-03 WEF1907081310GGA 0.24328	12-Jul-19	02:34:37
31	31	190711M3_31	IPA	12-Jul-19	02:45:10
32	32	190711M3_32	ST190711M3-11 PFC CS3 19G1106	12-Jul-19	02:55:49

* CCV not used
BA 7/12/19

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Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
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Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	190711M3_33	IPA	12-Jul-19	03:06:21
34	34	190711M3_34	B9G0062-BS1 OPR 0.125	12-Jul-19	03:16:59
35	35	190711M3_35	B9G0062-BSD1 LCSD 0.125	12-Jul-19	03:27:38
36	36	190711M3_36	B9G0062-BLK1 Method Blank 0.125	12-Jul-19	03:38:11
37	37	190711M3_37	1901922-01 FRB-07022019 0.10709	12-Jul-19	03:48:49
38	38	190711M3_38	1901922-02 CAOA-B02-GW 0.1205	12-Jul-19	03:59:23
39	39	190711M3_39	1901920-02 SAOA-B08-GW 0.13318	12-Jul-19	04:10:01
40	40	190711M3_40	1901920-03 EB-06272019-GW 0.11429	12-Jul-19	04:20:34
41	41	190711M3_41	1901920-04 FRB-06282019 0.11576	12-Jul-19	04:31:13
42	42	190711M3_42	1901920-05 SAOA-B12-GW 0.12204	12-Jul-19	04:41:51
43	43	190711M3_43	1901920-06 SAOA-B12-GW-D 0.12639	12-Jul-19	04:52:24
44	44	190711M3_44	1901920-11 NAOA-B02-GW 0.122	12-Jul-19	05:03:03
45	45	190711M3_45	1901920-12 EB-07012019 0.11155	12-Jul-19	05:13:36
46	46	190711M3_46	1901920-14 FRB-07012019 0.11643	12-Jul-19	05:24:14
47	47	190711M3_47	1901920-16 NAOA-B01-GW 0.1294	12-Jul-19	05:34:46
48	48	190711M3_48	IPA	12-Jul-19	05:45:25
49	49	190711M3_49	ST190711M3-12 PFC CS3 19G1106	12-Jul-19	05:56:03
50	50	190711M3_50	IPA	12-Jul-19	06:06:35
51	51	190711M3_51	1901920-17 NAOA-B01-GW-D 0.13768	12-Jul-19	06:17:14
52	52	190711M3_52	1901920-20 EB-07022019 0.11644	12-Jul-19	06:27:47
53	53	190711M3_53	B9G0065-BS1 OPR 0.25	12-Jul-19	06:38:25
54	54	190711M3_54	B9G0065-BLK1 Method Blank 0.25	12-Jul-19	06:48:58
55	55	190711M3_55	1901781-01 GW1906241425SK 0.24561	12-Jul-19	06:59:37
56	56	190711M3_56	1901781-02 GW1906241605SK 0.25501	12-Jul-19	07:10:15
57	57	190711M3_57	1901781-03 GW1906250855KME 0.24339	12-Jul-19	07:20:48
58	58	190711M3_58	1901781-04 GW1906250855KME-FD 0.24341	12-Jul-19	07:31:26
59	59	190711M3_59	1901781-05 GW1906250935SK 0.24535	12-Jul-19	07:41:59
60	60	190711M3_60	1901781-06 GW1906251040KME 0.24373	12-Jul-19	07:52:37
61	61	190711M3_61	1901781-07 GW1906251120SK 0.24467	12-Jul-19	08:03:15
62	62	190711M3_62	IPA	12-Jul-19	08:13:48
63	63	190711M3_63	ST190711M3-13 PFC CS3 19G1106	12-Jul-19	08:24:26
64	64	190711M3_64	IPA	12-Jul-19	08:34:58
65	65	190711M3_65	1901781-08 GMW1906251200KME 0.24756	12-Jul-19	08:45:54
66	66	190711M3_66	1901781-09 FB1906251135SK 0.25189	12-Jul-19	08:56:32
67	67	190711M3_67	IPA	12-Jul-19	09:07:05
68	68	190711M3_68	ST190711M3-14 PFC CS3 19G1106	12-Jul-19	09:17:43

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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 190711M3_69	IPA	12-Jul-19	09:28:22
70	70 190711M3_70	IB tester	12-Jul-19	09:38:55

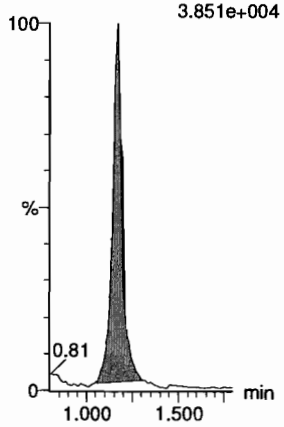
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

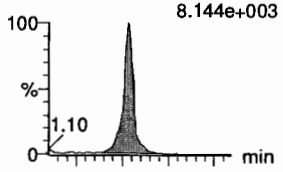
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

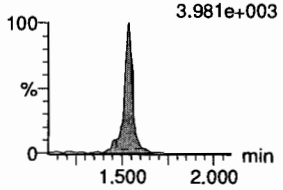
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
3.851e+004



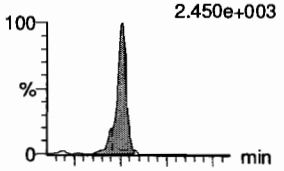
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
8.144e+003



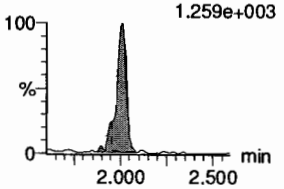
F6:MRM of 2 channels,ES-
248.9 > 98.9
3.981e+003



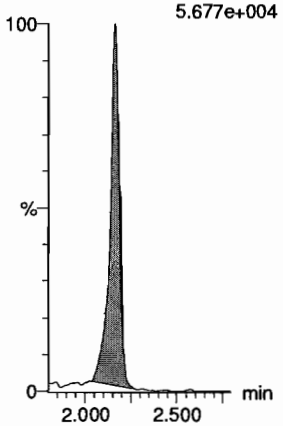
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
2.450e+003



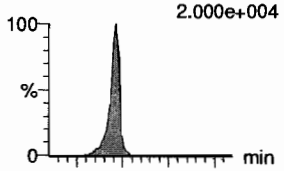
F5:MRM of 2 channels,ES-
240.9 > 116.9
1.259e+003



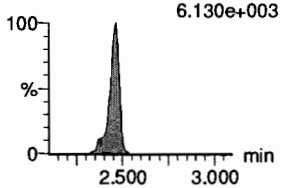
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
5.677e+004



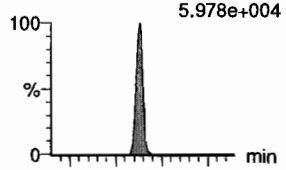
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
2.000e+004



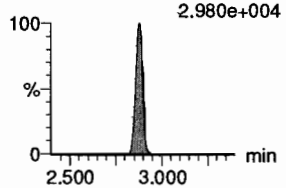
F11:MRM of 2 channels,ES-
299.0 > 99.0
6.130e+003



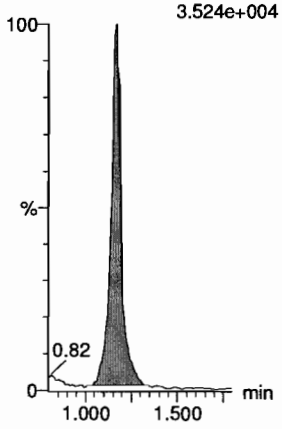
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
5.978e+004



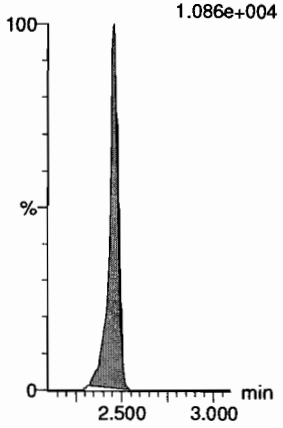
F16:MRM of 2 channels,ES-
327.0 > 80.9
2.980e+004



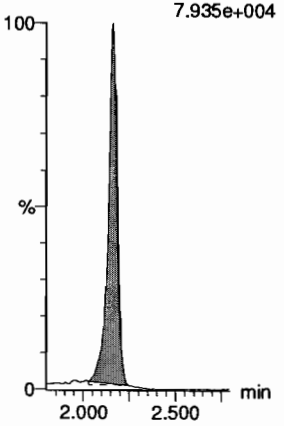
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
3.524e+004



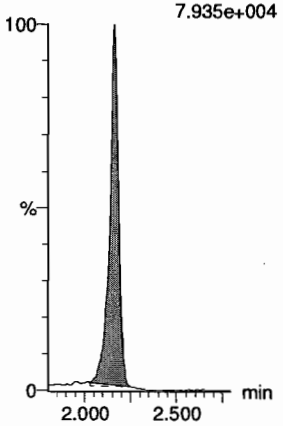
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.086e+004



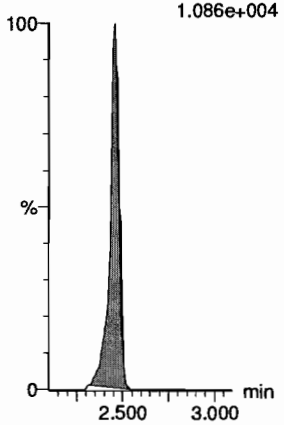
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
7.935e+004



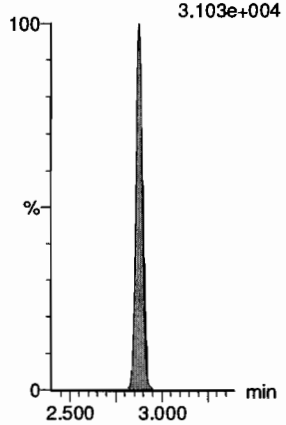
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
7.935e+004



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.086e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
3.103e+004

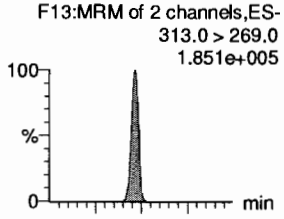


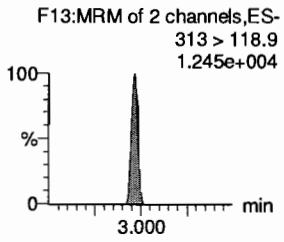
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

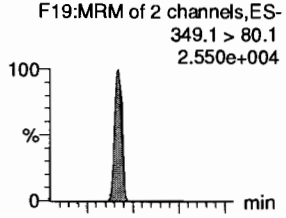
Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

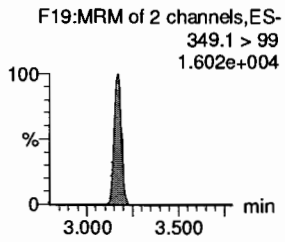
PFHxA



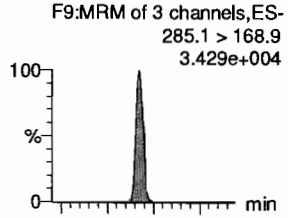


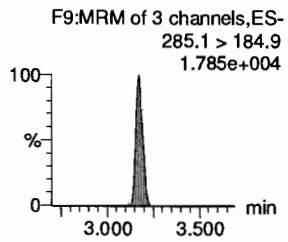
PFPeS



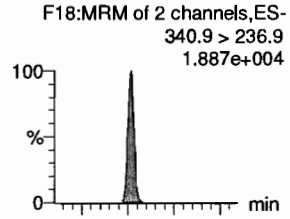


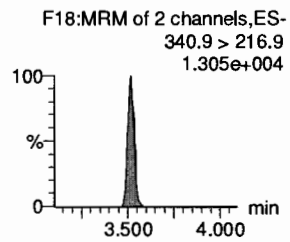
HFPO-DA



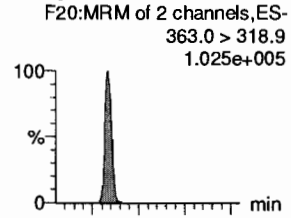


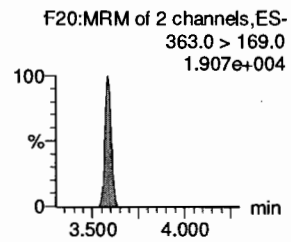
5:3 FTCA





PFHpA





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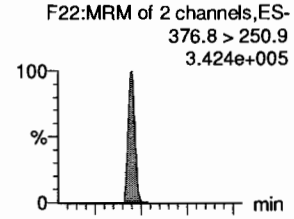
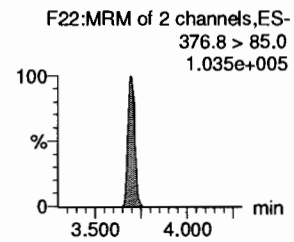
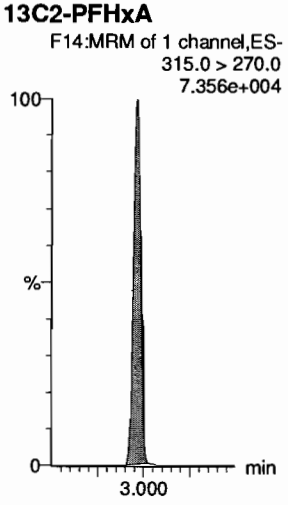
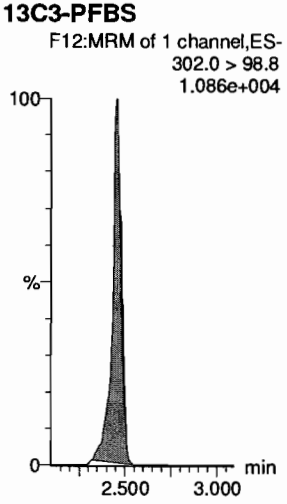




13C2-PFHxA



13C3-PFBS



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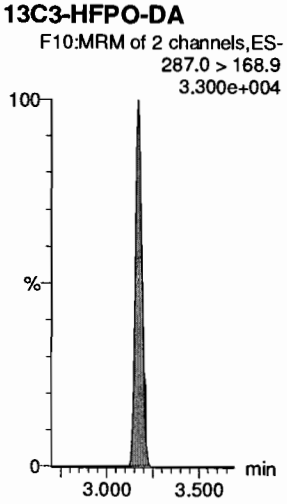
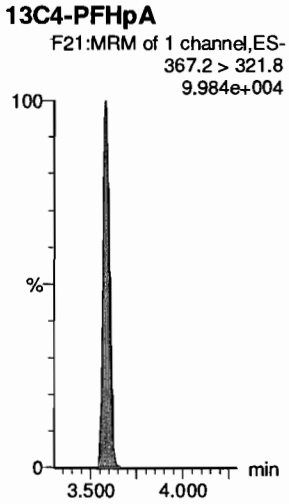


13C4-PFHpA



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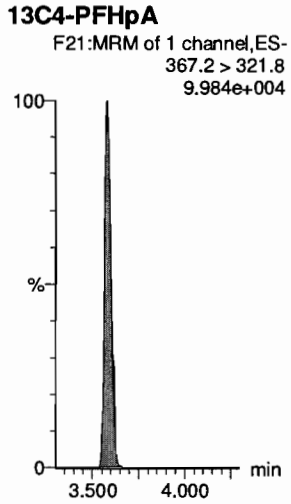

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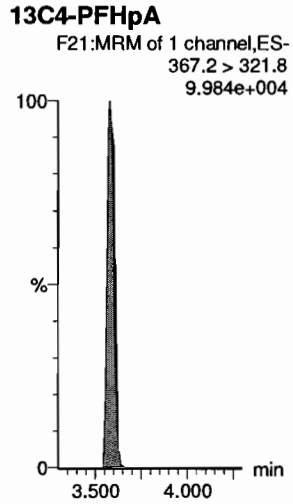
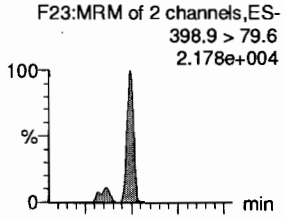


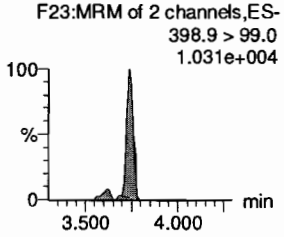
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

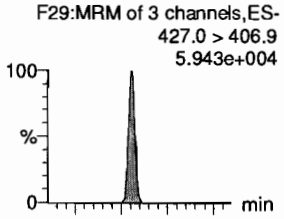
Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

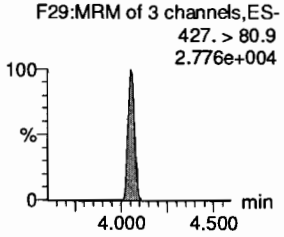
L-PFHxS



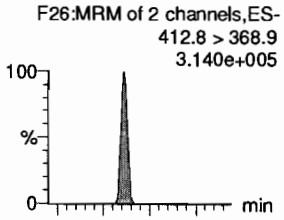


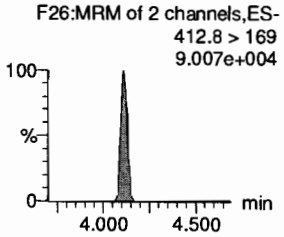
6:2 FTS





L-PFOA





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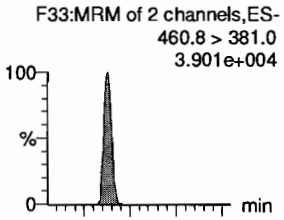

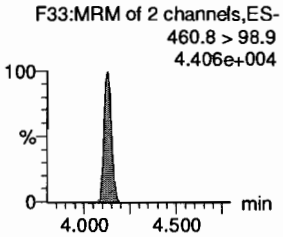

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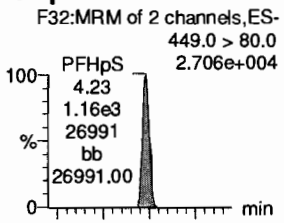
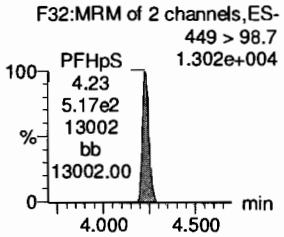
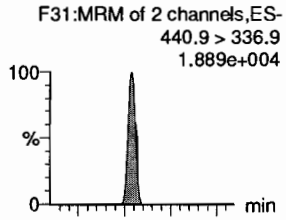
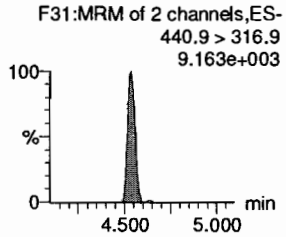


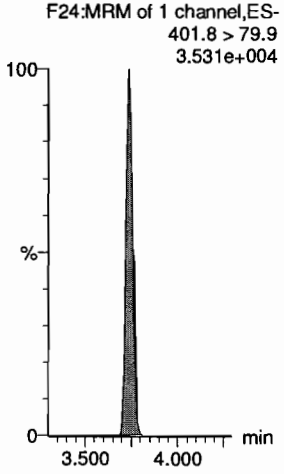


7:3 FTCA

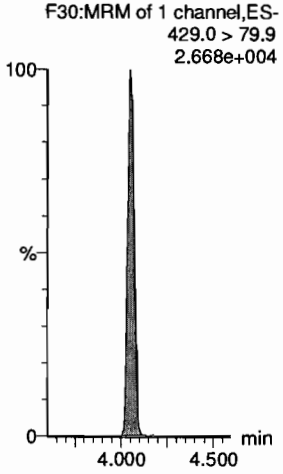




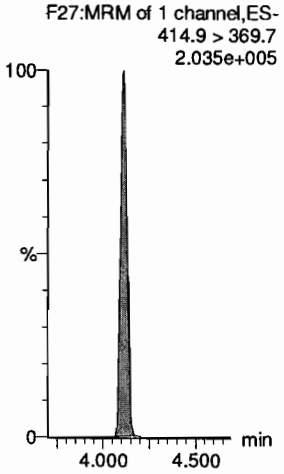
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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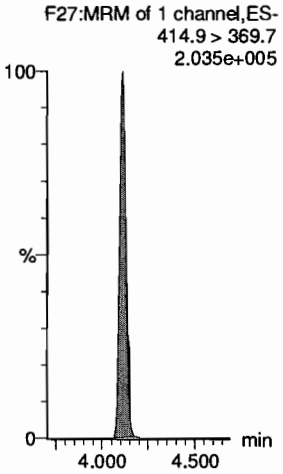
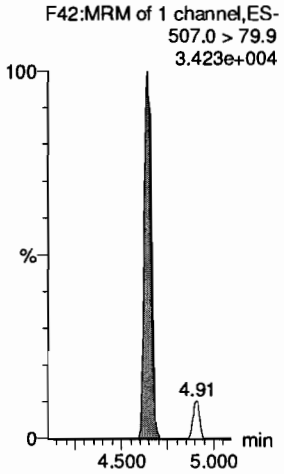
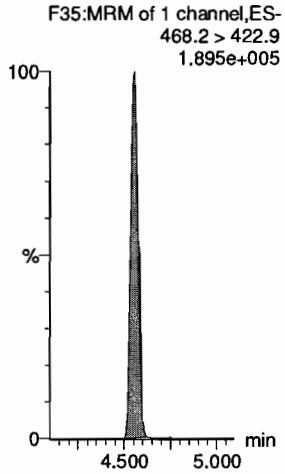


13C8-PFOS



13C5-PFNA



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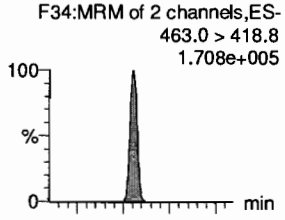
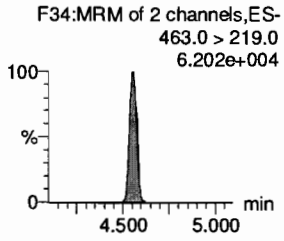
Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

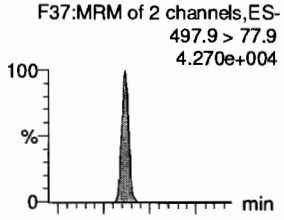
Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

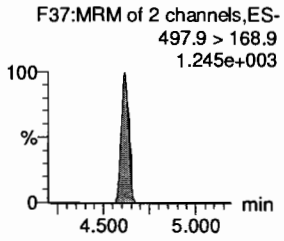
PFNA



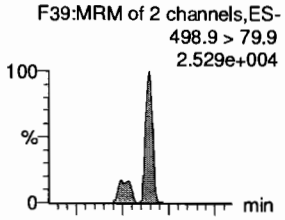


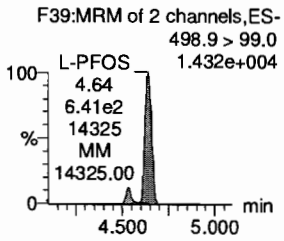
PFOSA



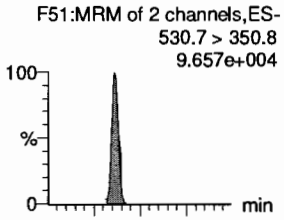


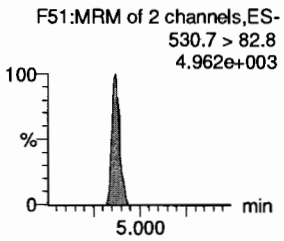
L-PFOS





9Cl-PF30NS





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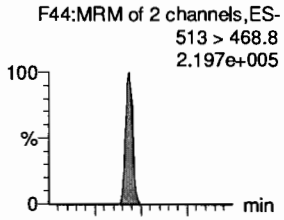
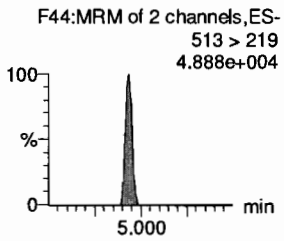
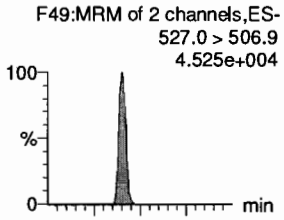
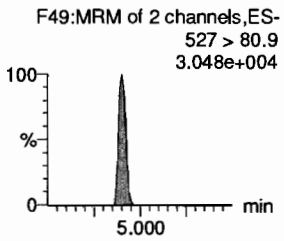


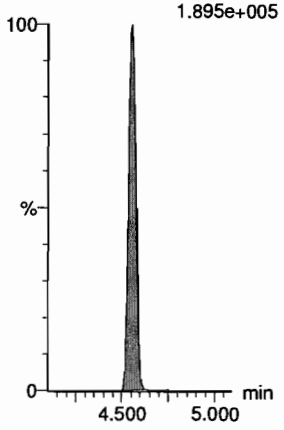


8:2 FTS

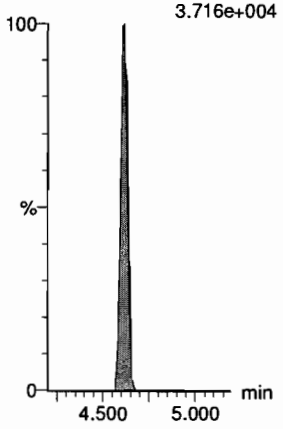




13C5-PFNA



13C8-PFOSA



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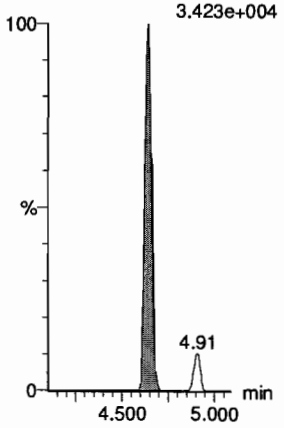

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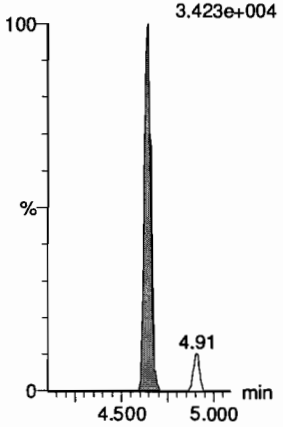

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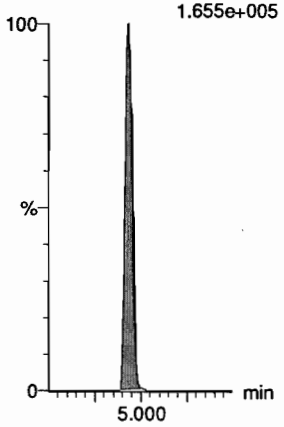
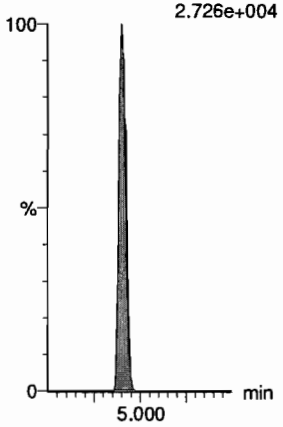


13C2-8:2 FTS



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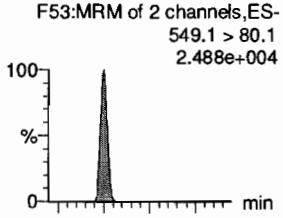
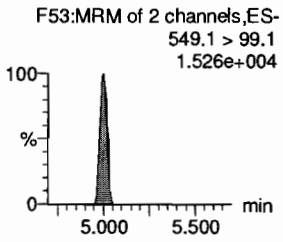
Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

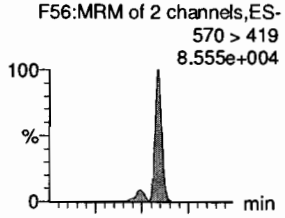
Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

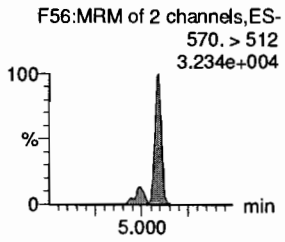
PFNS



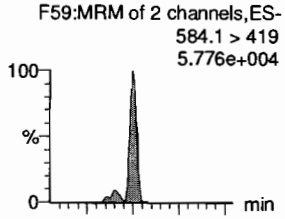


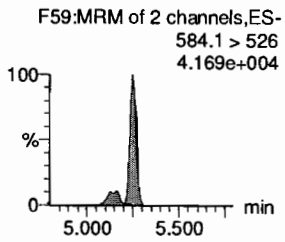
L-MeFOSAA



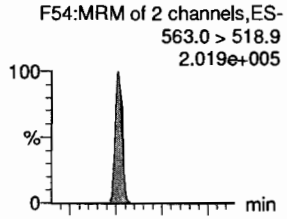


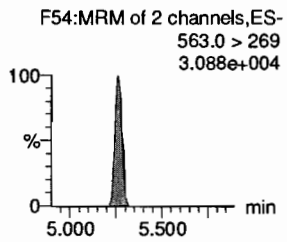
L-EtFOSAA



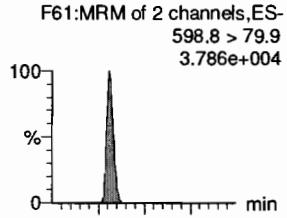


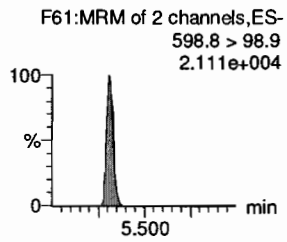
PFUdA



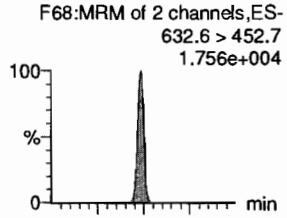


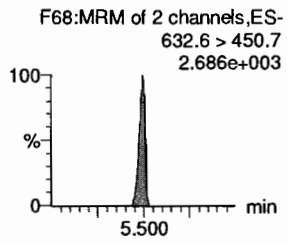
PFDS



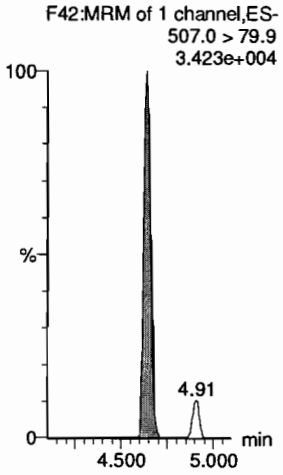


11Cl-PF30UdS

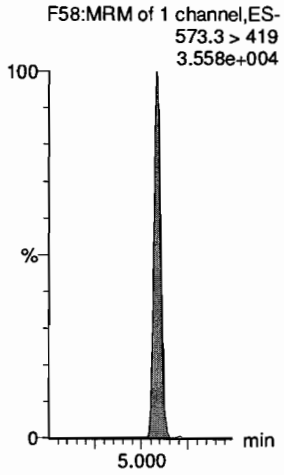




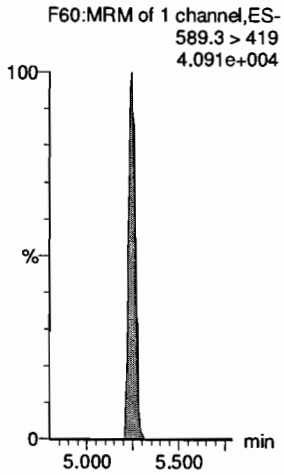
13C8-PFOS



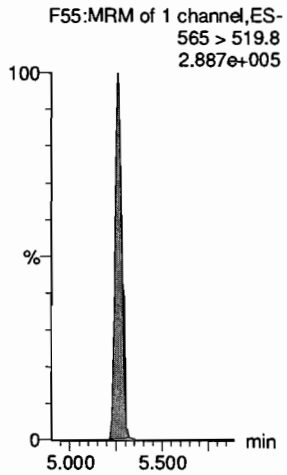
d3-N-MeFOSAA



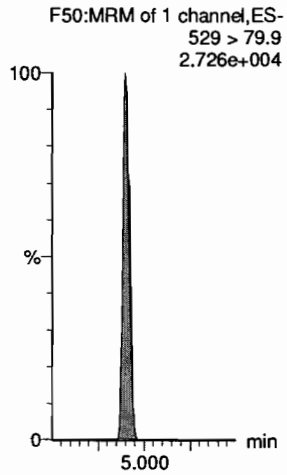
d5-N-EtFOSAA



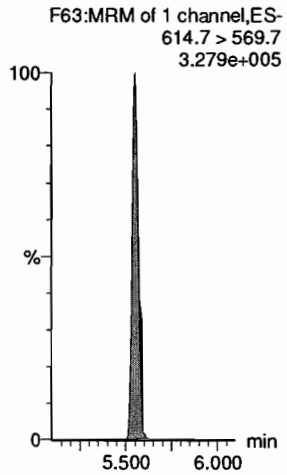
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

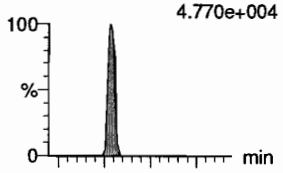


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

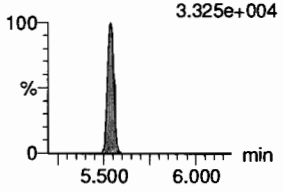
Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

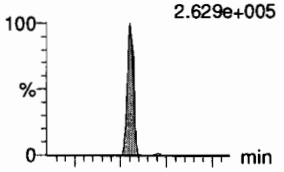
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
4.770e+004



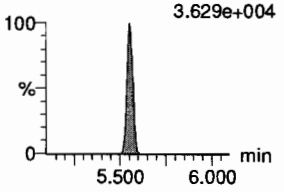
F66:MRM of 2 channels,ES-
627.0 > 80.9
3.325e+004



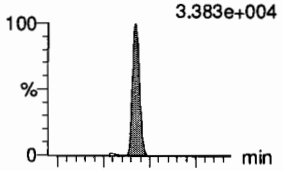
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
2.629e+005



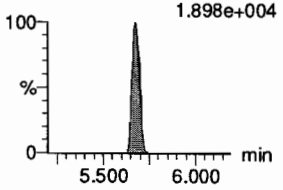
F62:MRM of 4 channels,ES-
612.9 > 318.8
3.629e+004



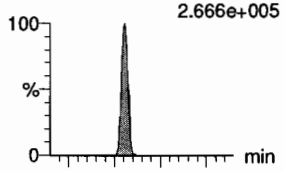
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
3.383e+004



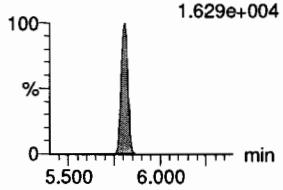
F43:MRM of 2 channels,ES-
512.1 > 219
1.898e+004



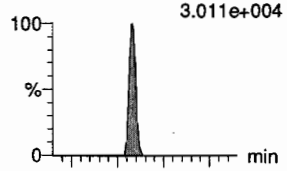
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
2.666e+005



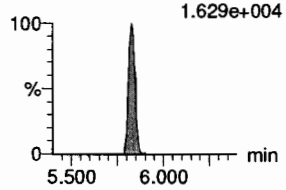
F70:MRM of 2 channels,ES-
662.9 > 319
1.629e+004



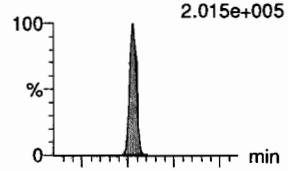
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
3.011e+004



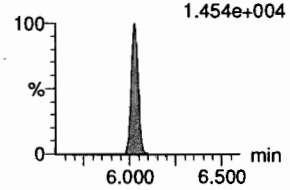
F71:MRM of 2 channels,ES-
698.8 > 98.9
1.629e+004



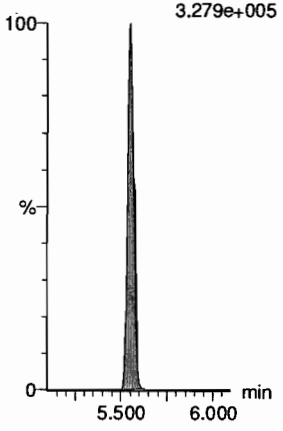
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
2.015e+005



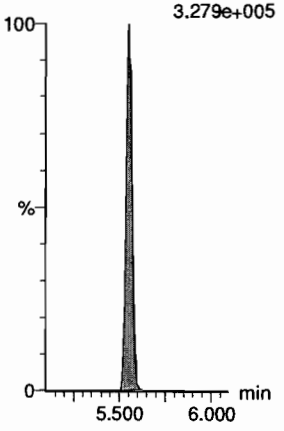
F72:MRM of 2 channels,ES-
713. > 369.0
1.454e+004



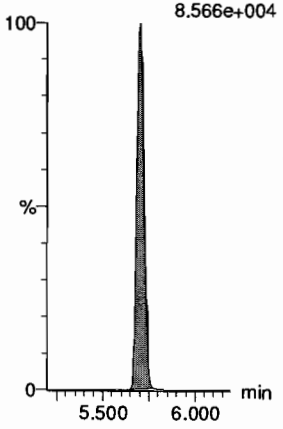
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.279e+005



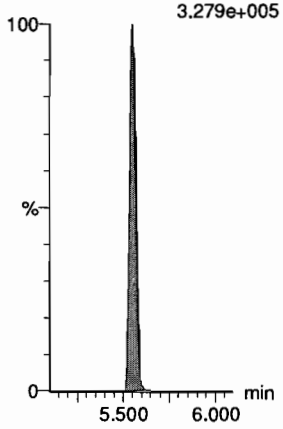
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.279e+005



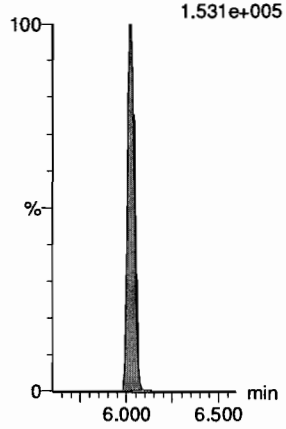
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
8.566e+004



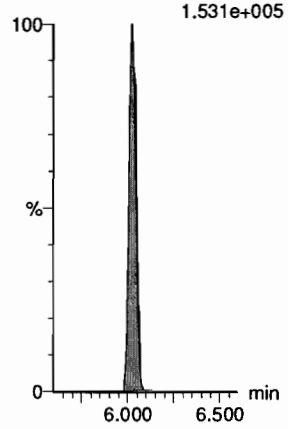
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.279e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.531e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.531e+005

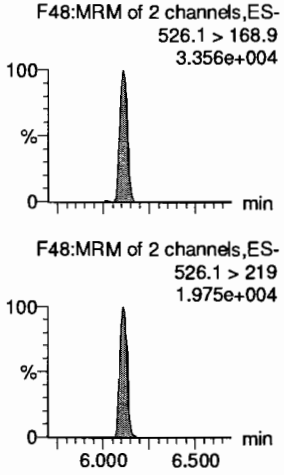


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

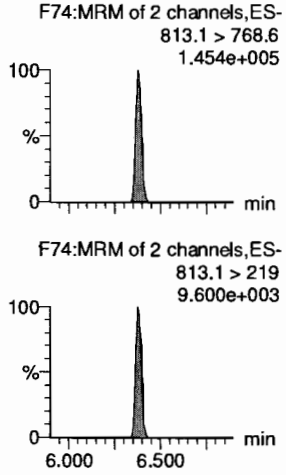
Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

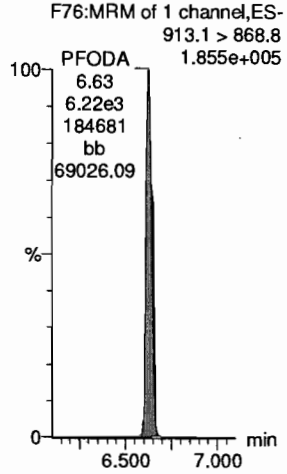
N-EtFOSA



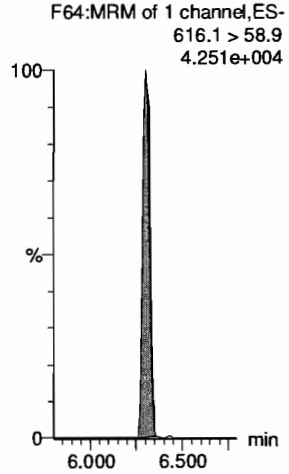
PFHxDA



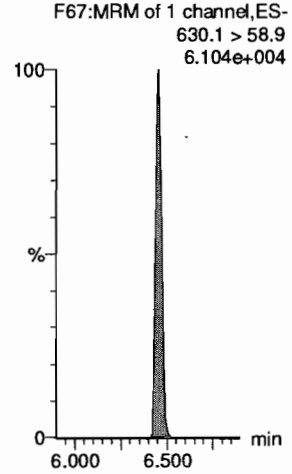
PFODA



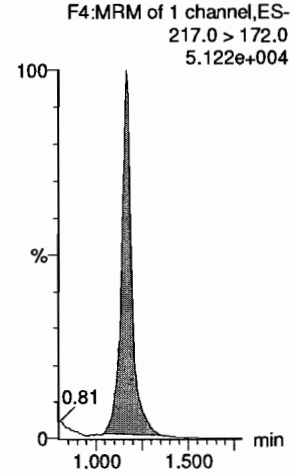
N-MeFOSE



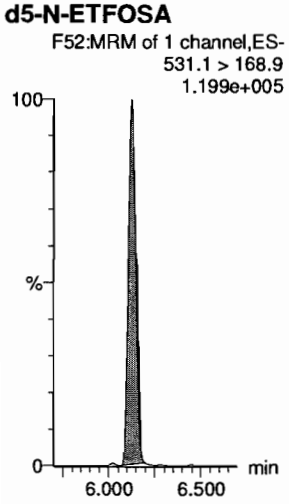
N-EtFOSE



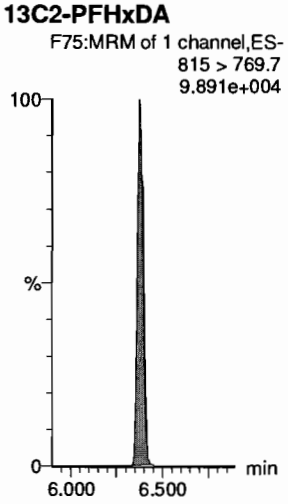
13C4-PFBA



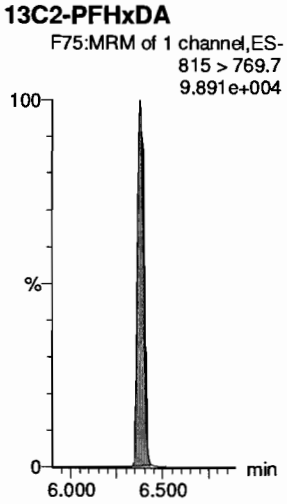
d5-N-ETFOSA



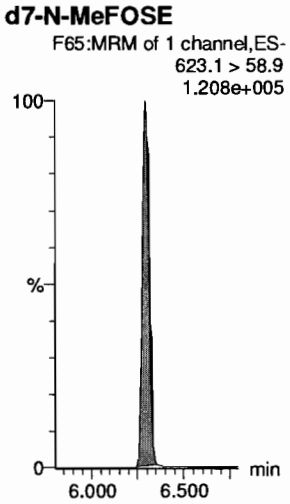
13C2-PFHxDA



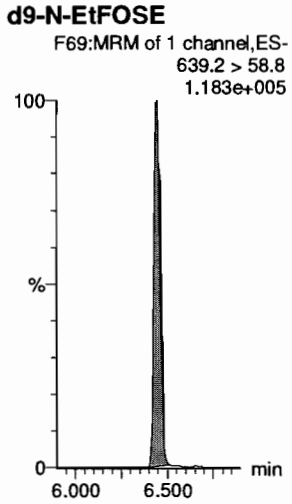
13C2-PFHxDA



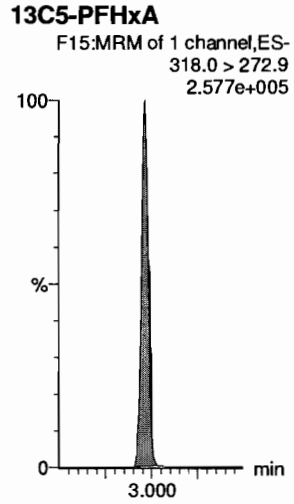
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

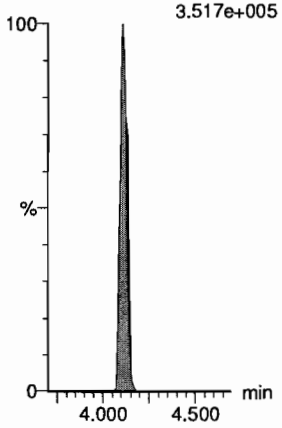


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-32.qld

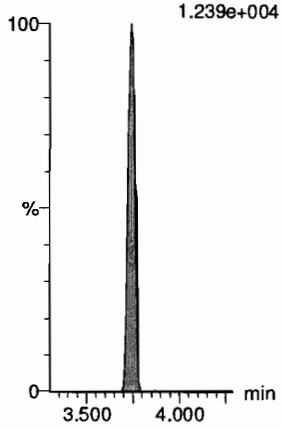
Last Altered: Friday, July 12, 2019 08:40:57 Pacific Daylight Time
Printed: Friday, July 12, 2019 08:41:15 Pacific Daylight Time

Name: 190711M3_32, Date: 12-Jul-2019, Time: 02:55:49, ID: ST190711M3-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

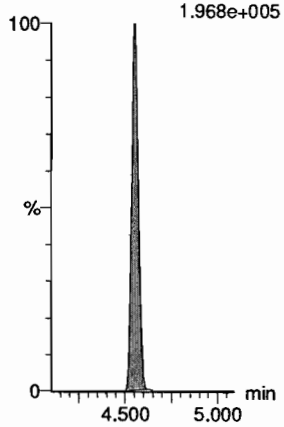
13C8-PFOA



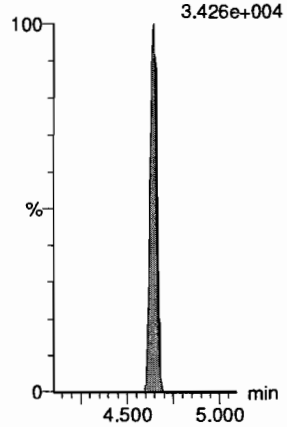
18O2-PFHxS



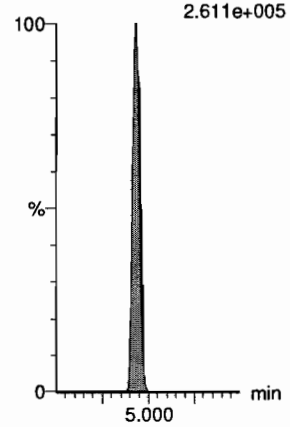
13C9-PFNA



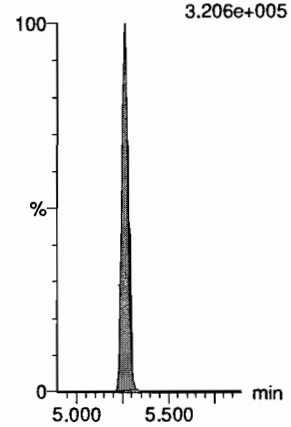
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:02:40 Pacific Daylight Time

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Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	2446.746	2265.594	1.00	1.17	13.499	9.5	95.0	NO		
2	2	PFPrS	248.9 > 79.9	518.894	543.285	1.00	1.54	11.939	11.3	113.3	NO	2.435	NO
3	3	3:3 FTCA	240.9 > 176.9	124.347	4075.844	1.00	2.01	0.381	9.2	92.3	NO	1.759	NO
4	4	PFPeA	263.1 > 218.9	3063.286	4075.844	1.00	2.17	9.395	9.9	98.6	NO		
5	5	PFBS	299.0 > 79.7	939.682	543.285	1.00	2.46	21.620	9.4	94.2	NO	2.595	NO
6	6	4:2 FTS	327.0 > 306.9	2588.176	1275.560	1.00	2.88	25.363	10.4	103.8	NO	1.803	NO
7	47	13C3-PFBA	216.1 > 171.8	2265.594	3345.600	1.00	1.17	8.465	13.0	104.2	NO		
8	49	13C3-PFBS	302.0 > 98.8	543.285	565.812	1.00	2.46	12.002	11.6	92.8	NO		
9	48	13C3-PFPeA	266.0 > 221.8	4075.844	10771.561	1.00	2.16	4.730	11.6	92.8	NO		
10	48	13C3-PFPeA	266.0 > 221.8	4075.844	10771.561	1.00	2.16	4.730	11.6	92.8	NO		
11	49	13C3-PFBS	302.0 > 98.8	543.285	565.812	1.00	2.46	12.002	11.6	92.8	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1275.560	565.812	1.00	2.88	28.180	12.6	100.7	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	8022.152	3432.788	1.00	2.96	11.685	10.1	100.6	NO	15.399	NO
15	8	PFPeS	349.1>80.1	1133.898	543.285	1.00	3.17	26.089	12.2	122.3	NO	1.563	NO
16	9	HFPO-DA	285.1 > 168.9	1647.476	1394.833	1.00	3.18	5.906	10.6	106.5	NO	2.128	NO
17	10	5:3 FTCA	340.9 > 236.9	772.794	3744.053	1.00	3.52	2.580	10.1	100.9	NO	1.438	NO
18	11	PFHpA	363.0 > 318.9	4142.208	3744.053	1.00	3.58	13.829	11.3	112.6	NO	4.820	NO
19	12	ADONA	376.8 > 250.9	13787.599	3744.053	1.00	3.70	46.032	10.6	106.2	NO	3.292	NO
20	52	13C2-PFHxA	315.0 > 270.0	3432.788	10771.561	1.00	2.96	3.984	5.0	100.5	NO		
21	49	13C3-PFBS	302.0 > 98.8	543.285	565.812	1.00	2.46	12.002	11.6	92.8	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1394.833	10771.561	1.00	3.18	1.619	5.3	105.6	NO		
23	53	13C4-PFHpA	367.2 > 321.8	3744.053	10771.561	1.00	3.58	4.345	11.1	88.9	NO		
24	53	13C4-PFHpA	367.2 > 321.8	3744.053	10771.561	1.00	3.58	4.345	11.1	88.9	NO		
25	53	13C4-PFHpA	367.2 > 321.8	3744.053	10771.561	1.00	3.58	4.345	11.1	88.9	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	943.427	1510.318	1.00	3.74	7.808	9.3	93.5	NO	1.741	NO
28	15	6:2 FTS	427.0 > 406.9	2181.035	1014.572	1.00	4.06	26.871	9.2	92.1	NO	1.944	NO
29	16	L-PFOA	412.8 > 368.9	12096.011	8232.679	1.00	4.11	18.366	9.9	99.2	NO	3.502	NO
30	18	PFecHS	460.8 > 381.0	1974.864	8232.679	1.00	4.13	2.999	10.7	107.1	NO	1.014	NO
31	19	PFHpS	449.0 > 80.0	1079.335	1486.616	1.00	4.23	9.075	10.4	103.9	NO	2.197	NO
32	20	7:3 FTCA	440.9 > 336.9	907.626	8770.270	1.00	4.54	1.294	9.7	96.6	NO	2.189	NO
33	54	13C3-PFHxS	401.8 > 79.9	1510.318	565.812	1.00	3.74	33.366	13.1	104.8	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1014.572	1557.096	1.00	4.05	8.145	11.1	88.5	NO		
35	58	13C2-PFOA	414.9 > 369.7	8232.679	14119.083	1.00	4.11	7.289	12.9	103.3	NO		
36	58	13C2-PFOA	414.9 > 369.7	8232.679	14119.083	1.00	4.11	7.289	12.9	103.3	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
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Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	1486.616	1557.096	1.00	4.64	11.934	11.3	90.1	NO		
38	56	13C5-PFNA	468.2 > 422.9	8770.270	9261.484	1.00	4.56	11.837	12.0	96.4	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	7938.128	8770.270	1.00	4.56	11.314	10.3	102.9	NO	2.958	NO
41	22	PFOSA	497.9 > 77.9	1927.743	1773.858	1.00	4.61	13.584	10.6	106.4	NO	41.911	NO
42	23	L-PFOS	498.9 > 79.9	1421.334	1486.616	1.00	4.64	11.951	9.6	95.5	NO	1.953	NO
43	25	9Cl-PF30NS	530.7 > 350.8	3664.460	1486.616	1.00	4.86	30.812	9.8	97.9	NO	19.264	NO
44	26	PFDA	513 > 468.8	8640.904	6855.043	1.00	4.94	15.756	9.5	94.8	NO	4.318	NO
45	27	8:2 FTS	527.0 > 506.9	1971.226	908.958	1.00	4.90	27.108	12.1	120.5	NO	1.286	NO
46	56	13C5-PFNA	468.2 > 422.9	8770.270	9261.484	1.00	4.56	11.837	12.0	96.4	NO		
47	57	13C8-PFOSA	506.1 > 77.7	1773.858	12658.801	1.00	4.62	1.752	13.4	107.6	NO		
48	59	13C8-PFOS	507.0 > 79.9	1486.616	1557.096	1.00	4.64	11.934	11.3	90.1	NO		
49	59	13C8-PFOS	507.0 > 79.9	1486.616	1557.096	1.00	4.64	11.934	11.3	90.1	NO		
50	60	13C2-PFDA	515.1 > 469.9	6855.043	10721.471	1.00	4.93	7.992	12.1	96.6	NO		
51	61	13C2-8:2 FTS	529 > 79.9	908.958	1557.096	1.00	4.90	7.297	10.5	83.9	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	1054.656	1486.616	1.00	5.00	8.868	10.1	101.3	NO	1.377	NO
54	29	L-MeFOSAA	570 > 419	3830.508	1608.781	1.00	5.09	29.763	10.0	99.7	NO	2.391	NO
55	31	L-EtFOSAA	584.1 > 419	2789.294	1811.891	1.00	5.25	19.243	9.7	97.2	NO	1.338	NO
56	33	PFUdA	563.0 > 518.9	8324.721	11795.893	1.00	5.26	8.822	9.5	94.7	NO	6.595	NO
57	34	PFDS	598.8 > 79.9	1362.648	908.958	1.00	5.31	18.739	9.3	92.7	NO	1.611	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	736.174	12751.516	1.00	5.48	0.722	11.2	112.2	NO	4.793	NO
59	59	13C8-PFOS	507.0 > 79.9	1486.616	1557.096	1.00	4.64	11.934	11.3	90.1	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1608.781	12658.801	1.00	5.08	1.589	12.3	98.5	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1811.891	12658.801	1.00	5.24	1.789	12.1	97.1	NO		
62	63	13C2-PFUdA	565 > 519.8	11795.893	12658.801	1.00	5.26	11.648	13.6	108.7	NO		
63	61	13C2-8:2 FTS	529 > 79.9	908.958	1557.096	1.00	4.90	7.297	10.5	83.9	NO		
64	65	13C2-PFDoA	614.7 > 569.7	12751.516	10721.471	1.00	5.55	14.867	12.1	96.8	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	2006.673	908.958	1.00	5.53	27.596	10.4	104.2	NO	1.493	NO
67	37	PFDoA	612.9 > 569.0	9891.139	12751.516	1.00	5.55	9.696	10.2	101.6	NO	7.806	NO
68	38	N-MeFOSA	512.1 > 168.9	1569.446	3659.659	1.00	5.68	64.328	50.3	100.7	NO	1.942	NO
69	39	PFTrDA	662.9 > 618.9	10966.639	12751.516	1.00	5.80	10.750	10.1	101.4	NO	14.955	NO
70	40	PFDoS	698.8 > 79.9	1229.069	6431.932	1.00	5.83	2.389	9.9	98.9	NO	1.873	NO
71	41	PFTeDA	713.0 > 669.0	8174.072	6431.932	1.00	6.03	15.886	10.6	106.0	NO	13.583	NO
72	65	13C2-PFDoA	614.7 > 569.7	12751.516	10721.471	1.00	5.55	14.867	12.1	96.8	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
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Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	12751.516	10721.471	1.00	5.55	14.867	12.1	96.8	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	3659.659	12658.801	1.00	5.70	3.614	163.1	108.7	NO		
75	65	13C2-PFDoA	614.7 > 569.7	12751.516	10721.471	1.00	5.55	14.867	12.1	96.8	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	6431.932	12658.801	1.00	6.03	6.351	12.4	99.4	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	6431.932	12658.801	1.00	6.03	6.351	12.4	99.4	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	1581.472	5463.459	1.00	6.11	43.420	47.3	94.6	NO	1.847	NO
80	43	PFHxDA	813.1 > 768.6	5606.415	3681.921	1.00	6.38	7.613	10.1	100.6	NO	18.767	NO
81	44	PFODA	913.1 > 868.8	6195.762	3681.921	1.00	6.63	8.414	10.1	100.7	NO		
82	45	N-MeFOSE	616.1 > 58.9	1616.713	4972.039	1.00	6.30	48.774	43.5	86.9	NO		
83	46	N-EtFOSE	630.1 > 58.9	2038.453	4474.348	1.00	6.45	68.338	48.6	97.2	NO		
84	72	13C4-PFBA	217.0 > 172.0	3345.600	3345.600	1.00	1.17	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	5463.459	12658.801	1.00	6.13	5.395	173.1	115.4	NO		
86	69	13C2-PFHxDA	815 > 769.7	3681.921	12658.801	1.00	6.38	3.636	4.9	99.0	NO		
87	69	13C2-PFHxDA	815 > 769.7	3681.921	12658.801	1.00	6.38	3.636	4.9	99.0	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	4972.039	12658.801	1.00	6.29	4.910	175.6	117.1	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	4474.348	12658.801	1.00	6.44	4.418	160.6	107.1	NO		
90	73	13C5-PFHxA	318.0 > 272.9	10771.561	10771.561	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	14119.083	14119.083	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	565.812	565.812	1.00	3.74	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	9261.484	9261.484	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1557.096	1557.096	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	10721.471	10721.471	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	12658.801	12658.801	1.00	5.26	12.500	12.5	100.0	NO		

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190711M3_1	IPA	11-Jul-19	21:27:14
2	2	190711M3_2	ST190711M3-1 PFC CS-2 19G1101	11-Jul-19	21:37:49
3	3	190711M3_3	ST190711M3-2 PFC CS-1 19G1102	11-Jul-19	21:48:22
4	4	190711M3_4	ST190711M3-3 PFC CS0 19G1103	11-Jul-19	21:59:01
5	5	190711M3_5	ST190711M3-4 PFC CS1 19G1104	11-Jul-19	22:09:33
6	6	190711M3_6	ST190711M3-5 PFC CS2 19G1105	11-Jul-19	22:20:12
7	7	190711M3_7	ST190711M3-6 PFC CS3 19G1106	11-Jul-19	22:30:45
8	8	190711M3_8	ST190711M3-7 PFC CS4 19G1107	11-Jul-19	22:41:23
9	9	190711M3_9	ST190711M3-8 PFC CS5 19G1108	11-Jul-19	22:51:57
10	10	190711M3_10	ST190711M3-9 PFC CS6 19G1109	11-Jul-19	23:02:37
11	11	190711M3_11	ST190711M3-10 PFC CS7 19G1110	11-Jul-19	23:13:13
12	12	190711M3_12	IB	11-Jul-19	23:23:47
13	13	190711M3_13	ST190711M3-1 PFC ICV 19G1111	11-Jul-19	23:34:17
14	14	190711M3_14	IPA	11-Jul-19	23:44:56
15	15	190711M3_15	B9G0061-BS1 OPR 0.125	11-Jul-19	23:55:34
16	16	190711M3_16	B9F0279-BS1 OPR 1	12-Jul-19	00:06:07
17	17	190711M3_17	B9F0279-BLK1 Method Blank 1	12-Jul-19	00:16:45
18	18	190711M3_18	1901784-02RE1 FRB-1 0.24972	12-Jul-19	00:27:18
19	19	190711M3_19	1901683-03 Hagatna 1 3.93	12-Jul-19	00:37:57
20	20	190711M3_20	1901910-01 SW1906280950KME 0.24336	12-Jul-19	00:48:35
21	21	190711M3_21	1901910-02 SW1906281025KME 0.24464	12-Jul-19	00:59:09
22	22	190711M3_22	1901910-03 SW1906281035KME 0.24318	12-Jul-19	01:09:47
23	23	190711M3_23	1901911-01 WMP1907010855JSJ 0.2509	12-Jul-19	01:20:19
24	24	190711M3_24	B9G0095-BS1 OPR 0.25	12-Jul-19	01:30:58
25	25	190711M3_25	B9G0095-BSD1 LCSD 0.25	12-Jul-19	01:41:36
26	26	190711M3_26	B9G0095-BLK1 Method Blank 0.25	12-Jul-19	01:52:09
27	27	190711M3_27	1901759-01 HW-AF-01-01-420-062419 0.11818	12-Jul-19	02:02:47
28	28	190711M3_28	1901992-01 WIN1907081315GGA 0.24256	12-Jul-19	02:13:26
29	29	190711M3_29	1901992-02 WMP1907081305GGA 0.23352	12-Jul-19	02:23:58
30	30	190711M3_30	1901992-03 WEF1907081310GGA 0.24328	12-Jul-19	02:34:37
31	31	190711M3_31	IPA	12-Jul-19	02:45:10
32	32	190711M3_32	ST190711M3-11 PFC CS3 19G1106	12-Jul-19	02:55:49

* CCV not used
* 7/12/19

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Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
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Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	190711M3_33	IPA	12-Jul-19	03:06:21
34	34	190711M3_34	B9G0062-BS1 OPR 0.125	12-Jul-19	03:16:59
35	35	190711M3_35	B9G0062-BSD1 LCSD 0.125	12-Jul-19	03:27:38
36	36	190711M3_36	B9G0062-BLK1 Method Blank 0.125	12-Jul-19	03:38:11
37	37	190711M3_37	1901922-01 FRB-07022019 0.10709	12-Jul-19	03:48:49
38	38	190711M3_38	1901922-02 CAOA-B02-GW 0.1205	12-Jul-19	03:59:23
39	39	190711M3_39	1901920-02 SAOA-B08-GW 0.13318	12-Jul-19	04:10:01
40	40	190711M3_40	1901920-03 EB-06272019-GW 0.11429	12-Jul-19	04:20:34
41	41	190711M3_41	1901920-04 FRB-06282019 0.11576	12-Jul-19	04:31:13
42	42	190711M3_42	1901920-05 SAOA-B12-GW 0.12204	12-Jul-19	04:41:51
43	43	190711M3_43	1901920-06 SAOA-B12-GW-D 0.12639	12-Jul-19	04:52:24
44	44	190711M3_44	1901920-11 NAOA-B02-GW 0.122	12-Jul-19	05:03:03
45	45	190711M3_45	1901920-12 EB-07012019 0.11155	12-Jul-19	05:13:36
46	46	190711M3_46	1901920-14 FRB-07012019 0.11643	12-Jul-19	05:24:14
47	47	190711M3_47	1901920-16 NAOA-B01-GW 0.1294	12-Jul-19	05:34:46
48	48	190711M3_48	IPA	12-Jul-19	05:45:25
49	49	190711M3_49	ST190711M3-12 PFC CS3 19G1106	12-Jul-19	05:56:03
50	50	190711M3_50	IPA	12-Jul-19	06:06:35
51	51	190711M3_51	1901920-17 NAOA-B01-GW-D 0.13768	12-Jul-19	06:17:14
52	52	190711M3_52	1901920-20 EB-07022019 0.11644	12-Jul-19	06:27:47
53	53	190711M3_53	B9G0065-BS1 OPR 0.25	12-Jul-19	06:38:25
54	54	190711M3_54	B9G0065-BLK1 Method Blank 0.25	12-Jul-19	06:48:58
55	55	190711M3_55	1901781-01 GW1906241425SK 0.24561	12-Jul-19	06:59:37
56	56	190711M3_56	1901781-02 GW1906241605SK 0.25501	12-Jul-19	07:10:15
57	57	190711M3_57	1901781-03 GW1906250855KME 0.24339	12-Jul-19	07:20:48
58	58	190711M3_58	1901781-04 GW1906250855KME-FD 0.24341	12-Jul-19	07:31:26
59	59	190711M3_59	1901781-05 GW1906250935SK 0.24535	12-Jul-19	07:41:59
60	60	190711M3_60	1901781-06 GW1906251040KME 0.24373	12-Jul-19	07:52:37
61	61	190711M3_61	1901781-07 GW1906251120SK 0.24467	12-Jul-19	08:03:15
62	62	190711M3_62	IPA	12-Jul-19	08:13:48
63	63	190711M3_63	ST190711M3-13 PFC CS3 19G1106	12-Jul-19	08:24:26
64	64	190711M3_64	IPA	12-Jul-19	08:34:58
65	65	190711M3_65	1901781-08 GMW1906251200KME 0.24756	12-Jul-19	08:45:54
66	66	190711M3_66	1901781-09 FB1906251135SK 0.25189	12-Jul-19	08:56:32
67	67	190711M3_67	IPA	12-Jul-19	09:07:05
68	68	190711M3_68	ST190711M3-14 PFC CS3 19G1106	12-Jul-19	09:17:43

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:54:35 Pacific Daylight Time

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
69	69	190711M3_69	IPA	12-Jul-19	09:28:22
70	70	190711M3_70	IB tester	12-Jul-19	09:38:55

Vista Analytical Laboratory

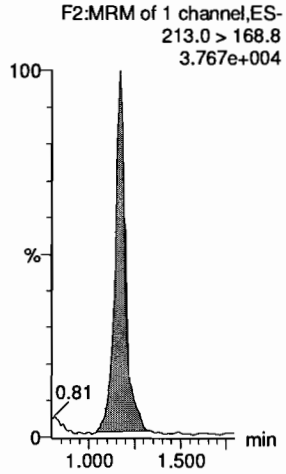
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:02:40 Pacific Daylight Time

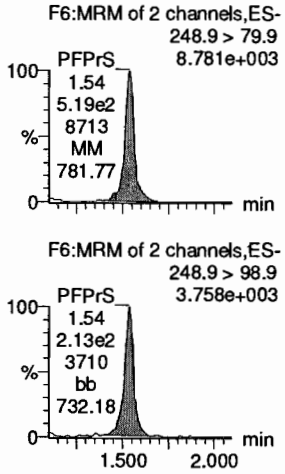
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

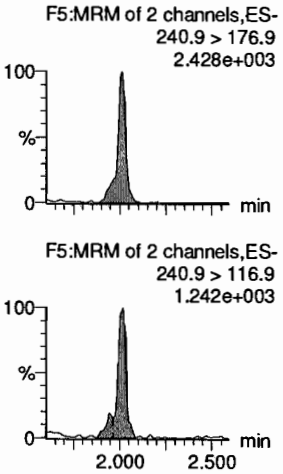
PFBA



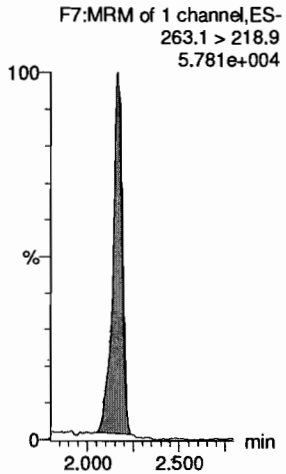
PFPrS



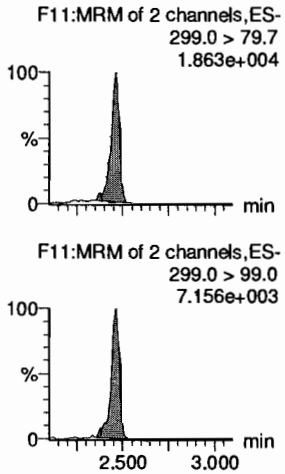
3:3 FTCA



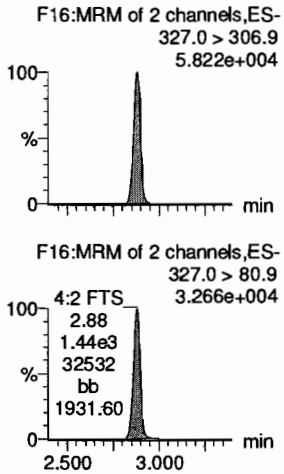
PFPeA



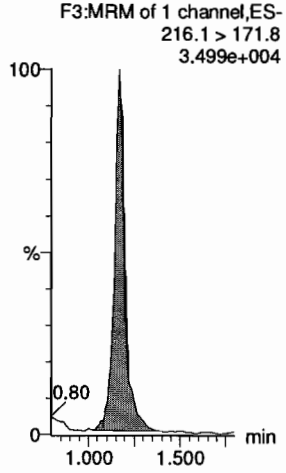
PFBS



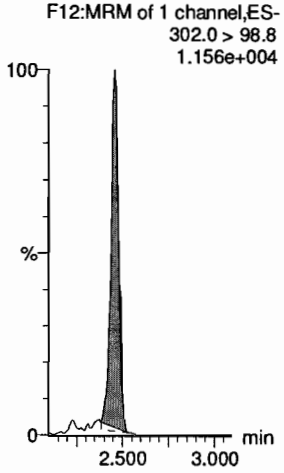
4:2 FTS



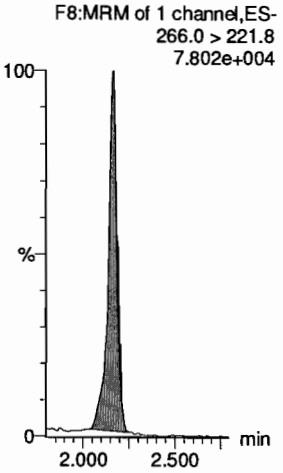
13C3-PFBA



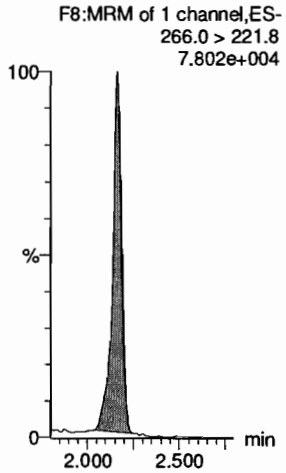
13C3-PFBS



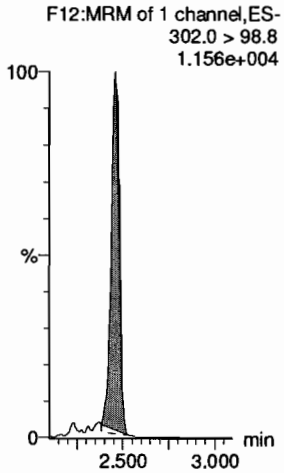
13C3-PFPeA



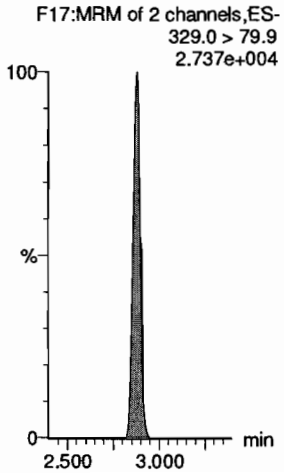
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

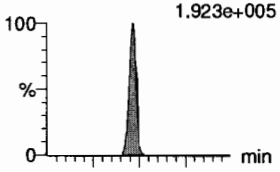


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

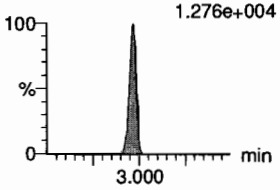
Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:02:40 Pacific Daylight Time

Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

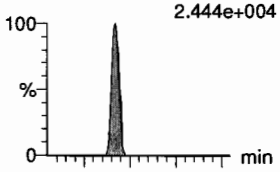
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
1.923e+005



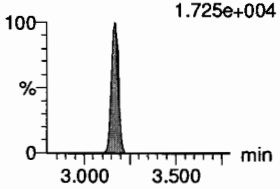
F13:MRM of 2 channels,ES-
313 > 118.9
1.276e+004



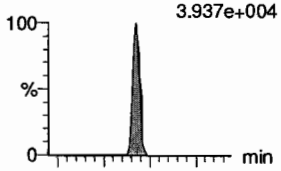
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
2.444e+004



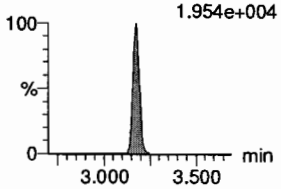
F19:MRM of 2 channels,ES-
349.1 > 99
1.725e+004



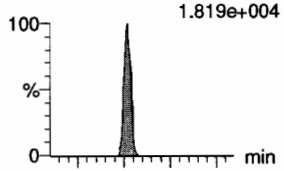
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
3.937e+004



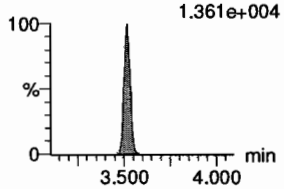
F9:MRM of 3 channels,ES-
285.1 > 184.9
1.954e+004



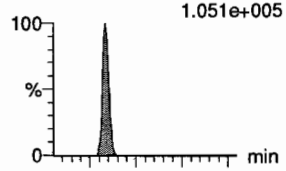
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
1.819e+004



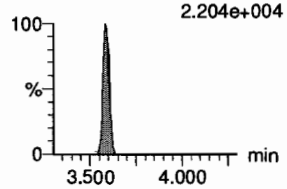
F18:MRM of 2 channels,ES-
340.9 > 216.9
1.361e+004



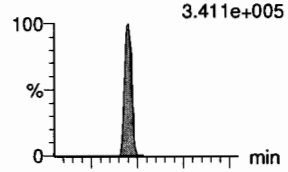
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
1.051e+005



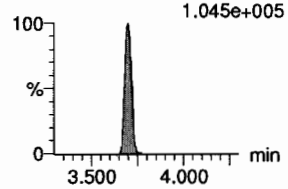
F20:MRM of 2 channels,ES-
363.0 > 169.0
2.204e+004



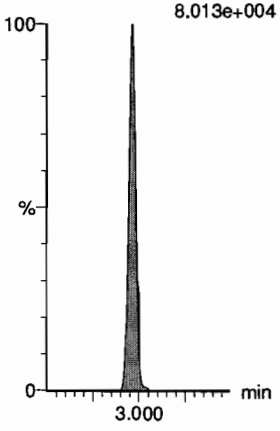
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
3.411e+005



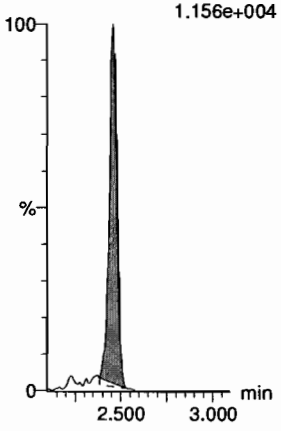
F22:MRM of 2 channels,ES-
376.8 > 85.0
1.045e+005



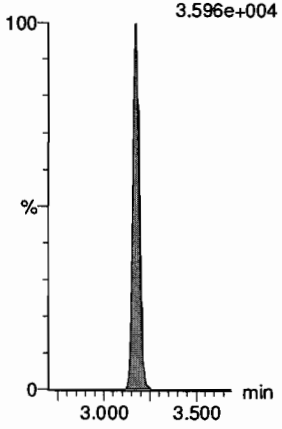
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
8.013e+004



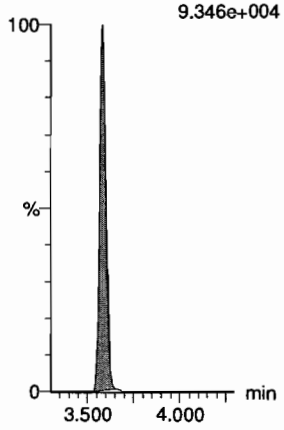
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.156e+004



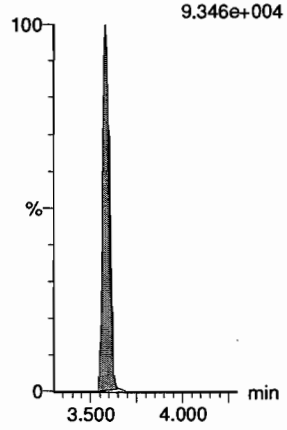
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
3.596e+004



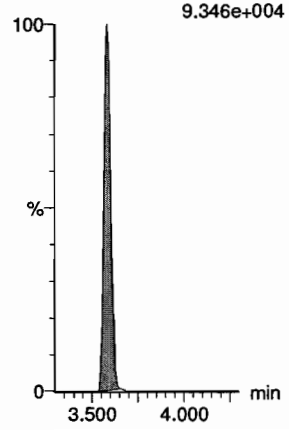
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
9.346e+004



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
9.346e+004



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
9.346e+004

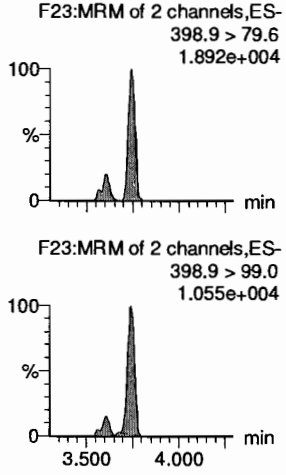


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

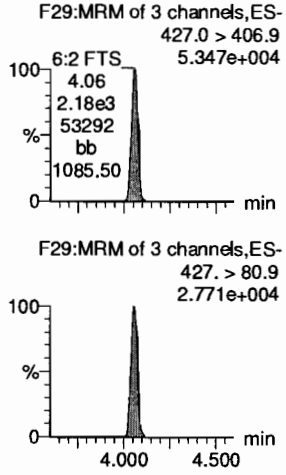
Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:02:40 Pacific Daylight Time

Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

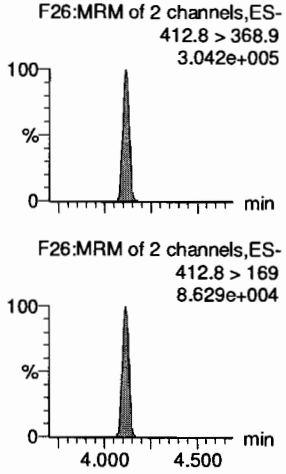
L-PFHxS



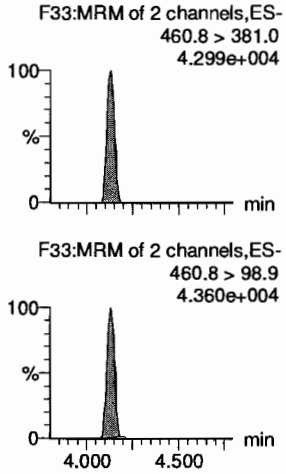
6:2 FTS



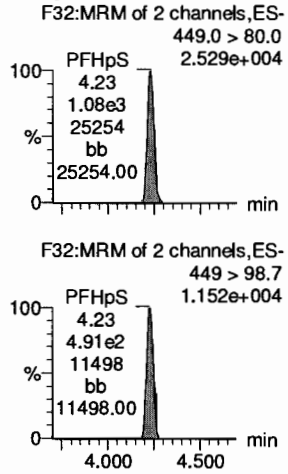
L-PFOA



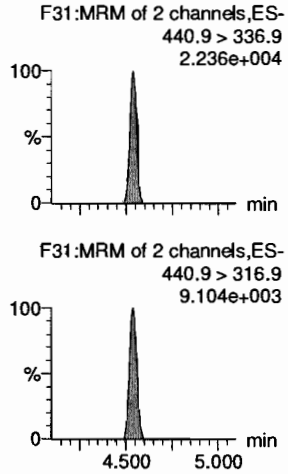
PFEChS



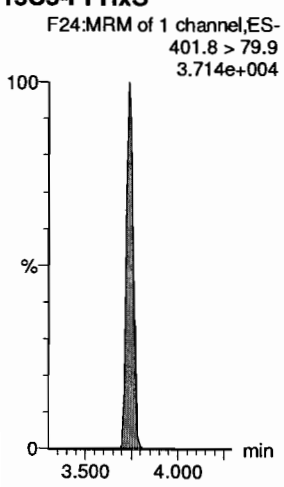
PFHpS



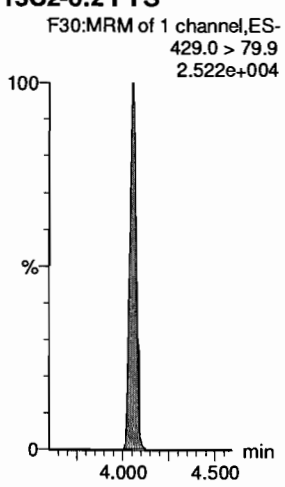
7:3 FTCA



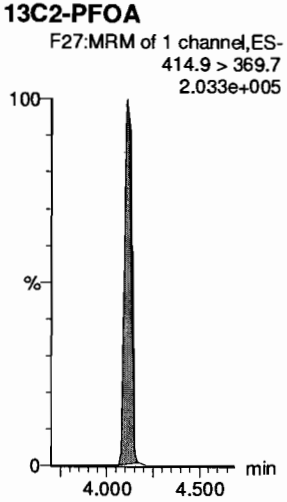
13C3-PFHxS



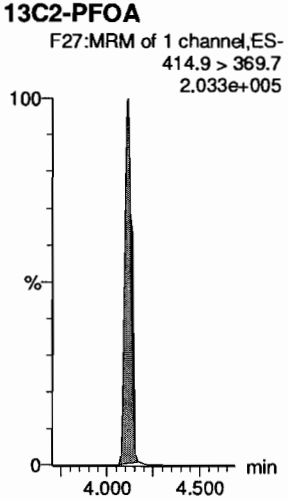
13C2-6:2 FTS



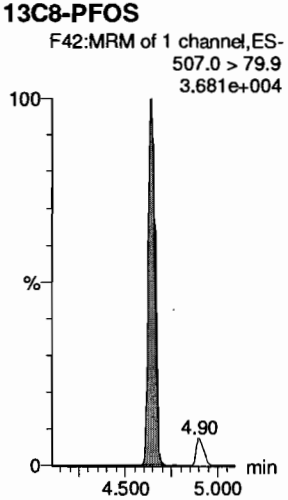
13C2-PFOA



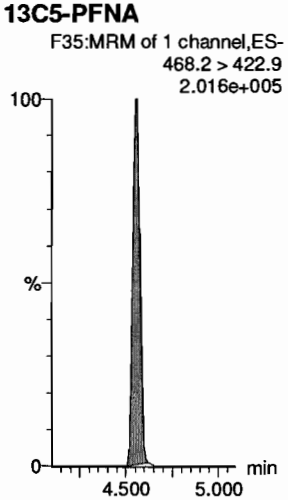
13C2-PFOA



13C8-PFOS



13C5-PFNA

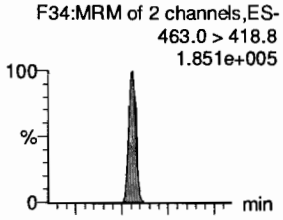


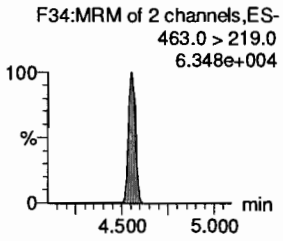
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:02:40 Pacific Daylight Time

Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFNA





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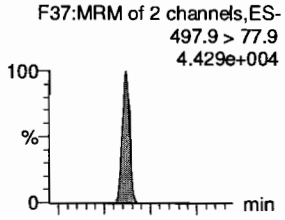
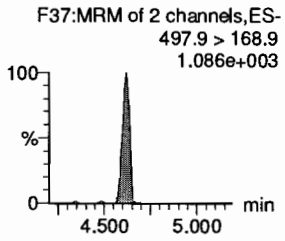
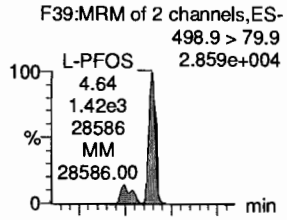
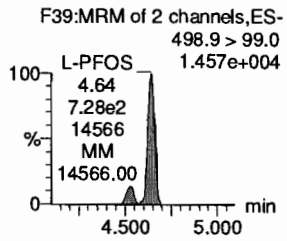


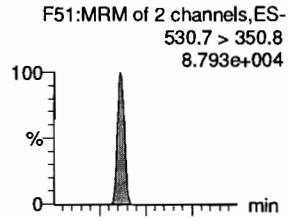


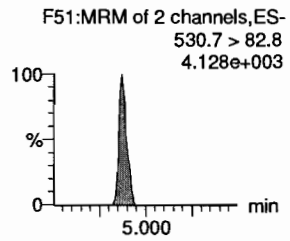
L-PFOS





9Cl-PF30NS





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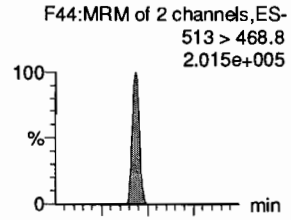
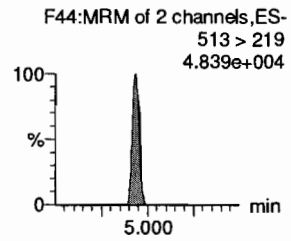
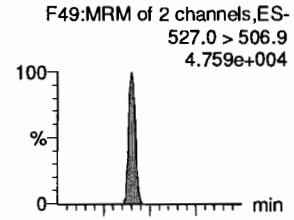
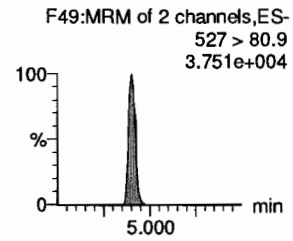


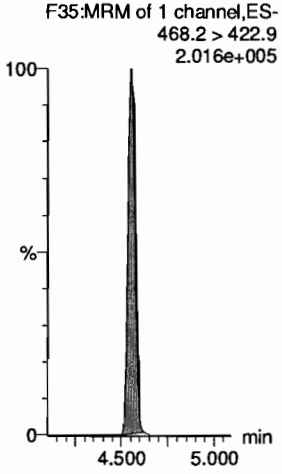


8:2 FTS

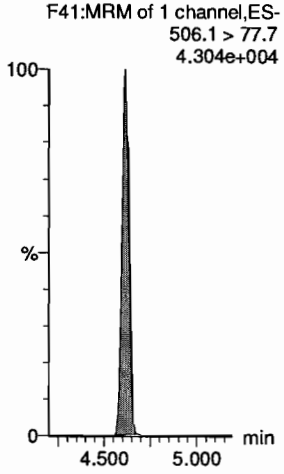




13C5-PFNA



13C8-PFOSA



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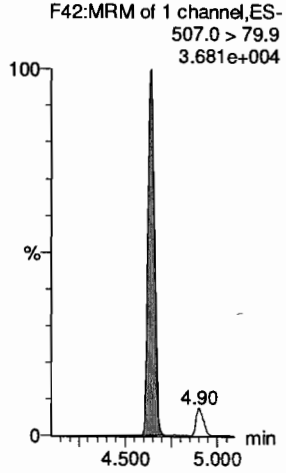

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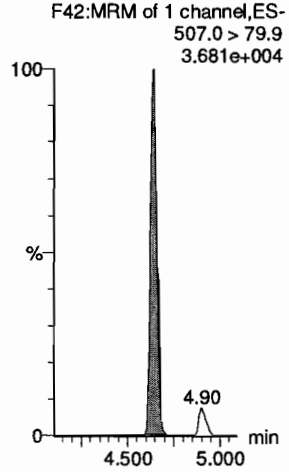
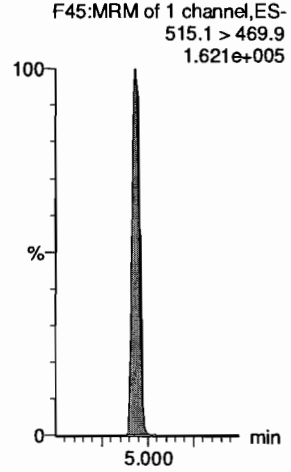
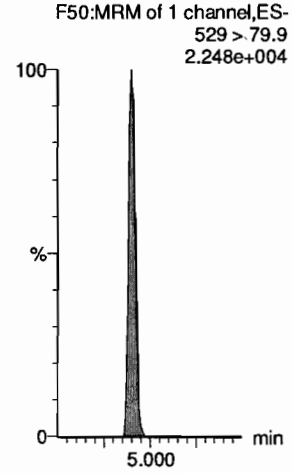


13C2-PFDA



13C2-8:2 FTS



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Printed: Friday, July 12, 2019 09:02:40 Pacific Daylight Time

Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

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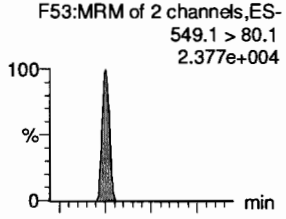

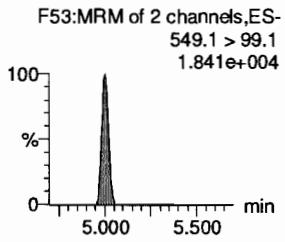

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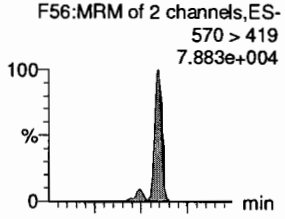

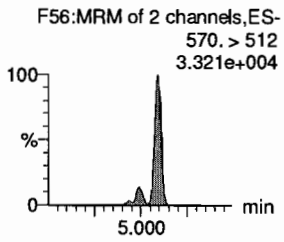

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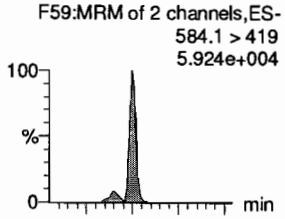

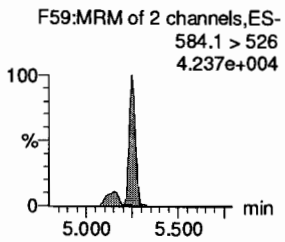

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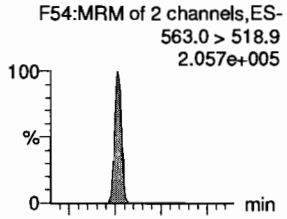

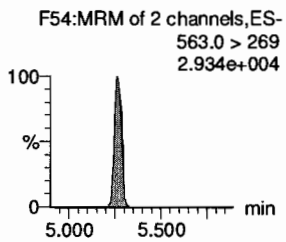

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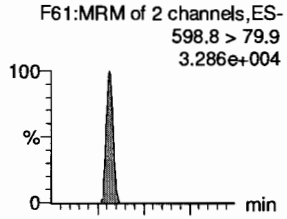

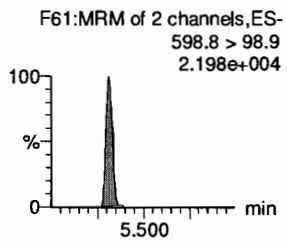

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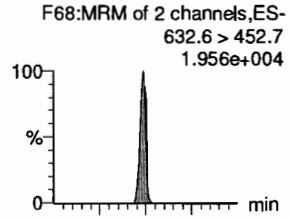
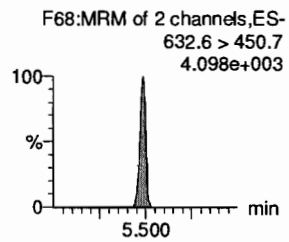
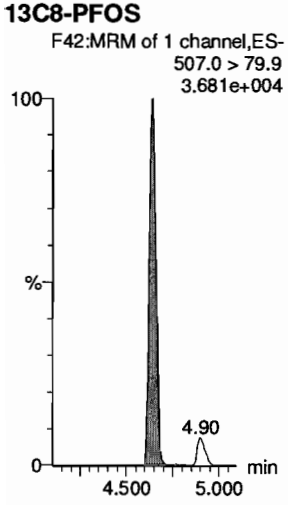




13C8-PFOS



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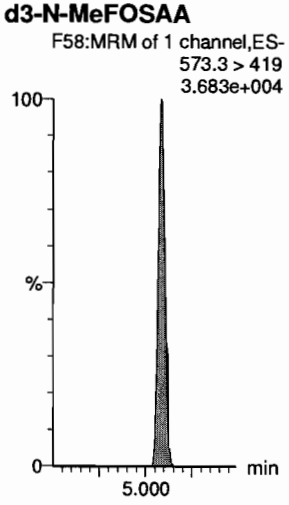

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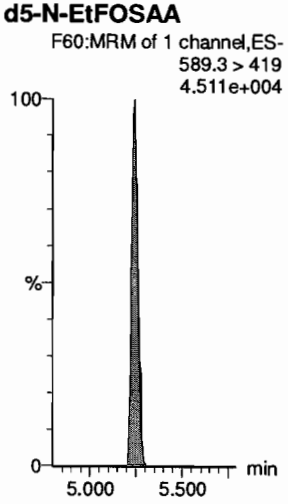
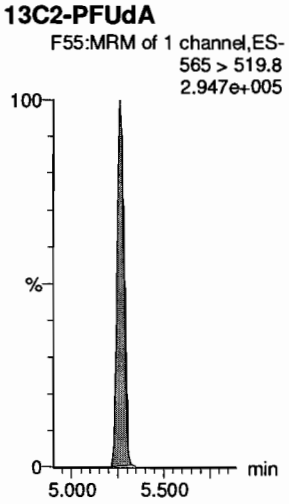
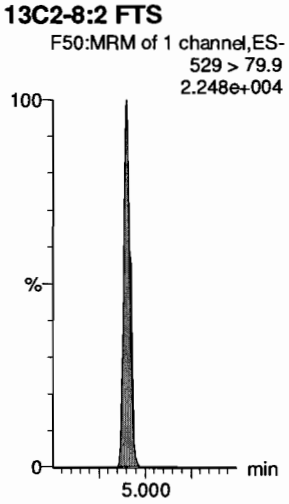


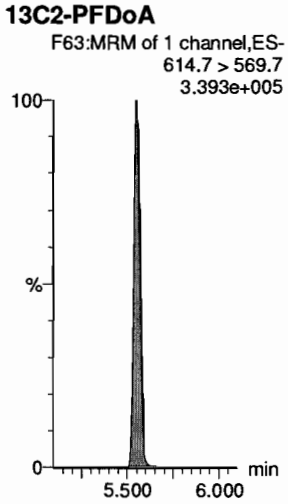
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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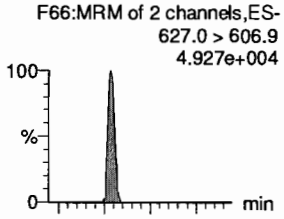
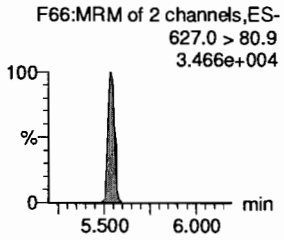
Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

10:2 FTS





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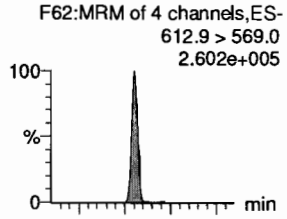
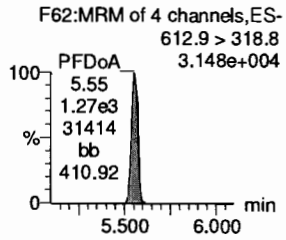
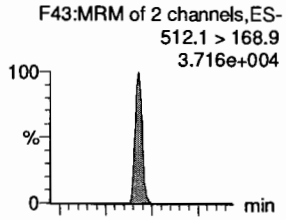
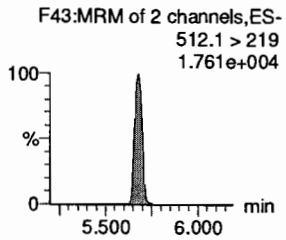




N-MeFOSA





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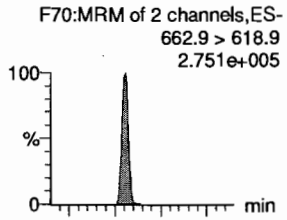
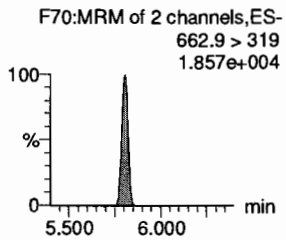
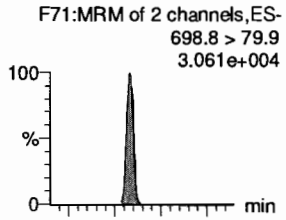
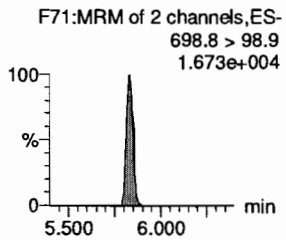


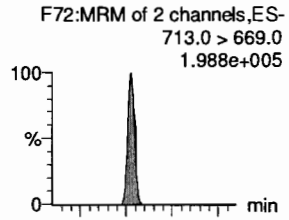


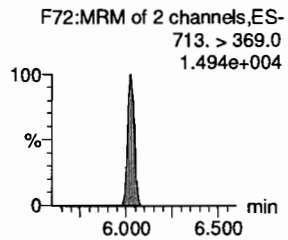
PFDoS





PFTeDA





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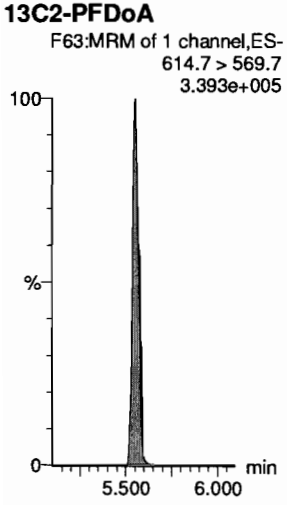

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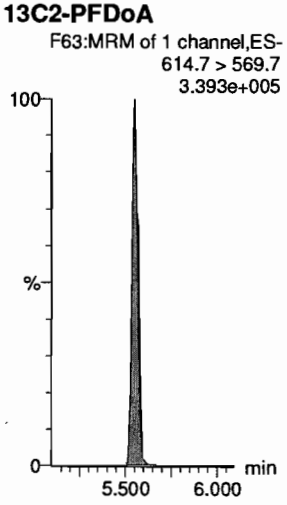
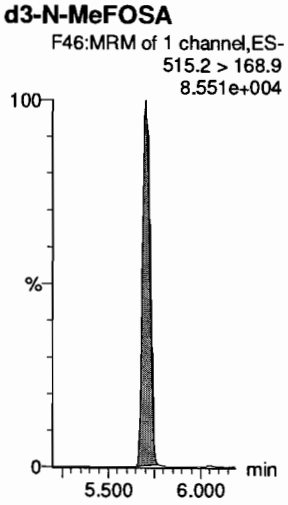


d3-N-MeFOSA



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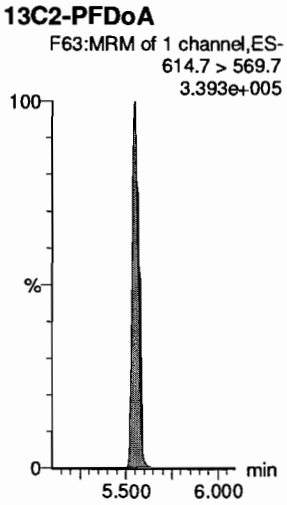

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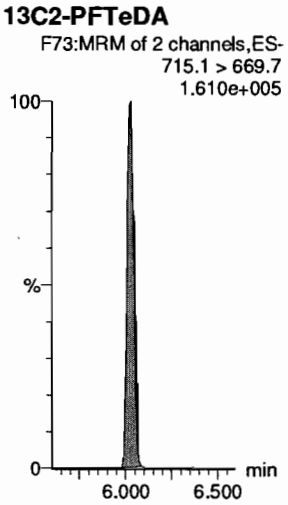

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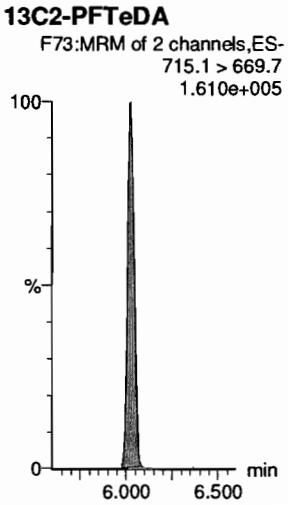

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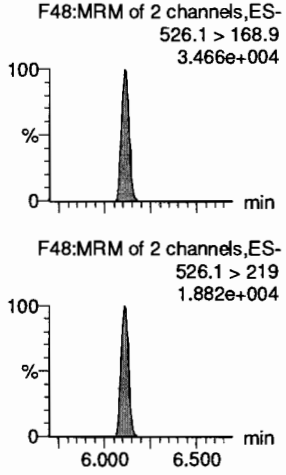
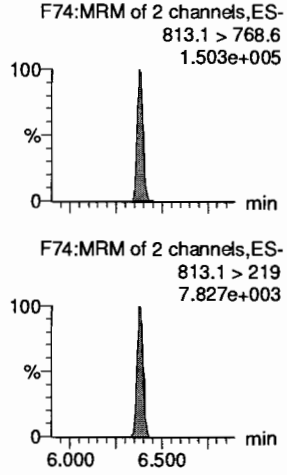
Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

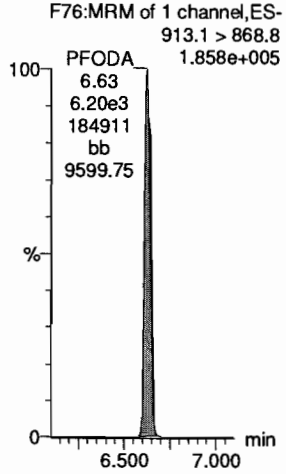
N-EtFOSA



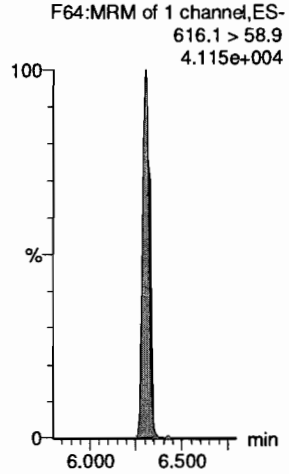
PFHxDA



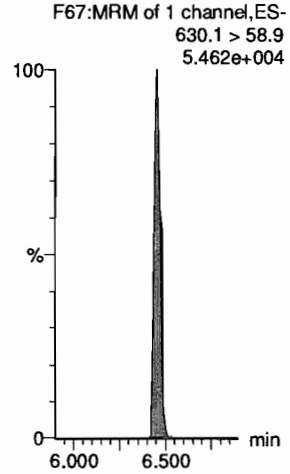
PFODA



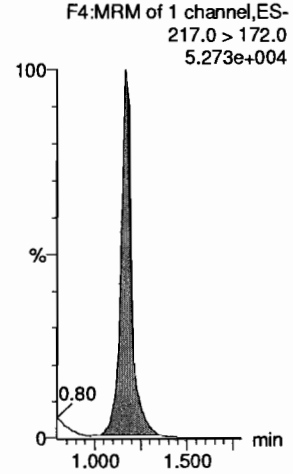
N-MeFOSE



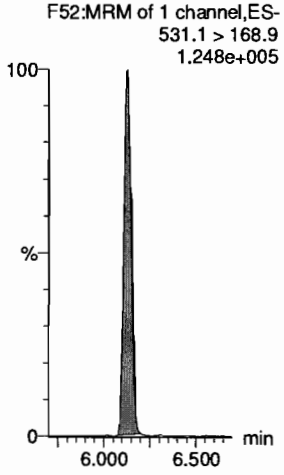
N-EtFOSE



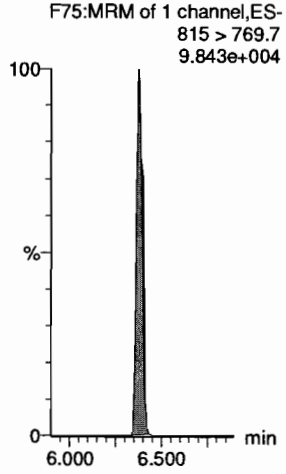
13C4-PFBA



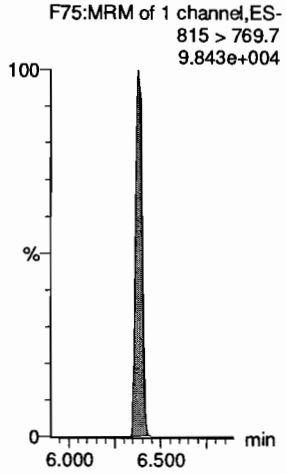
d5-N-ETFOSA



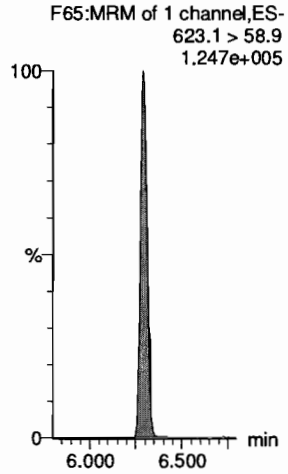
13C2-PFHxDA



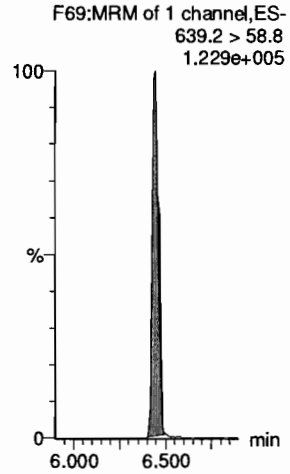
13C2-PFHxDA



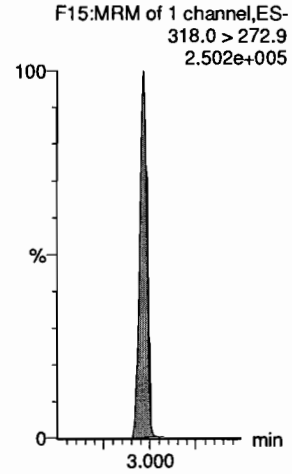
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

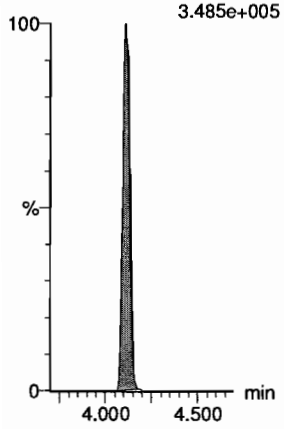


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-49.qld

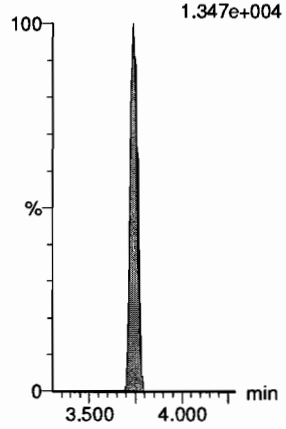
Last Altered: Friday, July 12, 2019 09:02:20 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:02:40 Pacific Daylight Time

Name: 190711M3_49, Date: 12-Jul-2019, Time: 05:56:03, ID: ST190711M3-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

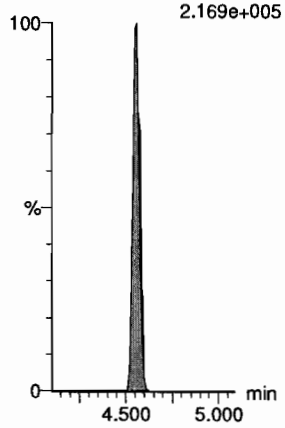
13C8-PFOA



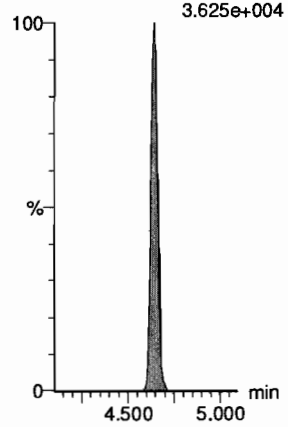
18O2-PFHxS



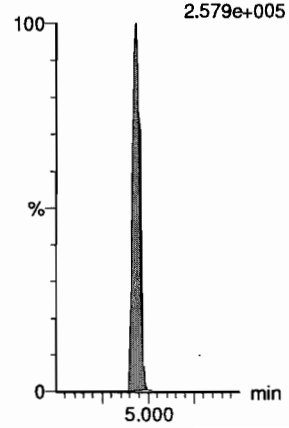
13C9-PFNA



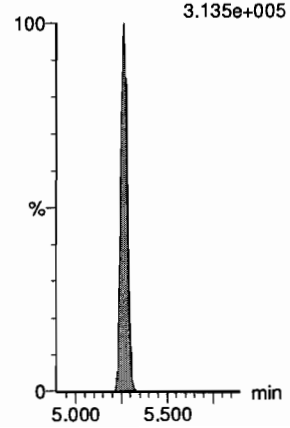
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:07:43 Pacific Daylight Time

7/12/19

Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	2486.300	2168.990	1.00	1.17	14.329	10.1	100.9	NO		
2	2	PFPrS	248.9 > 79.9	512.831	555.929	1.00	1.54	11.531	10.9	109.4	NO	2.576	NO
3	3	3:3 FTCA	240.9 > 176.9	127.091	3958.004	1.00	2.01	0.401	9.7	97.1	NO	2.035	NO
4	4	PFPeA	263.1 > 218.9	3205.287	3958.004	1.00	2.17	10.123	10.6	106.2	NO		
5	5	PFBS	299.0 > 79.7	1078.652	555.929	1.00	2.46	24.253	10.6	105.6	NO	2.928	NO
6	6	4:2 FTS	327.0 > 306.9	2776.348	1354.457	1.00	2.88	25.622	10.5	104.9	NO	1.975	NO
7	47	13C3-PFBA	216.1 > 171.8	2168.990	3440.178	1.00	1.17	7.881	12.1	97.0	NO		
8	49	13C3-PFBS	302.0 > 98.8	555.929	607.177	1.00	2.46	11.445	11.1	88.5	NO		
9	48	13C3-PFPeA	266.0 > 221.8	3958.004	11136.224	1.00	2.17	4.443	10.9	87.2	NO		
10	48	13C3-PFPeA	266.0 > 221.8	3958.004	11136.224	1.00	2.17	4.443	10.9	87.2	NO		
11	49	13C3-PFBS	302.0 > 98.8	555.929	607.177	1.00	2.46	11.445	11.1	88.5	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1354.457	607.177	1.00	2.88	27.884	12.5	99.6	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	8218.381	3680.850	1.00	2.96	11.164	9.6	96.1	NO	15.654	NO
15	8	PFPeS	349.1>80.1	1158.876	555.929	1.00	3.17	26.057	12.2	122.2	NO	1.692	NO
16	9	HFPO-DA	285.1 > 168.9	1556.204	1368.858	1.00	3.17	5.684	10.3	102.6	NO	2.049	NO
17	10	5:3 FTCA	340.9 > 236.9	803.184	4101.335	1.00	3.52	2.448	9.6	95.9	NO	1.504	NO
18	11	PFHpA	363.0 > 318.9	4368.229	4101.335	1.00	3.58	13.313	10.8	108.4	NO	5.543	NO
19	12	ADONA	376.8 > 250.9	14057.219	4101.335	1.00	3.70	42.843	9.9	98.8	NO	3.220	NO
20	52	13C2-PFHxA	315.0 > 270.0	3680.850	11136.224	1.00	2.96	4.132	5.2	104.3	NO		
21	49	13C3-PFBS	302.0 > 98.8	555.929	607.177	1.00	2.46	11.445	11.1	88.5	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1368.858	11136.224	1.00	3.18	1.536	5.0	100.3	NO		
23	53	13C4-PFHpA	367.2 > 321.8	4101.335	11136.224	1.00	3.58	4.604	11.8	94.2	NO		
24	53	13C4-PFHpA	367.2 > 321.8	4101.335	11136.224	1.00	3.58	4.604	11.8	94.2	NO		
25	53	13C4-PFHpA	367.2 > 321.8	4101.335	11136.224	1.00	3.58	4.604	11.8	94.2	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	949.624	1462.441	1.00	3.74	8.117	9.7	97.1	NO	1.814	NO
28	15	6:2 FTS	427.0 > 406.9	2314.772	972.057	1.00	4.06	29.766	10.2	102.0	NO	2.056	NO
29	16	L-PFOA	412.8 > 368.9	12666.502	8625.549	1.00	4.11	18.356	9.9	99.1	NO	3.610	NO
30	18	PFecHS	460.8 > 381.0	1874.027	8625.549	1.00	4.13	2.716	9.7	97.2	NO	0.925	NO
31	19	PFHpS	449.0 > 80.0	1078.629	1350.670	1.00	4.23	9.982	11.4	114.1	NO	2.031	NO
32	20	7:3 FTCA	440.9 > 336.9	938.491	8366.588	1.00	4.54	1.402	10.5	104.6	NO	1.814	NO
33	54	13C3-PFHxS	401.8 > 79.9	1462.441	607.177	1.00	3.74	30.107	11.8	94.6	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	972.057	1460.642	1.00	4.05	8.319	11.3	90.4	NO		
35	58	13C2-PFOA	414.9 > 369.7	8625.549	14819.533	1.00	4.11	7.275	12.9	103.2	NO		
36	58	13C2-PFOA	414.9 > 369.7	8625.549	14819.533	1.00	4.11	7.275	12.9	103.2	NO		

CAH 7/12/19

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
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Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	1350.670	1460.642	1.00	4.64	11.559	10.9	87.2	NO		
38	56	13C5-PFNA	468.2 > 422.9	8366.588	8897.063	1.00	4.56	11.755	12.0	95.7	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	7516.168	8366.588	1.00	4.56	11.229	10.2	102.2	NO	2.871	NO
41	22	PFOSA	497.9 > 77.9	1764.212	1612.263	1.00	4.61	13.678	10.7	107.2	NO	29.139	NO
42	23	L-PFOS	498.9 > 79.9	1573.062	1350.670	1.00	4.64	14.558	11.6	116.1	NO	2.112	NO
43	25	9Cl-PF30NS	530.7 > 350.8	4093.872	1350.670	1.00	4.86	37.887	12.0	120.0	NO	20.480	NO
44	26	PFDA	513 > 468.8	9378.313	7245.396	1.00	4.94	16.180	9.7	97.4	NO	4.374	NO
45	27	8:2 FTS	527.0 > 506.9	2075.424	1175.850	1.00	4.90	22.063	9.8	98.1	NO	1.475	NO
46	56	13C5-PFNA	468.2 > 422.9	8366.588	8897.063	1.00	4.56	11.755	12.0	95.7	NO		
47	57	13C8-PFOSA	506.1 > 77.7	1612.263	13004.712	1.00	4.62	1.550	11.9	95.2	NO		
48	59	13C8-PFOS	507.0 > 79.9	1350.670	1460.642	1.00	4.64	11.559	10.9	87.2	NO		
49	59	13C8-PFOS	507.0 > 79.9	1350.670	1460.642	1.00	4.64	11.559	10.9	87.2	NO		
50	60	13C2-PFDA	515.1 > 469.9	7245.396	11238.136	1.00	4.94	8.059	12.2	97.4	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1175.850	1460.642	1.00	4.90	10.063	14.5	115.8	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	1112.026	1350.670	1.00	5.00	10.291	11.7	117.2	NO	1.910	NO
54	29	L-MeFOSAA	570 > 419	4075.336	1633.341	1.00	5.09	31.189	10.4	104.4	NO	2.963	NO
55	31	L-EtFOSAA	584.1 > 419	3020.121	1919.896	1.00	5.25	19.663	9.9	99.3	NO	1.648	NO
56	33	PFUdA	563.0 > 518.9	8196.291	11323.531	1.00	5.26	9.048	9.7	97.1	NO	5.836	NO
57	34	PFDS	598.8 > 79.9	1518.767	1175.850	1.00	5.31	16.145	8.0	80.1	NO	1.777	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	622.064	13227.713	1.00	5.48	0.588	9.1	91.5	NO	5.946	NO
59	59	13C8-PFOS	507.0 > 79.9	1350.670	1460.642	1.00	4.64	11.559	10.9	87.2	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1633.341	13004.712	1.00	5.08	1.570	12.2	97.3	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1919.896	13004.712	1.00	5.25	1.845	12.5	100.2	NO		
62	63	13C2-PFUdA	565 > 519.8	11323.531	13004.712	1.00	5.26	10.884	12.7	101.6	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1175.850	1460.642	1.00	4.90	10.063	14.5	115.8	NO		
64	65	13C2-PFDoA	614.7 > 569.7	13227.713	11238.136	1.00	5.55	14.713	12.0	95.8	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	1988.657	1175.850	1.00	5.53	21.141	8.0	79.6	NO	1.457	NO
67	37	PFDoA	612.9 > 569.0	9994.023	13227.713	1.00	5.55	9.444	9.9	99.0	NO	7.240	NO
68	38	N-MeFOSA	512.1 > 168.9	1579.804	3515.894	1.00	5.68	67.400	52.8	105.5	NO	1.959	NO
69	39	PFTrDA	662.9 > 618.9	11500.993	13227.713	1.00	5.80	10.868	10.3	102.5	NO	15.139	NO
70	40	PFDoS	698.8 > 79.9	1249.971	6578.728	1.00	5.83	2.375	9.8	98.4	NO	1.757	NO
71	41	PFTeDA	713.0 > 669.0	8495.805	6578.728	1.00	6.03	16.143	10.8	107.7	NO	15.576	NO
72	65	13C2-PFDoA	614.7 > 569.7	13227.713	11238.136	1.00	5.55	14.713	12.0	95.8	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

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Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	13227.713	11238.136	1.00	5.55	14.713	12.0	95.8	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	3515.894	13004.712	1.00	5.70	3.379	152.5	101.7	NO		
75	65	13C2-PFDoA	614.7 > 569.7	13227.713	11238.136	1.00	5.55	14.713	12.0	95.8	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	6578.728	13004.712	1.00	6.03	6.323	12.4	98.9	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	6578.728	13004.712	1.00	6.03	6.323	12.4	98.9	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	1725.626	5519.911	1.00	6.11	46.893	51.1	102.1	NO	2.062	NO
80	43	PFHxDA	813.1 > 768.6	5742.420	3854.208	1.00	6.38	7.450	9.8	98.4	NO	21.354	NO
81	44	PFODA	913.1 > 868.8	6250.618	3854.208	1.00	6.63	8.109	9.7	97.0	NO		
82	45	N-MeFOSE	616.1 > 58.9	1824.703	4911.708	1.00	6.30	55.725	49.7	99.4	NO		
83	46	N-EtFOSE	630.1 > 58.9	2144.300	4833.127	1.00	6.45	66.550	47.3	94.7	NO		
84	72	13C4-PFBA	217.0 > 172.0	3440.178	3440.178	1.00	1.17	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	5519.911	13004.712	1.00	6.13	5.306	170.2	113.5	NO		
86	69	13C2-PFHxDA	815 > 769.7	3854.208	13004.712	1.00	6.38	3.705	5.0	100.8	NO		
87	69	13C2-PFHxDA	815 > 769.7	3854.208	13004.712	1.00	6.38	3.705	5.0	100.8	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	4911.708	13004.712	1.00	6.29	4.721	168.9	112.6	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	4833.127	13004.712	1.00	6.44	4.646	168.9	112.6	NO		
90	73	13C5-PFHxA	318.0 > 272.9	11136.224	11136.224	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	14819.533	14819.533	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	607.177	607.177	1.00	3.74	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	8897.063	8897.063	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1460.642	1460.642	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	11238.136	11238.136	1.00	4.94	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	13004.712	13004.712	1.00	5.26	12.500	12.5	100.0	NO		

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:54:35 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190711M3_1	IPA	11-Jul-19	21:27:14
2	2	190711M3_2	ST190711M3-1 PFC CS-2 19G1101	11-Jul-19	21:37:49
3	3	190711M3_3	ST190711M3-2 PFC CS-1 19G1102	11-Jul-19	21:48:22
4	4	190711M3_4	ST190711M3-3 PFC CS0 19G1103	11-Jul-19	21:59:01
5	5	190711M3_5	ST190711M3-4 PFC CS1 19G1104	11-Jul-19	22:09:33
6	6	190711M3_6	ST190711M3-5 PFC CS2 19G1105	11-Jul-19	22:20:12
7	7	190711M3_7	ST190711M3-6 PFC CS3 19G1106	11-Jul-19	22:30:45
8	8	190711M3_8	ST190711M3-7 PFC CS4 19G1107	11-Jul-19	22:41:23
9	9	190711M3_9	ST190711M3-8 PFC CS5 19G1108	11-Jul-19	22:51:57
10	10	190711M3_10	ST190711M3-9 PFC CS6 19G1109	11-Jul-19	23:02:37
11	11	190711M3_11	ST190711M3-10 PFC CS7 19G1110	11-Jul-19	23:13:13
12	12	190711M3_12	IB	11-Jul-19	23:23:47
13	13	190711M3_13	ST190711M3-1 PFC ICV 19G1111	11-Jul-19	23:34:17
14	14	190711M3_14	IPA	11-Jul-19	23:44:56
15	15	190711M3_15	B9G0061-BS1 OPR 0.125	11-Jul-19	23:55:34
16	16	190711M3_16	B9F0279-BS1 OPR 1	12-Jul-19	00:06:07
17	17	190711M3_17	B9F0279-BLK1 Method Blank 1	12-Jul-19	00:16:45
18	18	190711M3_18	1901784-02RE1 FRB-1 0.24972	12-Jul-19	00:27:18
19	19	190711M3_19	1901683-03 Hagatna 1 3.93	12-Jul-19	00:37:57
20	20	190711M3_20	1901910-01 SW1906280950KME 0.24336	12-Jul-19	00:48:35
21	21	190711M3_21	1901910-02 SW1906281025KME 0.24464	12-Jul-19	00:59:09
22	22	190711M3_22	1901910-03 SW1906281035KME 0.24318	12-Jul-19	01:09:47
23	23	190711M3_23	1901911-01 WMP1907010855JSJ 0.2509	12-Jul-19	01:20:19
24	24	190711M3_24	B9G0095-BS1 OPR 0.25	12-Jul-19	01:30:58
25	25	190711M3_25	B9G0095-BSD1 LCSD 0.25	12-Jul-19	01:41:36
26	26	190711M3_26	B9G0095-BLK1 Method Blank 0.25	12-Jul-19	01:52:09
27	27	190711M3_27	1901759-01 HW-AF-01-01-420-062419 0.11818	12-Jul-19	02:02:47
28	28	190711M3_28	1901992-01 WIN1907081315GGA 0.24256	12-Jul-19	02:13:26
29	29	190711M3_29	1901992-02 WMP1907081305GGA 0.23352	12-Jul-19	02:23:58
30	30	190711M3_30	1901992-03 WEF1907081310GGA 0.24328	12-Jul-19	02:34:37
31	31	190711M3_31	IPA	12-Jul-19	02:45:10
32	32	190711M3_32	ST190711M3-11 PFC CS3 19G1106	12-Jul-19	02:55:49

* crv not used
dbr 7/12/19

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Dataset: Untitled

Last Altered: Friday, July 12, 2019 09:54:29 Pacific Daylight Time
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Compound name: PFBA

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33	33	190711M3_33	IPA	12-Jul-19	03:06:21
34	34	190711M3_34	B9G0062-BS1 OPR 0.125	12-Jul-19	03:16:59
35	35	190711M3_35	B9G0062-BSD1 LCSD 0.125	12-Jul-19	03:27:38
36	36	190711M3_36	B9G0062-BLK1 Method Blank 0.125	12-Jul-19	03:38:11
37	37	190711M3_37	1901922-01 FRB-07022019 0.10709	12-Jul-19	03:48:49
38	38	190711M3_38	1901922-02 CAOA-B02-GW 0.1205	12-Jul-19	03:59:23
39	39	190711M3_39	1901920-02 SAOA-B08-GW 0.13318	12-Jul-19	04:10:01
40	40	190711M3_40	1901920-03 EB-06272019-GW 0.11429	12-Jul-19	04:20:34
41	41	190711M3_41	1901920-04 FRB-06282019 0.11576	12-Jul-19	04:31:13
42	42	190711M3_42	1901920-05 SAOA-B12-GW 0.12204	12-Jul-19	04:41:51
43	43	190711M3_43	1901920-06 SAOA-B12-GW-D 0.12639	12-Jul-19	04:52:24
44	44	190711M3_44	1901920-11 NAOA-B02-GW 0.122	12-Jul-19	05:03:03
45	45	190711M3_45	1901920-12 EB-07012019 0.11155	12-Jul-19	05:13:36
46	46	190711M3_46	1901920-14 FRB-07012019 0.11643	12-Jul-19	05:24:14
47	47	190711M3_47	1901920-16 NAOA-B01-GW 0.1294	12-Jul-19	05:34:46
48	48	190711M3_48	IPA	12-Jul-19	05:45:25
49	49	190711M3_49	ST190711M3-12 PFC CS3 19G1106	12-Jul-19	05:56:03
50	50	190711M3_50	IPA	12-Jul-19	06:06:35
51	51	190711M3_51	1901920-17 NAOA-B01-GW-D 0.13768	12-Jul-19	06:17:14
52	52	190711M3_52	1901920-20 EB-07022019 0.11644	12-Jul-19	06:27:47
53	53	190711M3_53	B9G0065-BS1 OPR 0.25	12-Jul-19	06:38:25
54	54	190711M3_54	B9G0065-BLK1 Method Blank 0.25	12-Jul-19	06:48:58
55	55	190711M3_55	1901781-01 GW1906241425SK 0.24561	12-Jul-19	06:59:37
56	56	190711M3_56	1901781-02 GW1906241605SK 0.25501	12-Jul-19	07:10:15
57	57	190711M3_57	1901781-03 GW1906250855KME 0.24339	12-Jul-19	07:20:48
58	58	190711M3_58	1901781-04 GW1906250855KME-FD 0.24341	12-Jul-19	07:31:26
59	59	190711M3_59	1901781-05 GW1906250935SK 0.24535	12-Jul-19	07:41:59
60	60	190711M3_60	1901781-06 GW1906251040KME 0.24373	12-Jul-19	07:52:37
61	61	190711M3_61	1901781-07 GW1906251120SK 0.24467	12-Jul-19	08:03:15
62	62	190711M3_62	IPA	12-Jul-19	08:13:48
63	63	190711M3_63	ST190711M3-13 PFC CS3 19G1106	12-Jul-19	08:24:26
64	64	190711M3_64	IPA	12-Jul-19	08:34:58
65	65	190711M3_65	1901781-08 GMW1906251200KME 0.24756	12-Jul-19	08:45:54
66	66	190711M3_66	1901781-09 FB1906251135SK 0.25189	12-Jul-19	08:56:32
67	67	190711M3_67	IPA	12-Jul-19	09:07:05
68	68	190711M3_68	ST190711M3-14 PFC CS3 19G1106	12-Jul-19	09:17:43

Dataset: Untitled

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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 190711M3_69	IPA	12-Jul-19	09:28:22
70	70 190711M3_70	IB tester	12-Jul-19	09:38:55

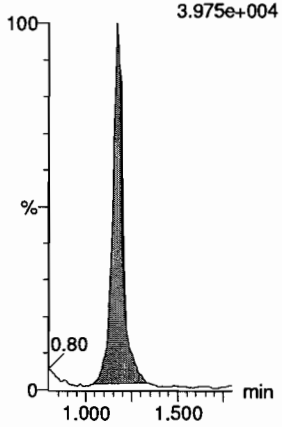
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:07:43 Pacific Daylight Time

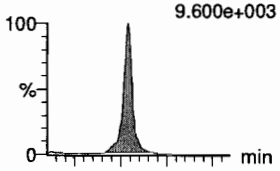
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071119.mdb 12 Jul 2019 08:40:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

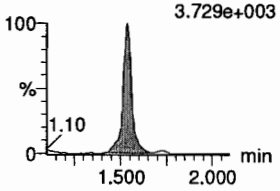
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
3.975e+004



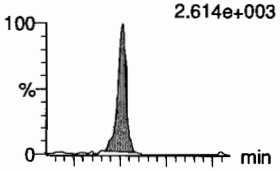
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
9.600e+003



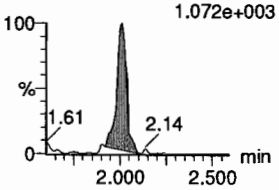
F6:MRM of 2 channels,ES-
248.9 > 98.9
3.729e+003



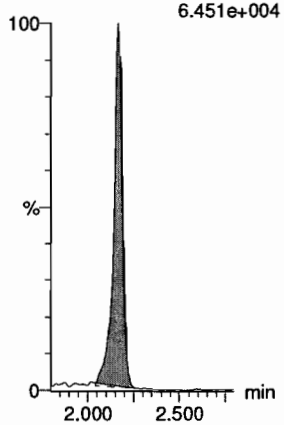
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
2.614e+003



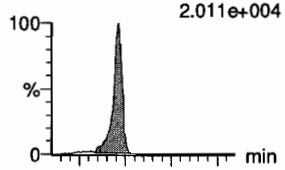
F5:MRM of 2 channels,ES-
240.9 > 116.9
1.072e+003



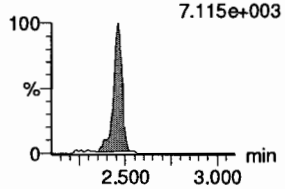
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
6.451e+004



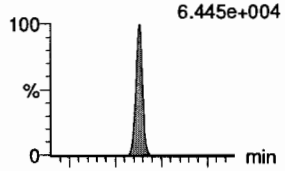
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
2.011e+004



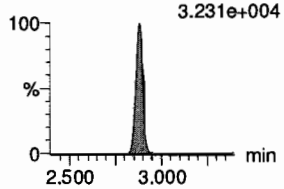
F11:MRM of 2 channels,ES-
299.0 > 99.0
7.115e+003



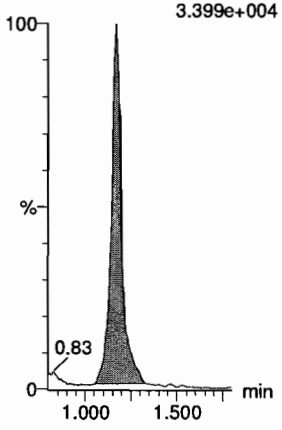
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
6.445e+004



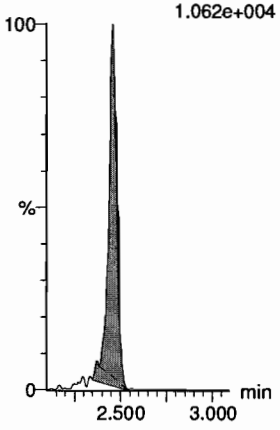
F16:MRM of 2 channels,ES-
327.0 > 80.9
3.231e+004



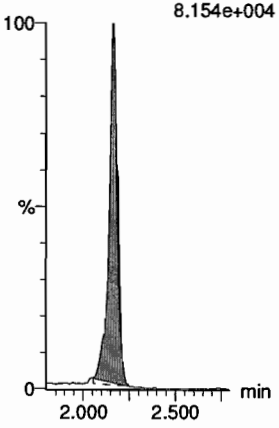
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
3.399e+004



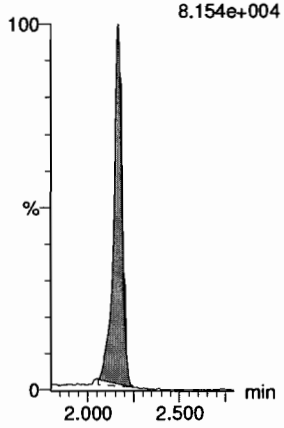
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.062e+004



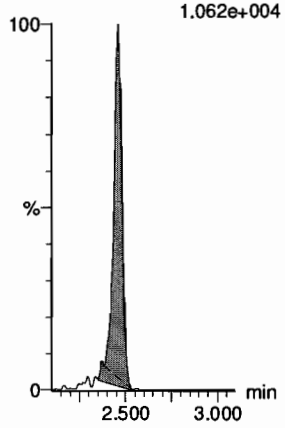
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
8.154e+004



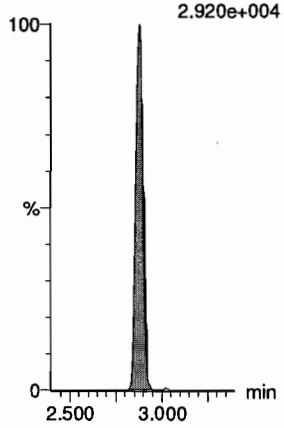
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
8.154e+004



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.062e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
2.920e+004

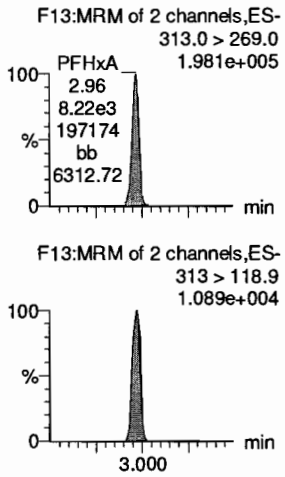


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

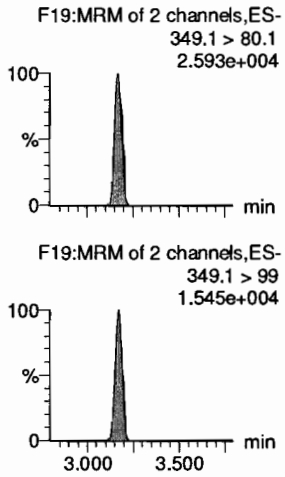
Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:07:43 Pacific Daylight Time

Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

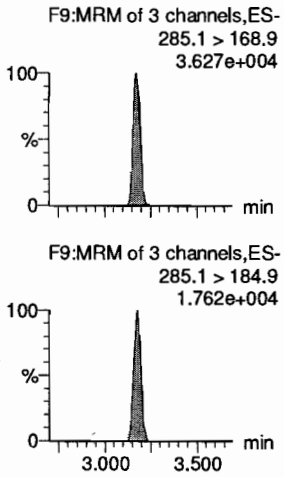
PFHxA



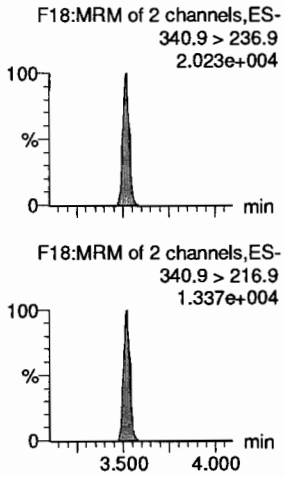
PFPeS



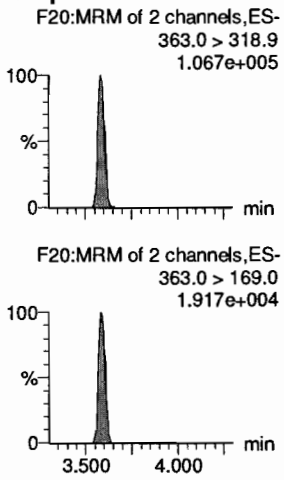
HFPO-DA



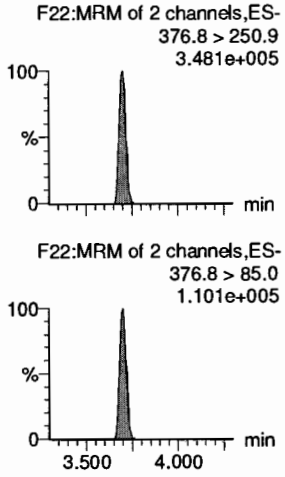
5:3 FTCA



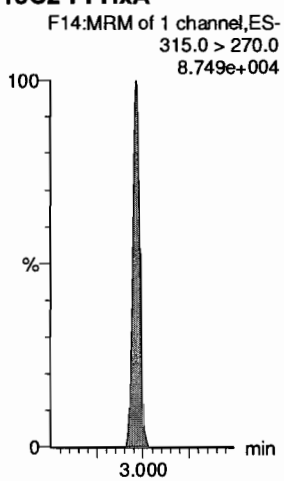
PFHpA



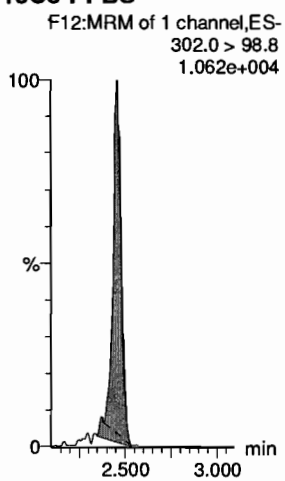
ADONA



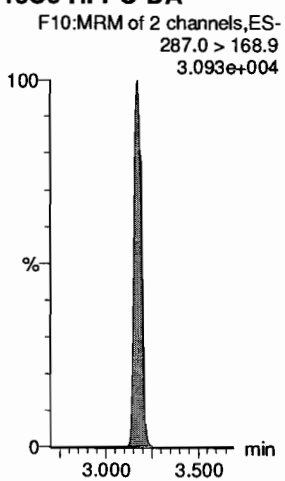
13C2-PFHxA



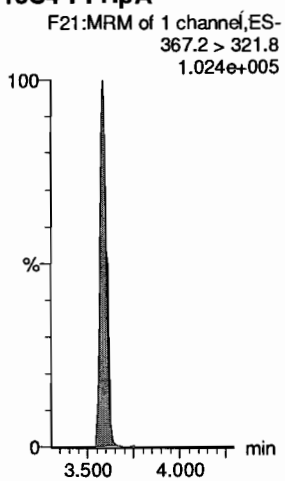
13C3-PFBS



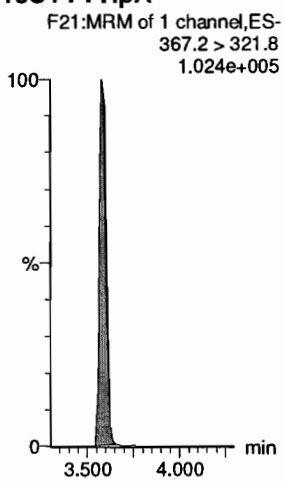
13C3-HFPO-DA



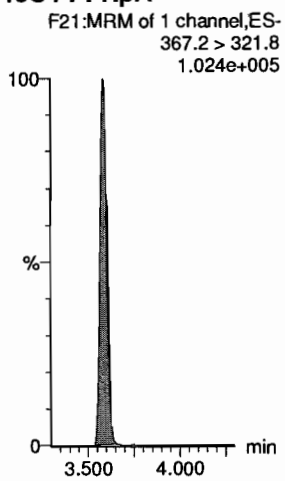
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

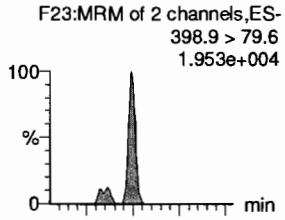


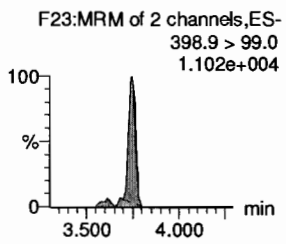
Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:07:43 Pacific Daylight Time

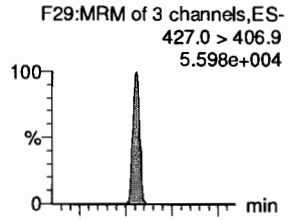
Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

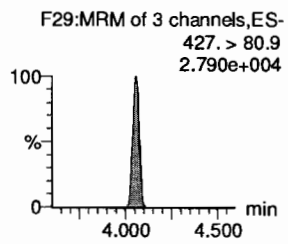
L-PFHxS



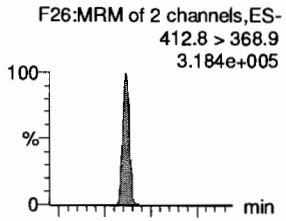


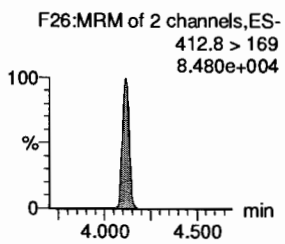
6:2 FTS



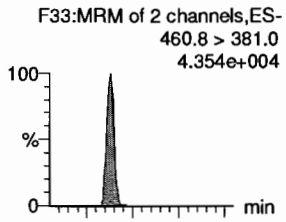


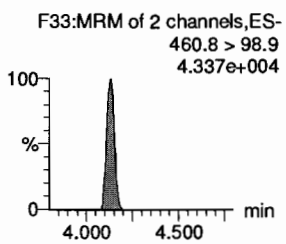
L-PFOA



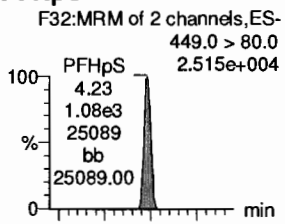


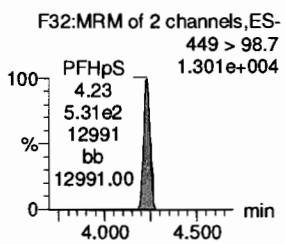
PFEChS



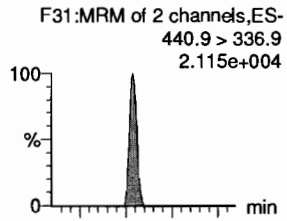


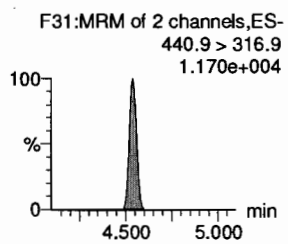
PFHpS



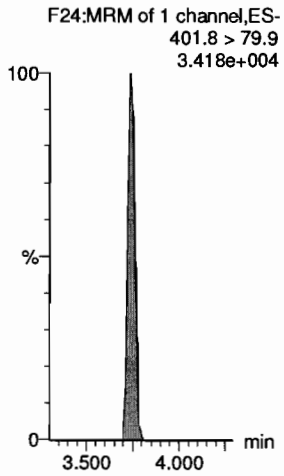


7:3 FTCA

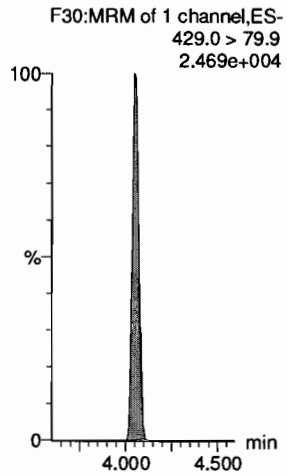




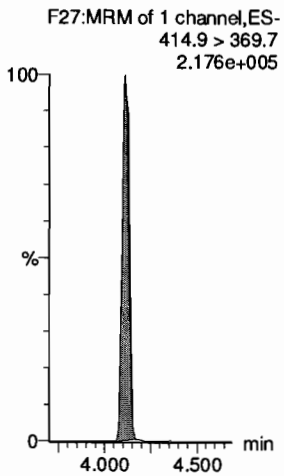
13C3-PFHxS



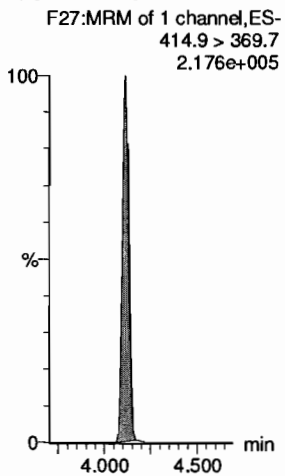
13C2-6:2 FTS



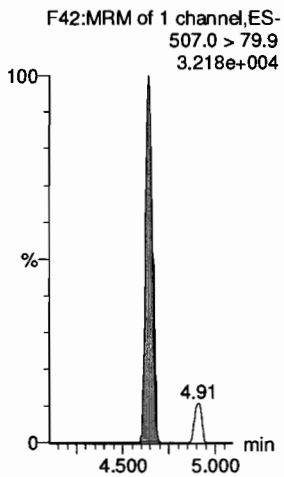
13C2-PFOA



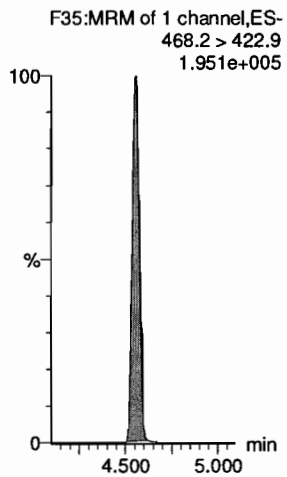
13C2-PFOA



13C8-PFOS



13C5-PFNA



Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
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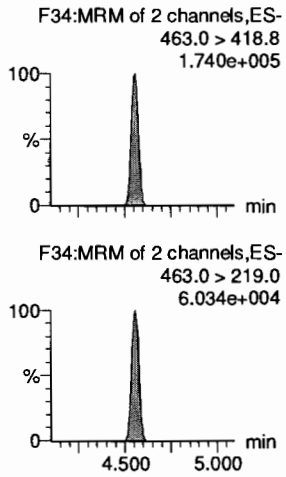
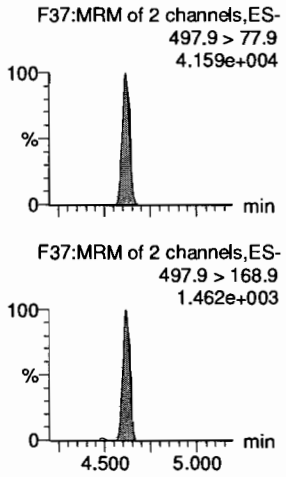
Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

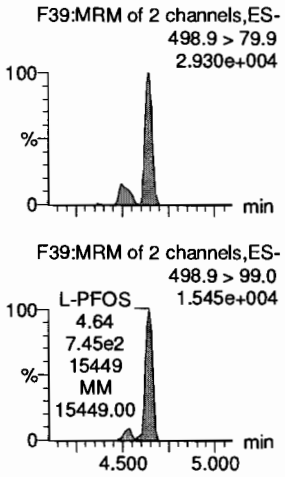
PFNA



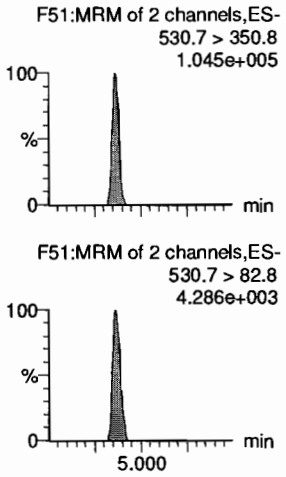
PFOSA



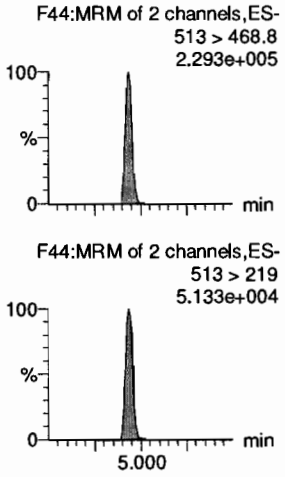
L-PFOS



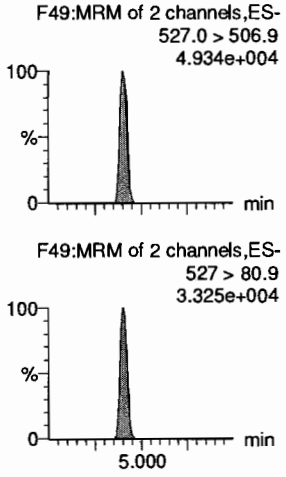
9Cl-PF30NS



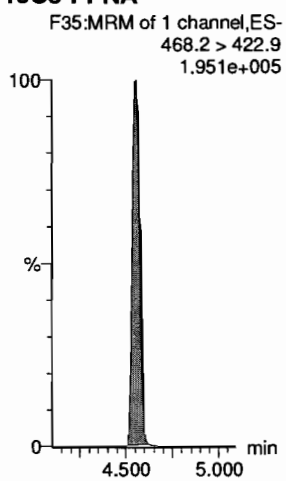
PFDA



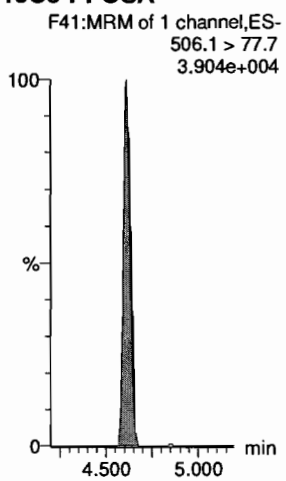
8:2 FTS



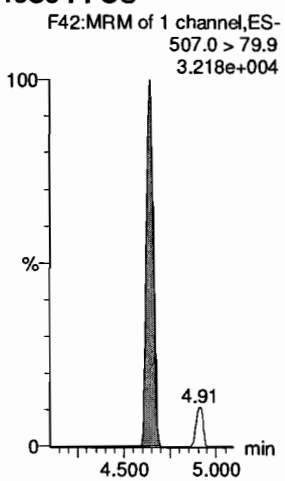
13C5-PFNA



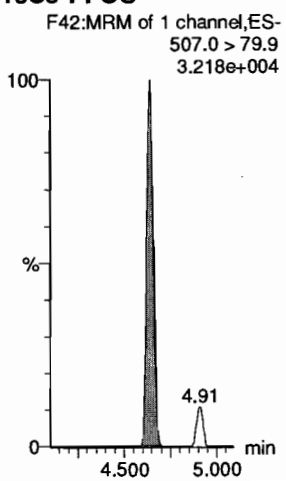
13C8-PFOSA



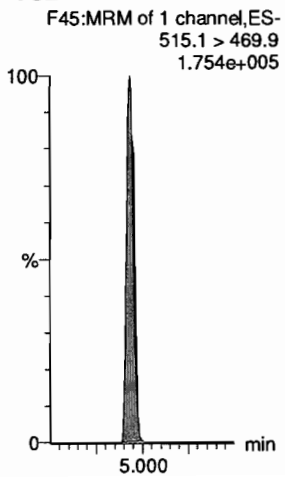
13C8-PFOS



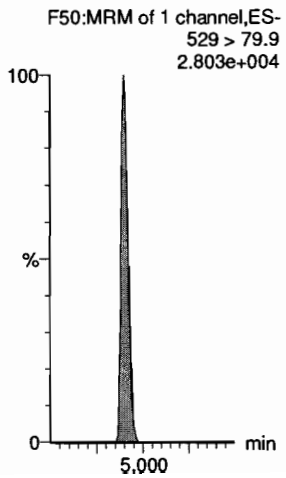
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS



Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
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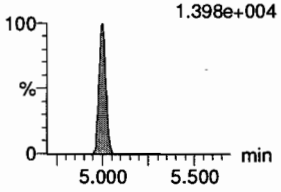
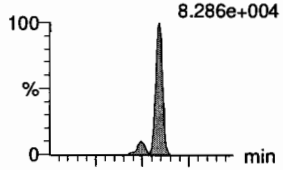
Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
2.814e+004

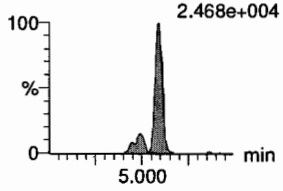
F53:MRM of 2 channels,ES-
549.1 > 99.1
1.398e+004



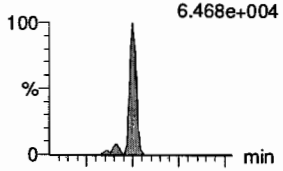
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
8.286e+004



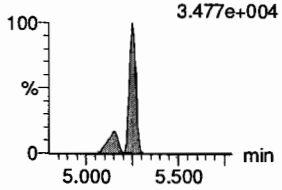
F56:MRM of 2 channels,ES-
570. > 512
2.468e+004



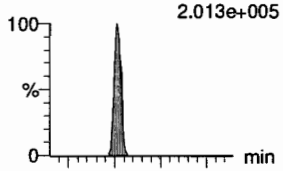
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
6.468e+004



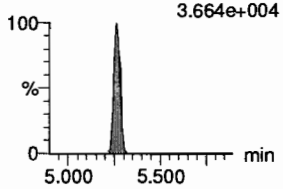
F59:MRM of 2 channels,ES-
584.1 > 526
3.477e+004



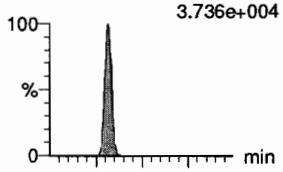
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
2.013e+005



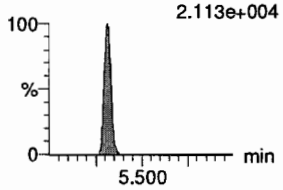
F54:MRM of 2 channels,ES-
563.0 > 269
3.664e+004



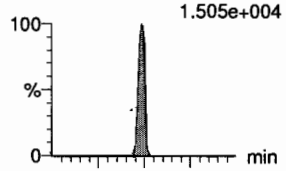
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
3.736e+004



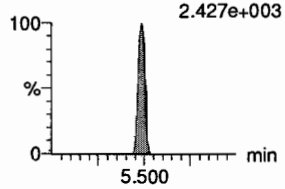
F61:MRM of 2 channels,ES-
598.8 > 98.9
2.113e+004



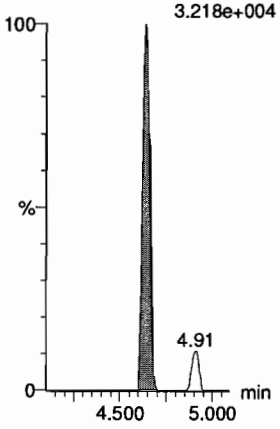
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
1.505e+004



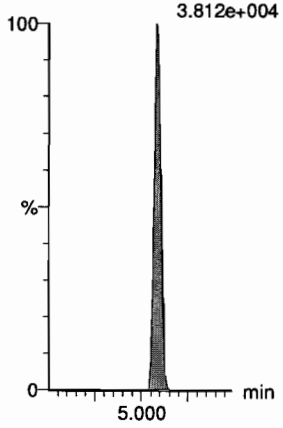
F68:MRM of 2 channels,ES-
632.6 > 450.7
2.427e+003



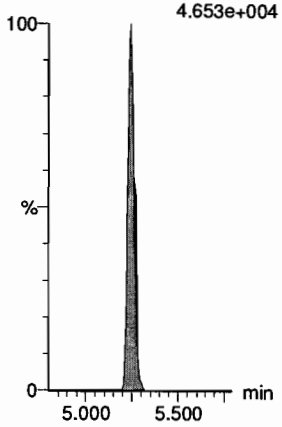
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
3.218e+004



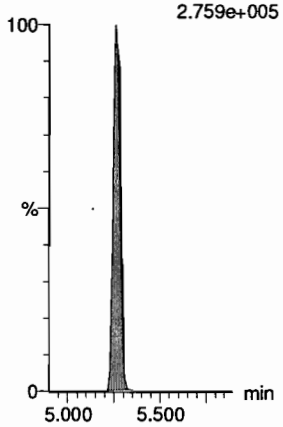
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
3.812e+004



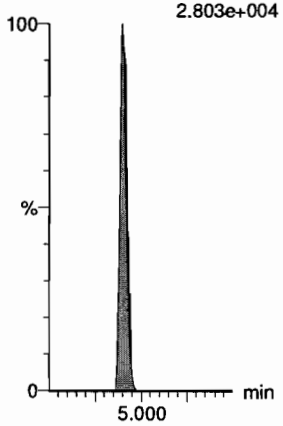
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
4.653e+004



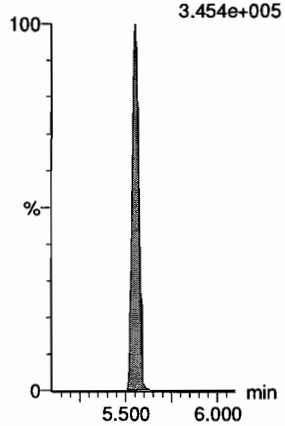
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
2.759e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
2.803e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.454e+005



Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
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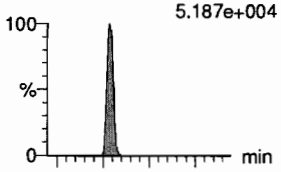
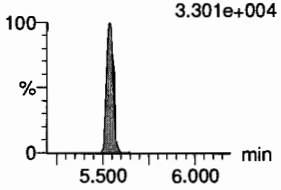
Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

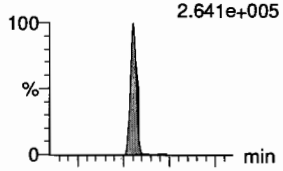
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
5.187e+004



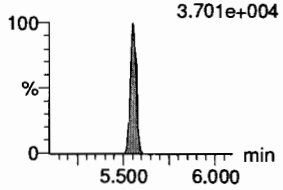
F66:MRM of 2 channels,ES-
627.0 > 80.9
3.301e+004



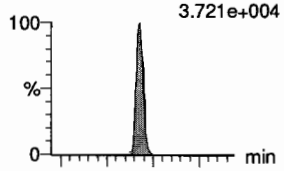
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
2.641e+005



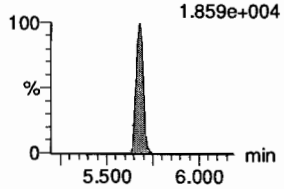
F62:MRM of 4 channels,ES-
612.9 > 318.8
3.701e+004



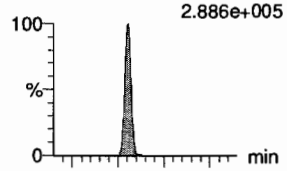
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
3.721e+004



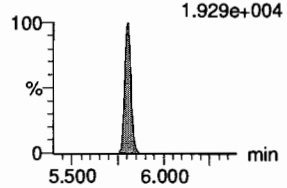
F43:MRM of 2 channels,ES-
512.1 > 219
1.859e+004



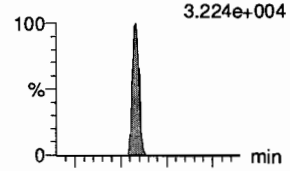
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
2.886e+005



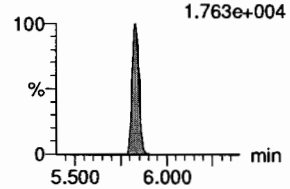
F70:MRM of 2 channels,ES-
662.9 > 319
1.929e+004



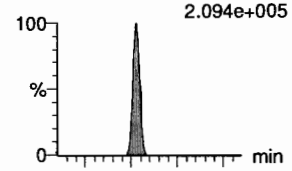
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
3.224e+004



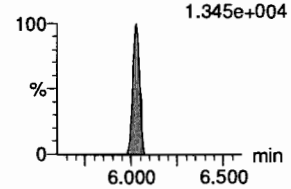
F71:MRM of 2 channels,ES-
698.8 > 98.9
1.763e+004



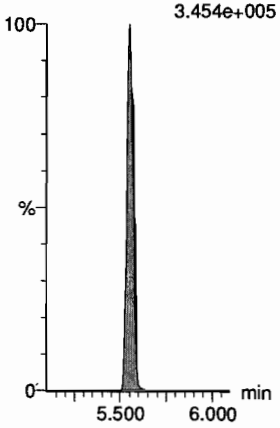
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
2.094e+005



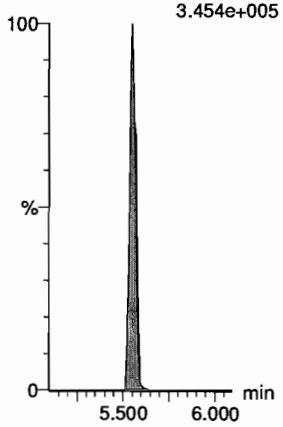
F72:MRM of 2 channels,ES-
713. > 369.0
1.345e+004



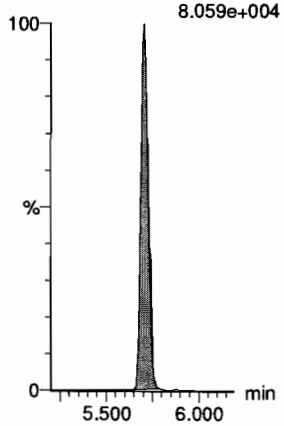
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.454e+005



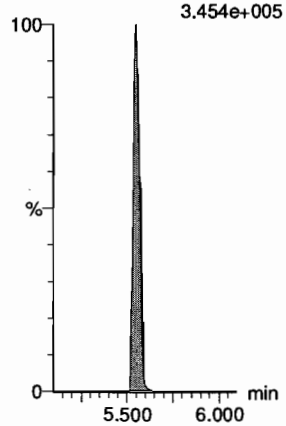
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.454e+005



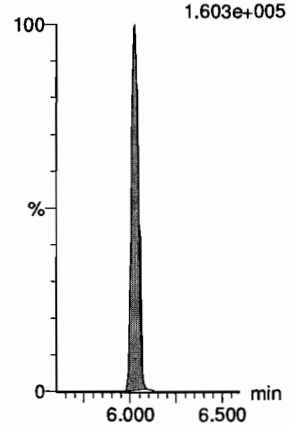
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
8.059e+004



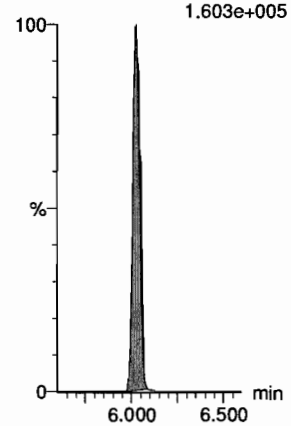
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.454e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.603e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.603e+005

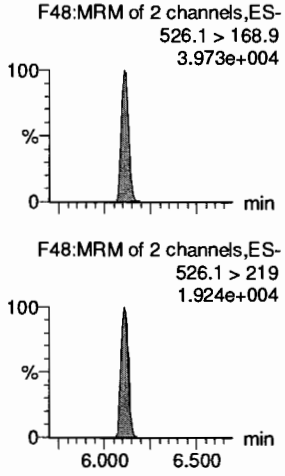


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

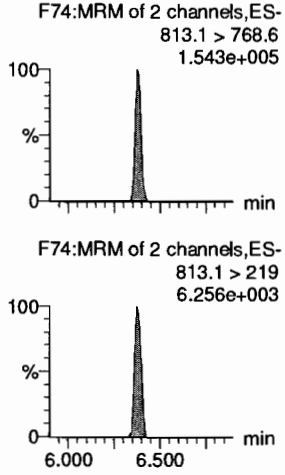
Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:07:43 Pacific Daylight Time

Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

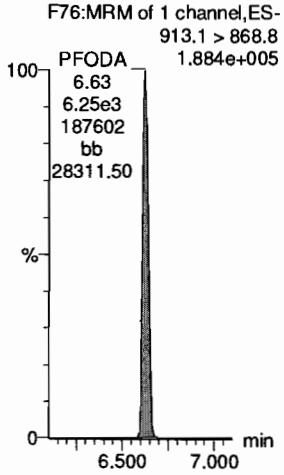
N-EtFOSA



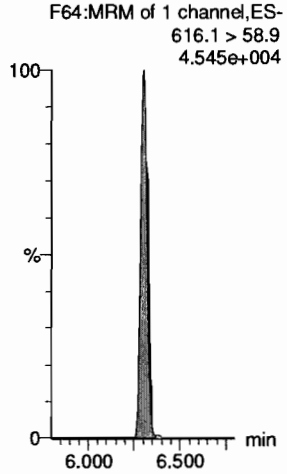
PFHxDA



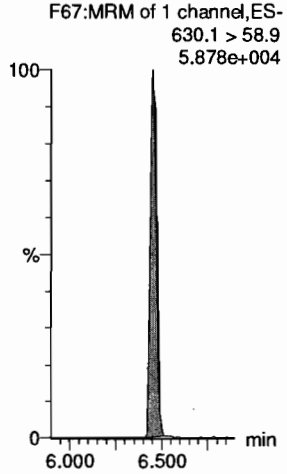
PFODA



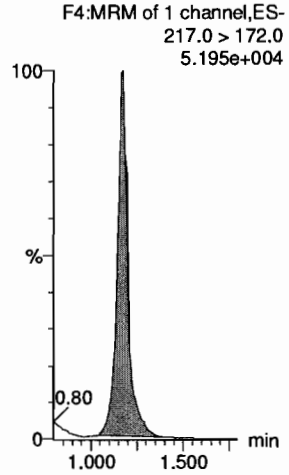
N-MeFOSE



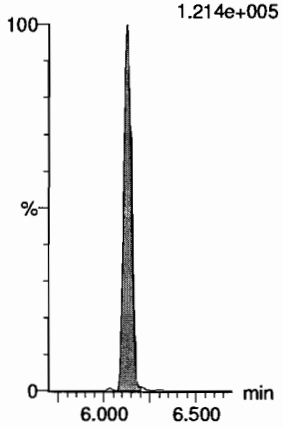
N-EtFOSE



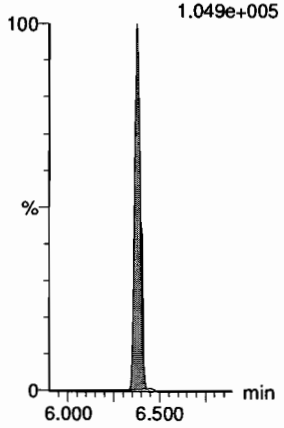
13C4-PFBA



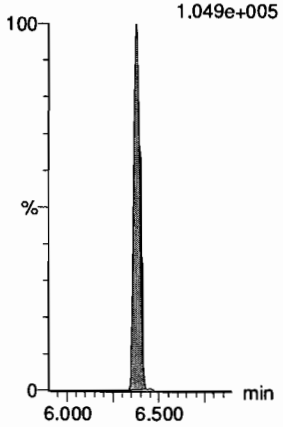
d5-N-ETFOSA



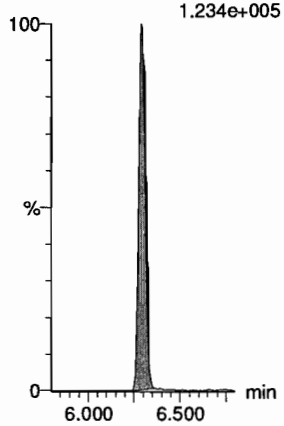
13C2-PFHxDA



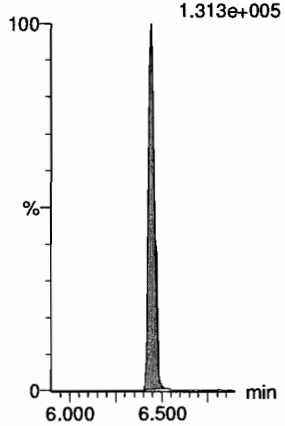
13C2-PFHxDA



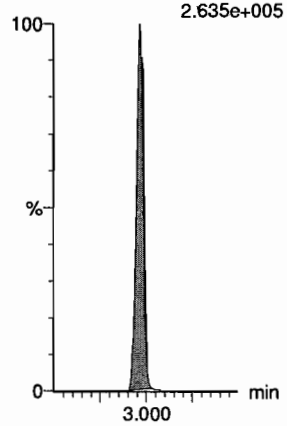
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

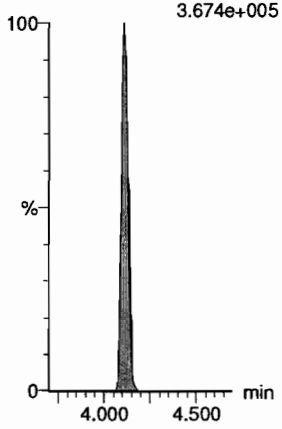


Dataset: F:\Projects\PFAS.PRO\Results\190711M3\190711M3-63.qld

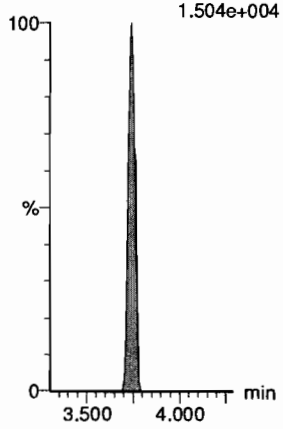
Last Altered: Friday, July 12, 2019 09:06:48 Pacific Daylight Time
Printed: Friday, July 12, 2019 09:07:43 Pacific Daylight Time

Name: 190711M3_63, Date: 12-Jul-2019, Time: 08:24:26, ID: ST190711M3-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

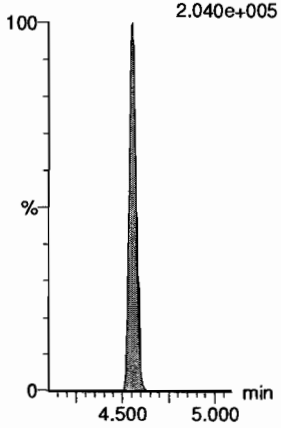
13C8-PFOA



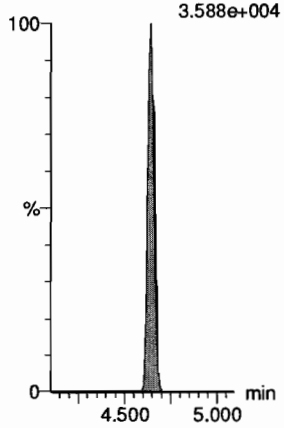
18O2-PFHxS



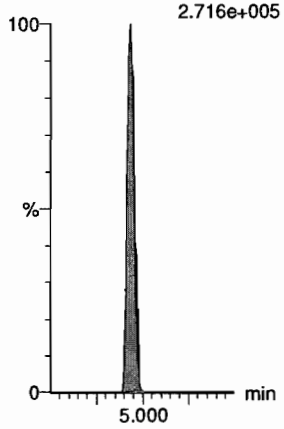
13C9-PFNA



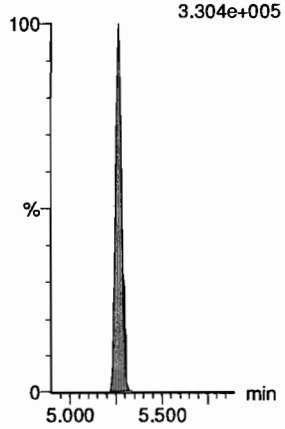
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\AREAS.qld

Last Altered: Sunday, July 14, 2019 15:03:19 Pacific Daylight Time
Printed: Sunday, July 14, 2019 15:04:21 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_RS-07-11-19.mdb 11 Jul 2019 15:12:17
Calibration: 14 Jul 2019 15:03:19

Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-6 PFC CS3 19G1106	5.80e3	100.0	NO
2	2	13C5-PFHxA	ST190712M2-6 PFC CS3 19G1106	2.03e4	100.0	NO
3	3	18O2-PFHxS	ST190712M2-6 PFC CS3 19G1106	1.16e3	100.0	NO
4	4	13C8-PFOA	ST190712M2-6 PFC CS3 19G1106	2.33e4	100.0	NO
5	5	13C9-PFNA	ST190712M2-6 PFC CS3 19G1106	1.81e4	100.0	NO
6	6	13C4-PFOS	ST190712M2-6 PFC CS3 19G1106	2.91e3	100.0	NO
7	7	13C6-PFDA	ST190712M2-6 PFC CS3 19G1106	2.23e4	100.0	NO
8	8	13C7-PFUdA	ST190712M2-6 PFC CS3 19G1106	2.31e4	100.0	NO

Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-7 PFC CS4 19G1107	5.81e3	100.2	NO
2	2	13C5-PFHxA	ST190712M2-7 PFC CS4 19G1107	1.94e4	95.5	NO
3	3	18O2-PFHxS	ST190712M2-7 PFC CS4 19G1107	1.07e3	92.6	NO
4	4	13C8-PFOA	ST190712M2-7 PFC CS4 19G1107	2.22e4	95.6	NO
5	5	13C9-PFNA	ST190712M2-7 PFC CS4 19G1107	1.72e4	95.3	NO
6	6	13C4-PFOS	ST190712M2-7 PFC CS4 19G1107	3.01e3	103.5	NO
7	7	13C6-PFDA	ST190712M2-7 PFC CS4 19G1107	2.10e4	94.1	NO
8	8	13C7-PFUdA	ST190712M2-7 PFC CS4 19G1107	2.18e4	94.4	NO

Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-8 PFC CS5 19G1108	5.81e3	100.2	NO
2	2	13C5-PFHxA	ST190712M2-8 PFC CS5 19G1108	1.93e4	95.2	NO
3	3	18O2-PFHxS	ST190712M2-8 PFC CS5 19G1108	1.19e3	103.0	NO
4	4	13C8-PFOA	ST190712M2-8 PFC CS5 19G1108	2.03e4	87.1	NO
5	5	13C9-PFNA	ST190712M2-8 PFC CS5 19G1108	1.62e4	89.8	NO
6	6	13C4-PFOS	ST190712M2-8 PFC CS5 19G1108	2.59e3	89.1	NO
7	7	13C6-PFDA	ST190712M2-8 PFC CS5 19G1108	2.06e4	92.0	NO
8	8	13C7-PFUdA	ST190712M2-8 PFC CS5 19G1108	2.07e4	89.4	NO

Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-9 PFC CS6 19G1109	5.70e3	98.3	NO
2	2	13C5-PFHxA	ST190712M2-9 PFC CS6 19G1109	1.72e4	84.7	NO
3	3	18O2-PFHxS	ST190712M2-9 PFC CS6 19G1109	9.58e2	82.7	NO
4	4	13C8-PFOA	ST190712M2-9 PFC CS6 19G1109	1.73e4	74.3	NO
5	5	13C9-PFNA	ST190712M2-9 PFC CS6 19G1109	1.55e4	85.7	NO
6	6	13C4-PFOS	ST190712M2-9 PFC CS6 19G1109	2.43e3	83.6	NO
7	7	13C6-PFDA	ST190712M2-9 PFC CS6 19G1109	1.71e4	76.8	NO
8	8	13C7-PFUdA	ST190712M2-9 PFC CS6 19G1109	1.80e4	77.7	NO

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\AREAS.qld

Last Altered: Sunday, July 14, 2019 15:03:19 Pacific Daylight Time
Printed: Sunday, July 14, 2019 15:04:21 Pacific Daylight Time

Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-10 PFC CS7 19G1110	5.62e3	96.8	NO
2	2	13C5-PFHxA	ST190712M2-10 PFC CS7 19G1110	1.55e4	76.6	NO
3	3	18O2-PFHxS	ST190712M2-10 PFC CS7 19G1110	9.10e2	78.6	NO
4	4	13C8-PFOA	ST190712M2-10 PFC CS7 19G1110	1.47e4	63.3	NO
5	5	13C9-PFNA	ST190712M2-10 PFC CS7 19G1110	1.33e4	73.7	NO
6	6	13C4-PFOS	ST190712M2-10 PFC CS7 19G1110	2.17e3	74.5	NO
7	7	13C6-PFDA	ST190712M2-10 PFC CS7 19G1110	1.54e4	68.8	NO
8	8	13C7-PFUdA	ST190712M2-10 PFC CS7 19G1110	1.61e4	69.6	NO

Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IB	5.79e3	99.8	NO
2	2	13C5-PFHxA	IB	2.10e4	103.8	NO
3	3	18O2-PFHxS	IB	1.22e3	105.4	NO
4	4	13C8-PFOA	IB	2.44e4	105.1	NO
5	5	13C9-PFNA	IB	1.88e4	104.3	NO
6	6	13C4-PFOS	IB	3.30e3	113.4	NO
7	7	13C6-PFDA	IB	2.35e4	105.1	NO
8	8	13C7-PFUdA	IB	2.38e4	102.9	NO

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-1 PFC ICV 19G1111	5.89e3	101.5	NO
2	2	13C5-PFHxA	ST190712M2-1 PFC ICV 19G1111	2.14e4	105.4	NO
3	3	18O2-PFHxS	ST190712M2-1 PFC ICV 19G1111	1.10e3	95.1	NO
4	4	13C8-PFOA	ST190712M2-1 PFC ICV 19G1111	2.39e4	102.9	NO
5	5	13C9-PFNA	ST190712M2-1 PFC ICV 19G1111	1.89e4	104.4	NO
6	6	13C4-PFOS	ST190712M2-1 PFC ICV 19G1111	3.39e3	116.7	NO
7	7	13C6-PFDA	ST190712M2-1 PFC ICV 19G1111	2.30e4	103.2	NO
8	8	13C7-PFUdA	ST190712M2-1 PFC ICV 19G1111	2.37e4	102.5	NO

Name: 190712M2_18, Date: 12-Jul-2019, Time: 20:31:30, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

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Name: 190712M2_19, Date: 12-Jul-2019, Time: 20:42:09, ID: B9G0095-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0095-BS1 OPR 0.25	1.70e4	146.7	NO
2	2	13C5-PFHxA	B9G0095-BS1 OPR 0.25	3.42e4	84.4	NO
3	3	18O2-PFHxS	B9G0095-BS1 OPR 0.25	2.17e3	93.6	NO
4	4	13C8-PFOA	B9G0095-BS1 OPR 0.25	3.96e4	85.2	NO
5	5	13C9-PFNA	B9G0095-BS1 OPR 0.25	3.19e4	88.2	NO
6	6	13C4-PFOS	B9G0095-BS1 OPR 0.25	5.29e3	91.1	NO
7	7	13C6-PFDA	B9G0095-BS1 OPR 0.25	3.98e4	89.1	NO
8	8	13C7-PFUdA	B9G0095-BS1 OPR 0.25	4.01e4	86.7	NO

Name: 190712M2_20, Date: 12-Jul-2019, Time: 20:52:47, ID: 1901920-11 NAOA-B02-GW 0.122, Description: NAOA-B02-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-11 NAOA-B02-GW 0.122	7.95e3	137.1	NO
2	2	13C5-PFHxA	1901920-11 NAOA-B02-GW 0.122	1.60e4	78.9	NO
3	3	18O2-PFHxS	1901920-11 NAOA-B02-GW 0.122	1.10e3	94.6	NO
4	4	13C8-PFOA	1901920-11 NAOA-B02-GW 0.122	2.01e4	86.4	NO
5	5	13C9-PFNA	1901920-11 NAOA-B02-GW 0.122	1.61e4	89.3	NO
6	6	13C4-PFOS	1901920-11 NAOA-B02-GW 0.122	2.48e3	85.2	NO
7	7	13C6-PFDA	1901920-11 NAOA-B02-GW 0.122	1.95e4	87.4	NO
8	8	13C7-PFUdA	1901920-11 NAOA-B02-GW 0.122	2.07e4	89.3	NO

Name: 190712M2_21, Date: 12-Jul-2019, Time: 21:03:19, ID: 1901920-17 NAOA-B01-GW-D 0.13768, Description: NAOA-B01-GW-D

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-17 NAOA-B01-GW-D 0.13768	6.79e3	117.0	NO
2	2	13C5-PFHxA	1901920-17 NAOA-B01-GW-D 0.13768	1.39e4	68.7	NO
3	3	18O2-PFHxS	1901920-17 NAOA-B01-GW-D 0.13768	1.07e3	92.1	NO
4	4	13C8-PFOA	1901920-17 NAOA-B01-GW-D 0.13768	1.94e4	83.3	NO
5	5	13C9-PFNA	1901920-17 NAOA-B01-GW-D 0.13768	1.52e4	84.0	NO
6	6	13C4-PFOS	1901920-17 NAOA-B01-GW-D 0.13768	2.87e3	98.6	NO
7	7	13C6-PFDA	1901920-17 NAOA-B01-GW-D 0.13768	1.88e4	84.1	NO
8	8	13C7-PFUdA	1901920-17 NAOA-B01-GW-D 0.13768	2.04e4	88.0	NO

Name: 190712M2_22, Date: 12-Jul-2019, Time: 21:13:58, ID: B9G0116-BS1 OPR 1, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0116-BS1 OPR 1	8.72e3	150.3	YES
2	2	13C5-PFHxA	B9G0116-BS1 OPR 1	1.63e4	80.3	NO
3	3	18O2-PFHxS	B9G0116-BS1 OPR 1	9.56e2	82.5	NO
4	4	13C8-PFOA	B9G0116-BS1 OPR 1	1.92e4	82.4	NO
5	5	13C9-PFNA	B9G0116-BS1 OPR 1	1.50e4	83.3	NO
6	6	13C4-PFOS	B9G0116-BS1 OPR 1	2.61e3	89.7	NO
7	7	13C6-PFDA	B9G0116-BS1 OPR 1	1.86e4	83.5	NO
8	8	13C7-PFUdA	B9G0116-BS1 OPR 1	1.97e4	85.3	NO

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Name: 190712M2_23, Date: 12-Jul-2019, Time: 21:24:30, ID: B9G0116-MS1 Matrix Spike 1.01, Description: Matrix Spike

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0116-MS1 Matrix Spike 1.01	8.79e3	151.4	YES
2	2	13C5-PFHxA	B9G0116-MS1 Matrix Spike 1.01	1.71e4	84.2	NO
3	3	18O2-PFHxS	B9G0116-MS1 Matrix Spike 1.01	9.04e2	78.1	NO
4	4	13C8-PFOA	B9G0116-MS1 Matrix Spike 1.01	1.92e4	82.6	NO
5	5	13C9-PFNA	B9G0116-MS1 Matrix Spike 1.01	1.50e4	83.0	NO
6	6	13C4-PFOS	B9G0116-MS1 Matrix Spike 1.01	2.52e3	86.9	NO
7	7	13C6-PFDA	B9G0116-MS1 Matrix Spike 1.01	1.86e4	83.2	NO
8	8	13C7-PFUdA	B9G0116-MS1 Matrix Spike 1.01	1.92e4	83.0	NO

Name: 190712M2_24, Date: 12-Jul-2019, Time: 21:35:09, ID: B9G0116-MSD1 Matrix Spike Dup 1.03, Description: Matrix Spike Dup

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0116-MSD1 Matrix Spike Dup 1.03	9.05e3	155.9	YES
2	2	13C5-PFHxA	B9G0116-MSD1 Matrix Spike Dup 1.03	1.76e4	87.0	NO
3	3	18O2-PFHxS	B9G0116-MSD1 Matrix Spike Dup 1.03	9.77e2	84.4	NO
4	4	13C8-PFOA	B9G0116-MSD1 Matrix Spike Dup 1.03	1.97e4	84.5	NO
5	5	13C9-PFNA	B9G0116-MSD1 Matrix Spike Dup 1.03	1.55e4	85.7	NO
6	6	13C4-PFOS	B9G0116-MSD1 Matrix Spike Dup 1.03	2.70e3	92.8	NO
7	7	13C6-PFDA	B9G0116-MSD1 Matrix Spike Dup 1.03	1.82e4	81.3	NO
8	8	13C7-PFUdA	B9G0116-MSD1 Matrix Spike Dup 1.03	1.99e4	86.0	NO

Name: 190712M2_25, Date: 12-Jul-2019, Time: 21:45:47, ID: B9G0116-BLK1 Method Blank 1, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0116-BLK1 Method Blank 1	8.50e3	146.5	NO
2	2	13C5-PFHxA	B9G0116-BLK1 Method Blank 1	1.63e4	80.6	NO
3	3	18O2-PFHxS	B9G0116-BLK1 Method Blank 1	9.65e2	83.3	NO
4	4	13C8-PFOA	B9G0116-BLK1 Method Blank 1	1.88e4	80.7	NO
5	5	13C9-PFNA	B9G0116-BLK1 Method Blank 1	1.50e4	82.9	NO
6	6	13C4-PFOS	B9G0116-BLK1 Method Blank 1	2.62e3	90.1	NO
7	7	13C6-PFDA	B9G0116-BLK1 Method Blank 1	1.76e4	78.9	NO
8	8	13C7-PFUdA	B9G0116-BLK1 Method Blank 1	1.87e4	80.7	NO

Name: 190712M2_26, Date: 12-Jul-2019, Time: 21:56:20, ID: 1901857-02 SAOA-B09-SO-1-1.5 1.01, Description: SAOA-B09-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901857-02 SAOA-B09-SO-1-1.5 1.01	9.60e3	165.5	YES
2	2	13C5-PFHxA	1901857-02 SAOA-B09-SO-1-1.5 1.01	1.85e4	91.4	NO
3	3	18O2-PFHxS	1901857-02 SAOA-B09-SO-1-1.5 1.01	9.92e2	85.6	NO
4	4	13C8-PFOA	1901857-02 SAOA-B09-SO-1-1.5 1.01	2.04e4	87.6	NO
5	5	13C9-PFNA	1901857-02 SAOA-B09-SO-1-1.5 1.01	1.55e4	86.0	NO
6	6	13C4-PFOS	1901857-02 SAOA-B09-SO-1-1.5 1.01	2.85e3	97.9	NO
7	7	13C6-PFDA	1901857-02 SAOA-B09-SO-1-1.5 1.01	1.80e4	80.6	NO
8	8	13C7-PFUdA	1901857-02 SAOA-B09-SO-1-1.5 1.01	1.91e4	82.7	NO

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Name: 190712M2_27, Date: 12-Jul-2019, Time: 22:06:59, ID: 1901857-03 SAOA-B09-SO-20-20.5 1.03, Description: SAOA-B09-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901857-03 SAOA-B09-SO-20-20.5 1.03	9.77e3	168.4	YES
2	2	13C5-PFHxA	1901857-03 SAOA-B09-SO-20-20.5 1.03	1.93e4	95.4	NO
3	3	18O2-PFHxS	1901857-03 SAOA-B09-SO-20-20.5 1.03	1.09e3	93.7	NO
4	4	13C8-PFOA	1901857-03 SAOA-B09-SO-20-20.5 1.03	2.24e4	96.1	NO
5	5	13C9-PFNA	1901857-03 SAOA-B09-SO-20-20.5 1.03	1.79e4	98.9	NO
6	6	13C4-PFOS	1901857-03 SAOA-B09-SO-20-20.5 1.03	2.83e3	97.5	NO
7	7	13C6-PFDA	1901857-03 SAOA-B09-SO-20-20.5 1.03	2.08e4	93.0	NO
8	8	13C7-PFUdA	1901857-03 SAOA-B09-SO-20-20.5 1.03	2.20e4	95.0	NO

Name: 190712M2_28, Date: 12-Jul-2019, Time: 22:17:29, ID: 1901857-07 SAOA-B11-SO-1-1.5 1, Description: SAOA-B11-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901857-07 SAOA-B11-SO-1-1.5 1	9.86e3	170.0	YES
2	2	13C5-PFHxA	1901857-07 SAOA-B11-SO-1-1.5 1	1.95e4	96.1	NO
3	3	18O2-PFHxS	1901857-07 SAOA-B11-SO-1-1.5 1	1.17e3	101.5	NO
4	4	13C8-PFOA	1901857-07 SAOA-B11-SO-1-1.5 1	2.21e4	95.1	NO
5	5	13C9-PFNA	1901857-07 SAOA-B11-SO-1-1.5 1	1.73e4	95.6	NO
6	6	13C4-PFOS	1901857-07 SAOA-B11-SO-1-1.5 1	2.74e3	94.3	NO
7	7	13C6-PFDA	1901857-07 SAOA-B11-SO-1-1.5 1	2.13e4	95.2	NO
8	8	13C7-PFUdA	1901857-07 SAOA-B11-SO-1-1.5 1	2.18e4	94.3	NO

Name: 190712M2_29, Date: 12-Jul-2019, Time: 22:28:07, ID: 1901857-08 SAOA-B11-SO-20-20.5 1.05, Description: SAOA-B11-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901857-08 SAOA-B11-SO-20-20.5 1.05	1.21e4	208.7	YES
2	2	13C5-PFHxA	1901857-08 SAOA-B11-SO-20-20.5 1.05	2.24e4	110.5	NO
3	3	18O2-PFHxS	1901857-08 SAOA-B11-SO-20-20.5 1.05	1.35e3	116.6	NO
4	4	13C8-PFOA	1901857-08 SAOA-B11-SO-20-20.5 1.05	2.46e4	105.7	NO
5	5	13C9-PFNA	1901857-08 SAOA-B11-SO-20-20.5 1.05	1.94e4	107.4	NO
6	6	13C4-PFOS	1901857-08 SAOA-B11-SO-20-20.5 1.05	3.74e3	128.7	NO
7	7	13C6-PFDA	1901857-08 SAOA-B11-SO-20-20.5 1.05	2.22e4	99.4	NO
8	8	13C7-PFUdA	1901857-08 SAOA-B11-SO-20-20.5 1.05	2.42e4	104.7	NO

Name: 190712M2_30, Date: 12-Jul-2019, Time: 22:38:40, ID: 1901857-10 SAOA-B08-SO-1-1.5 1.06, Description: SAOA-B08-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901857-10 SAOA-B08-SO-1-1.5 1.06	1.14e4	196.5	YES
2	2	13C5-PFHxA	1901857-10 SAOA-B08-SO-1-1.5 1.06	2.23e4	110.1	NO
3	3	18O2-PFHxS	1901857-10 SAOA-B08-SO-1-1.5 1.06	1.32e3	114.2	NO
4	4	13C8-PFOA	1901857-10 SAOA-B08-SO-1-1.5 1.06	2.56e4	110.2	NO
5	5	13C9-PFNA	1901857-10 SAOA-B08-SO-1-1.5 1.06	2.00e4	110.5	NO
6	6	13C4-PFOS	1901857-10 SAOA-B08-SO-1-1.5 1.06	3.41e3	117.4	NO
7	7	13C6-PFDA	1901857-10 SAOA-B08-SO-1-1.5 1.06	2.38e4	106.7	NO
8	8	13C7-PFUdA	1901857-10 SAOA-B08-SO-1-1.5 1.06	2.65e4	114.4	NO

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Name: 190712M2_31, Date: 12-Jul-2019, Time: 22:49:18, ID: 1901920-01 SAOA-B08-SO-30-30.5 1.01, Description: SAOA-B08-SO-30-30.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-01 SAOA-B08-SO-30-30.5 1.01	1.12e4	192.9	YES
2	2	13C5-PFHxA	1901920-01 SAOA-B08-SO-30-30.5 1.01	2.19e4	107.8	NO
3	3	18O2-PFHxS	1901920-01 SAOA-B08-SO-30-30.5 1.01	1.30e3	112.4	NO
4	4	13C8-PFOA	1901920-01 SAOA-B08-SO-30-30.5 1.01	2.50e4	107.5	NO
5	5	13C9-PFNA	1901920-01 SAOA-B08-SO-30-30.5 1.01	1.90e4	105.0	NO
6	6	13C4-PFOS	1901920-01 SAOA-B08-SO-30-30.5 1.01	3.27e3	112.6	NO
7	7	13C6-PFDA	1901920-01 SAOA-B08-SO-30-30.5 1.01	2.31e4	103.3	NO
8	8	13C7-PFUdA	1901920-01 SAOA-B08-SO-30-30.5 1.01	2.49e4	107.5	NO

Name: 190712M2_32, Date: 12-Jul-2019, Time: 22:59:51, ID: 1901920-07 NAOA-B08-SO-1-1.5 1.03, Description: NAOA-B08-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-07 NAOA-B08-SO-1-1.5 1.03	9.82e3	169.4	YES
2	2	13C5-PFHxA	1901920-07 NAOA-B08-SO-1-1.5 1.03	1.86e4	91.5	NO
3	3	18O2-PFHxS	1901920-07 NAOA-B08-SO-1-1.5 1.03	1.11e3	95.5	NO
4	4	13C8-PFOA	1901920-07 NAOA-B08-SO-1-1.5 1.03	2.21e4	94.9	NO
5	5	13C9-PFNA	1901920-07 NAOA-B08-SO-1-1.5 1.03	1.74e4	96.3	NO
6	6	13C4-PFOS	1901920-07 NAOA-B08-SO-1-1.5 1.03	2.82e3	96.9	NO
7	7	13C6-PFDA	1901920-07 NAOA-B08-SO-1-1.5 1.03	2.10e4	94.1	NO
8	8	13C7-PFUdA	1901920-07 NAOA-B08-SO-1-1.5 1.03	2.21e4	95.5	NO

Name: 190712M2_33, Date: 12-Jul-2019, Time: 23:10:30, ID: 1901920-08 NAOA-B08-SO-20-20.5 1.01, Description: NAOA-B08-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-08 NAOA-B08-SO-20-20.5 1.01	1.03e4	176.9	YES
2	2	13C5-PFHxA	1901920-08 NAOA-B08-SO-20-20.5 1.01	2.00e4	98.9	NO
3	3	18O2-PFHxS	1901920-08 NAOA-B08-SO-20-20.5 1.01	1.12e3	96.6	NO
4	4	13C8-PFOA	1901920-08 NAOA-B08-SO-20-20.5 1.01	2.32e4	99.8	NO
5	5	13C9-PFNA	1901920-08 NAOA-B08-SO-20-20.5 1.01	1.81e4	100.2	NO
6	6	13C4-PFOS	1901920-08 NAOA-B08-SO-20-20.5 1.01	3.11e3	107.0	NO
7	7	13C6-PFDA	1901920-08 NAOA-B08-SO-20-20.5 1.01	2.13e4	95.5	NO
8	8	13C7-PFUdA	1901920-08 NAOA-B08-SO-20-20.5 1.01	2.31e4	100.1	NO

Name: 190712M2_34, Date: 12-Jul-2019, Time: 23:21:08, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

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Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-11 PFC CS3 19G1106	5.93e3	102.2	NO
2	2	13C5-PFHxA	ST190712M2-11 PFC CS3 19G1106	2.15e4	106.2	NO
3	3	18O2-PFHxS	ST190712M2-11 PFC CS3 19G1106	1.19e3	103.2	NO
4	4	13C8-PFOA	ST190712M2-11 PFC CS3 19G1106	2.38e4	102.4	NO
5	5	13C9-PFNA	ST190712M2-11 PFC CS3 19G1106	1.89e4	104.5	NO
6	6	13C4-PFOS	ST190712M2-11 PFC CS3 19G1106	3.00e3	103.1	NO
7	7	13C6-PFDA	ST190712M2-11 PFC CS3 19G1106	2.33e4	104.2	NO
8	8	13C7-PFUdA	ST190712M2-11 PFC CS3 19G1106	2.41e4	104.0	NO

Name: 190712M2_36, Date: 12-Jul-2019, Time: 23:42:20, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190712M2_37, Date: 12-Jul-2019, Time: 23:52:52, ID: 1901920-09 NAOA-B09-SO-1-1.5 1.06, Description: NAOA-B09-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-09 NAOA-B09-SO-1-1.5 1.06	8.32e3	143.4	NO
2	2	13C5-PFHxA	1901920-09 NAOA-B09-SO-1-1.5 1.06	1.60e4	78.7	NO
3	3	18O2-PFHxS	1901920-09 NAOA-B09-SO-1-1.5 1.06	9.74e2	84.1	NO
4	4	13C8-PFOA	1901920-09 NAOA-B09-SO-1-1.5 1.06	1.76e4	75.7	NO
5	5	13C9-PFNA	1901920-09 NAOA-B09-SO-1-1.5 1.06	1.41e4	78.3	NO
6	6	13C4-PFOS	1901920-09 NAOA-B09-SO-1-1.5 1.06	2.44e3	84.1	NO
7	7	13C6-PFDA	1901920-09 NAOA-B09-SO-1-1.5 1.06	1.75e4	78.2	NO
8	8	13C7-PFUdA	1901920-09 NAOA-B09-SO-1-1.5 1.06	1.88e4	81.1	NO

Name: 190712M2_38, Date: 13-Jul-2019, Time: 00:03:31, ID: 1901920-10 NAOA-B09-SO-20-20.5 1.06, Description: NAOA-B09-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-10 NAOA-B09-SO-20-20.5 1.06	8.88e3	153.1	YES
2	2	13C5-PFHxA	1901920-10 NAOA-B09-SO-20-20.5 1.06	1.76e4	86.8	NO
3	3	18O2-PFHxS	1901920-10 NAOA-B09-SO-20-20.5 1.06	1.02e3	88.0	NO
4	4	13C8-PFOA	1901920-10 NAOA-B09-SO-20-20.5 1.06	2.00e4	86.0	NO
5	5	13C9-PFNA	1901920-10 NAOA-B09-SO-20-20.5 1.06	1.59e4	87.8	NO
6	6	13C4-PFOS	1901920-10 NAOA-B09-SO-20-20.5 1.06	2.82e3	97.1	NO
7	7	13C6-PFDA	1901920-10 NAOA-B09-SO-20-20.5 1.06	1.93e4	86.3	NO
8	8	13C7-PFUdA	1901920-10 NAOA-B09-SO-20-20.5 1.06	2.08e4	90.0	NO

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Name: 190712M2_39, Date: 13-Jul-2019, Time: 00:14:01, ID: 1901920-13 NAOA-B01-SO-1-1.5 1.05, Description: NAOA-B01-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-13 NAOA-B01-SO-1-1.5 1.05	9.03e3	155.6	YES
2	2	13C5-PFHxA	1901920-13 NAOA-B01-SO-1-1.5 1.05	1.73e4	85.4	NO
3	3	18O2-PFHxS	1901920-13 NAOA-B01-SO-1-1.5 1.05	1.00e3	86.8	NO
4	4	13C8-PFOA	1901920-13 NAOA-B01-SO-1-1.5 1.05	2.01e4	86.3	NO
5	5	13C9-PFNA	1901920-13 NAOA-B01-SO-1-1.5 1.05	1.62e4	89.6	NO
6	6	13C4-PFOS	1901920-13 NAOA-B01-SO-1-1.5 1.05	2.59e3	89.1	NO
7	7	13C6-PFDA	1901920-13 NAOA-B01-SO-1-1.5 1.05	1.91e4	85.3	NO
8	8	13C7-PFUdA	1901920-13 NAOA-B01-SO-1-1.5 1.05	2.05e4	88.5	NO

Name: 190712M2_40, Date: 13-Jul-2019, Time: 00:24:40, ID: 1901920-15 NAOA-B01-SO-20-20.5 1.04, Description: NAOA-B01-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-15 NAOA-B01-SO-20-20.5 1.04	8.53e3	147.1	NO
2	2	13C5-PFHxA	1901920-15 NAOA-B01-SO-20-20.5 1.04	1.66e4	81.9	NO
3	3	18O2-PFHxS	1901920-15 NAOA-B01-SO-20-20.5 1.04	9.19e2	79.4	NO
4	4	13C8-PFOA	1901920-15 NAOA-B01-SO-20-20.5 1.04	1.82e4	78.2	NO
5	5	13C9-PFNA	1901920-15 NAOA-B01-SO-20-20.5 1.04	1.47e4	81.1	NO
6	6	13C4-PFOS	1901920-15 NAOA-B01-SO-20-20.5 1.04	2.49e3	85.6	NO
7	7	13C6-PFDA	1901920-15 NAOA-B01-SO-20-20.5 1.04	1.78e4	79.7	NO
8	8	13C7-PFUdA	1901920-15 NAOA-B01-SO-20-20.5 1.04	1.89e4	81.7	NO

Name: 190712M2_41, Date: 13-Jul-2019, Time: 00:35:12, ID: 1901920-18 CAOA-B02-SO-0.5-1 1.03, Description: CAOA-B02-SO-0.5-1

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-18 CAOA-B02-SO-0.5-1 1.03	8.64e3	149.0	NO
2	2	13C5-PFHxA	1901920-18 CAOA-B02-SO-0.5-1 1.03	1.68e4	82.8	NO
3	3	18O2-PFHxS	1901920-18 CAOA-B02-SO-0.5-1 1.03	1.00e3	86.5	NO
4	4	13C8-PFOA	1901920-18 CAOA-B02-SO-0.5-1 1.03	1.99e4	85.4	NO
5	5	13C9-PFNA	1901920-18 CAOA-B02-SO-0.5-1 1.03	1.56e4	86.6	NO
6	6	13C4-PFOS	1901920-18 CAOA-B02-SO-0.5-1 1.03	2.69e3	92.6	NO
7	7	13C6-PFDA	1901920-18 CAOA-B02-SO-0.5-1 1.03	1.90e4	85.2	NO
8	8	13C7-PFUdA	1901920-18 CAOA-B02-SO-0.5-1 1.03	1.99e4	86.0	NO

Name: 190712M2_42, Date: 13-Jul-2019, Time: 00:45:50, ID: 1901920-19 CAOA-B02-SO-20-20.5 1.02, Description: CAOA-B02-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901920-19 CAOA-B02-SO-20-20.5 1.02	1.01e4	174.2	YES
2	2	13C5-PFHxA	1901920-19 CAOA-B02-SO-20-20.5 1.02	2.00e4	98.4	NO
3	3	18O2-PFHxS	1901920-19 CAOA-B02-SO-20-20.5 1.02	1.24e3	107.3	NO
4	4	13C8-PFOA	1901920-19 CAOA-B02-SO-20-20.5 1.02	2.31e4	99.4	NO
5	5	13C9-PFNA	1901920-19 CAOA-B02-SO-20-20.5 1.02	1.76e4	97.5	NO
6	6	13C4-PFOS	1901920-19 CAOA-B02-SO-20-20.5 1.02	2.96e3	101.9	NO
7	7	13C6-PFDA	1901920-19 CAOA-B02-SO-20-20.5 1.02	2.13e4	95.3	NO
8	8	13C7-PFUdA	1901920-19 CAOA-B02-SO-20-20.5 1.02	2.26e4	97.7	NO

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Name: 190712M2_43, Date: 13-Jul-2019, Time: 00:56:23, ID: B9G0081-BS1 OPR 0.0992, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0081-BS1 OPR 0.0992	2.39e4	412.1	YES
2	2	13C5-PFHxA	B9G0081-BS1 OPR 0.0992	4.54e4	224.1	YES
3	3	18O2-PFHxS	B9G0081-BS1 OPR 0.0992	2.72e3	235.3	YES
4	4	13C8-PFOA	B9G0081-BS1 OPR 0.0992	5.15e4	221.4	YES
5	5	13C9-PFNA	B9G0081-BS1 OPR 0.0992	4.18e4	231.1	YES
6	6	13C4-PFOS	B9G0081-BS1 OPR 0.0992	6.93e3	238.3	YES
7	7	13C6-PFDA	B9G0081-BS1 OPR 0.0992	4.83e4	216.1	YES
8	8	13C7-PFUdA	B9G0081-BS1 OPR 0.0992	5.29e4	228.8	YES

Name: 190712M2_44, Date: 13-Jul-2019, Time: 01:07:02, ID: B9G0081-BLK1 Method Blank 0.0995, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0081-BLK1 Method Blank 0.0995	2.51e4	432.8	YES
2	2	13C5-PFHxA	B9G0081-BLK1 Method Blank 0.0995	4.87e4	240.0	YES
3	3	18O2-PFHxS	B9G0081-BLK1 Method Blank 0.0995	2.79e3	240.5	YES
4	4	13C8-PFOA	B9G0081-BLK1 Method Blank 0.0995	5.43e4	233.7	YES
5	5	13C9-PFNA	B9G0081-BLK1 Method Blank 0.0995	4.41e4	244.1	YES
6	6	13C4-PFOS	B9G0081-BLK1 Method Blank 0.0995	7.08e3	243.6	YES
7	7	13C6-PFDA	B9G0081-BLK1 Method Blank 0.0995	5.09e4	227.8	YES
8	8	13C7-PFUdA	B9G0081-BLK1 Method Blank 0.0995	5.43e4	234.8	YES

Name: 190712M2_45, Date: 13-Jul-2019, Time: 01:17:34, ID: 1901989-01 #1 0.0995, Description: #1

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901989-01 #1 0.0995	1.93e4	333.5	YES
2	2	13C5-PFHxA	1901989-01 #1 0.0995	3.68e4	181.6	YES
3	3	18O2-PFHxS	1901989-01 #1 0.0995	2.19e3	189.4	YES
4	4	13C8-PFOA	1901989-01 #1 0.0995	4.17e4	179.2	YES
5	5	13C9-PFNA	1901989-01 #1 0.0995	3.45e4	190.9	YES
6	6	13C4-PFOS	1901989-01 #1 0.0995	5.44e3	187.1	YES
7	7	13C6-PFDA	1901989-01 #1 0.0995	4.05e4	181.5	YES
8	8	13C7-PFUdA	1901989-01 #1 0.0995	4.32e4	186.7	YES

Name: 190712M2_46, Date: 13-Jul-2019, Time: 01:28:12, ID: 1901989-02 #2 0.0997, Description: #2

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901989-02 #2 0.0997	2.34e4	403.0	YES
2	2	13C5-PFHxA	1901989-02 #2 0.0997	4.43e4	218.3	YES
3	3	18O2-PFHxS	1901989-02 #2 0.0997	2.61e3	225.5	YES
4	4	13C8-PFOA	1901989-02 #2 0.0997	4.72e4	203.0	YES
5	5	13C9-PFNA	1901989-02 #2 0.0997	3.91e4	216.6	YES
6	6	13C4-PFOS	1901989-02 #2 0.0997	4.59e3	158.0	YES
7	7	13C6-PFDA	1901989-02 #2 0.0997	4.71e4	211.0	YES
8	8	13C7-PFUdA	1901989-02 #2 0.0997	5.01e4	216.5	YES

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Name: 190712M2_47, Date: 13-Jul-2019, Time: 01:38:45, ID: 1901989-03 #3 0.0996, Description: #3

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901989-03 #3 0.0996	2.44e4	420.2	YES
2	2	13C5-PFHxA	1901989-03 #3 0.0996	4.73e4	233.5	YES
3	3	18O2-PFHxS	1901989-03 #3 0.0996	2.73e3	235.7	YES
4	4	13C8-PFOA	1901989-03 #3 0.0996	5.16e4	221.8	YES
5	5	13C9-PFNA	1901989-03 #3 0.0996	4.14e4	229.3	YES
6	6	13C4-PFOS	1901989-03 #3 0.0996	5.73e3	197.2	YES
7	7	13C6-PFDA	1901989-03 #3 0.0996	5.05e4	226.1	YES
8	8	13C7-PFUdA	1901989-03 #3 0.0996	5.29e4	228.5	YES

Name: 190712M2_48, Date: 13-Jul-2019, Time: 01:49:15, ID: 1901989-04 #4 0.0996, Description: #4

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901989-04 #4 0.0996	2.47e4	425.3	YES
2	2	13C5-PFHxA	1901989-04 #4 0.0996	4.70e4	231.7	YES
3	3	18O2-PFHxS	1901989-04 #4 0.0996	2.62e3	226.5	YES
4	4	13C8-PFOA	1901989-04 #4 0.0996	5.20e4	223.7	YES
5	5	13C9-PFNA	1901989-04 #4 0.0996	4.19e4	232.1	YES
6	6	13C4-PFOS	1901989-04 #4 0.0996	6.14e3	211.1	YES
7	7	13C6-PFDA	1901989-04 #4 0.0996	5.03e4	225.3	YES
8	8	13C7-PFUdA	1901989-04 #4 0.0996	5.33e4	230.5	YES

Name: 190712M2_49, Date: 13-Jul-2019, Time: 01:59:53, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-12 PFC CS3 19G1106	6.06e3	104.5	NO
2	2	13C5-PFHxA	ST190712M2-12 PFC CS3 19G1106	2.03e4	100.1	NO
3	3	18O2-PFHxS	ST190712M2-12 PFC CS3 19G1106	1.29e3	111.4	NO
4	4	13C8-PFOA	ST190712M2-12 PFC CS3 19G1106	2.35e4	101.1	NO
5	5	13C9-PFNA	ST190712M2-12 PFC CS3 19G1106	1.89e4	104.4	NO
6	6	13C4-PFOS	ST190712M2-12 PFC CS3 19G1106	3.09e3	106.2	NO
7	7	13C6-PFDA	ST190712M2-12 PFC CS3 19G1106	2.26e4	101.2	NO
8	8	13C7-PFUdA	ST190712M2-12 PFC CS3 19G1106	2.36e4	102.0	NO

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Name: 190712M2_51, Date: 13-Jul-2019, Time: 02:21:05, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190712M2_52, Date: 13-Jul-2019, Time: 02:31:38, ID: B9G0018-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0018-BS1 OPR 0.25	7.75e3	133.6	NO
2	2	13C5-PFHxA	B9G0018-BS1 OPR 0.25	1.55e4	76.5	NO
3	3	18O2-PFHxS	B9G0018-BS1 OPR 0.25	1.07e3	92.6	NO
4	4	13C8-PFOA	B9G0018-BS1 OPR 0.25	1.86e4	79.9	NO
5	5	13C9-PFNA	B9G0018-BS1 OPR 0.25	1.51e4	83.7	NO
6	6	13C4-PFOS	B9G0018-BS1 OPR 0.25	2.68e3	92.1	NO
7	7	13C6-PFDA	B9G0018-BS1 OPR 0.25	1.85e4	82.8	NO
8	8	13C7-PFUdA	B9G0018-BS1 OPR 0.25	1.96e4	84.7	NO

Name: 190712M2_53, Date: 13-Jul-2019, Time: 02:42:16, ID: B9G0018-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0018-BLK1 Method Blank 0.25	7.02e3	121.0	NO
2	2	13C5-PFHxA	B9G0018-BLK1 Method Blank 0.25	1.44e4	70.9	NO
3	3	18O2-PFHxS	B9G0018-BLK1 Method Blank 0.25	9.49e2	81.9	NO
4	4	13C8-PFOA	B9G0018-BLK1 Method Blank 0.25	1.72e4	73.9	NO
5	5	13C9-PFNA	B9G0018-BLK1 Method Blank 0.25	1.37e4	75.6	NO
6	6	13C4-PFOS	B9G0018-BLK1 Method Blank 0.25	2.37e3	81.4	NO
7	7	13C6-PFDA	B9G0018-BLK1 Method Blank 0.25	1.66e4	74.3	NO
8	8	13C7-PFUdA	B9G0018-BLK1 Method Blank 0.25	1.80e4	78.0	NO

Name: 190712M2_54, Date: 13-Jul-2019, Time: 02:52:55, ID: 1901800-01 SWIN1906241030KER 0.23934, Description: SWIN1906241030KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901800-01 SWIN1906241030KER 0.2...	6.62e3	114.0	NO
2	2	13C5-PFHxA	1901800-01 SWIN1906241030KER 0.2...	1.39e4	68.4	NO
3	3	18O2-PFHxS	1901800-01 SWIN1906241030KER 0.2...	9.82e2	84.8	NO
4	4	13C8-PFOA	1901800-01 SWIN1906241030KER 0.2...	1.64e4	70.5	NO
5	5	13C9-PFNA	1901800-01 SWIN1906241030KER 0.2...	1.29e4	71.5	NO
6	6	13C4-PFOS	1901800-01 SWIN1906241030KER 0.2...	2.36e3	81.2	NO
7	7	13C6-PFDA	1901800-01 SWIN1906241030KER 0.2...	1.55e4	69.3	NO
8	8	13C7-PFUdA	1901800-01 SWIN1906241030KER 0.2...	1.63e4	70.7	NO

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Name: 190712M2_55, Date: 13-Jul-2019, Time: 03:03:27, ID: 1901800-02 SWIN1906241030KER-FD 0.24043, Description: SWIN1906241030KER-FD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901800-02 SWIN1906241030KER-FD...	7.99e3	137.7	NO
2	2	13C5-PFHxA	1901800-02 SWIN1906241030KER-FD...	1.72e4	85.0	NO
3	3	18O2-PFHxS	1901800-02 SWIN1906241030KER-FD...	1.14e3	98.3	NO
4	4	13C8-PFOA	1901800-02 SWIN1906241030KER-FD...	2.03e4	87.2	NO
5	5	13C9-PFNA	1901800-02 SWIN1906241030KER-FD...	1.60e4	88.6	NO
6	6	13C4-PFOS	1901800-02 SWIN1906241030KER-FD...	3.18e3	109.3	NO
7	7	13C6-PFDA	1901800-02 SWIN1906241030KER-FD...	1.93e4	86.4	NO
8	8	13C7-PFUdA	1901800-02 SWIN1906241030KER-FD...	1.93e4	83.6	NO

Name: 190712M2_56, Date: 13-Jul-2019, Time: 03:14:06, ID: 1901801-01 SWIN1906241130KER 0.23531, Description: SWIN1906241130KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901801-01 SWIN1906241130KER 0.2...	7.43e3	128.0	NO
2	2	13C5-PFHxA	1901801-01 SWIN1906241130KER 0.2...	1.55e4	76.3	NO
3	3	18O2-PFHxS	1901801-01 SWIN1906241130KER 0.2...	9.70e2	83.8	NO
4	4	13C8-PFOA	1901801-01 SWIN1906241130KER 0.2...	1.78e4	76.5	NO
5	5	13C9-PFNA	1901801-01 SWIN1906241130KER 0.2...	1.44e4	79.7	NO
6	6	13C4-PFOS	1901801-01 SWIN1906241130KER 0.2...	2.44e3	84.0	NO
7	7	13C6-PFDA	1901801-01 SWIN1906241130KER 0.2...	1.70e4	76.1	NO
8	8	13C7-PFUdA	1901801-01 SWIN1906241130KER 0.2...	1.79e4	77.3	NO

Name: 190712M2_57, Date: 13-Jul-2019, Time: 03:24:39, ID: 1901802-01 SWIN1906241230KER 0.2312, Description: SWIN1906241230KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901802-01 SWIN1906241230KER 0.2...	7.10e3	122.5	NO
2	2	13C5-PFHxA	1901802-01 SWIN1906241230KER 0.2...	1.51e4	74.6	NO
3	3	18O2-PFHxS	1901802-01 SWIN1906241230KER 0.2...	1.05e3	90.9	NO
4	4	13C8-PFOA	1901802-01 SWIN1906241230KER 0.2...	1.66e4	71.5	NO
5	5	13C9-PFNA	1901802-01 SWIN1906241230KER 0.2...	1.37e4	76.0	NO
6	6	13C4-PFOS	1901802-01 SWIN1906241230KER 0.2...	2.66e3	91.4	NO
7	7	13C6-PFDA	1901802-01 SWIN1906241230KER 0.2...	1.51e4	67.8	NO
8	8	13C7-PFUdA	1901802-01 SWIN1906241230KER 0.2...	1.64e4	71.0	NO

Name: 190712M2_58, Date: 13-Jul-2019, Time: 03:35:17, ID: 1901803-01 SWIN1906241350KER 0.2306, Description: SWIN1906241350KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901803-01 SWIN1906241350KER 0.2...	6.73e3	116.1	NO
2	2	13C5-PFHxA	1901803-01 SWIN1906241350KER 0.2...	1.34e4	65.9	NO
3	3	18O2-PFHxS	1901803-01 SWIN1906241350KER 0.2...	8.99e2	77.6	NO
4	4	13C8-PFOA	1901803-01 SWIN1906241350KER 0.2...	1.61e4	69.2	NO
5	5	13C9-PFNA	1901803-01 SWIN1906241350KER 0.2...	1.22e4	67.5	NO
6	6	13C4-PFOS	1901803-01 SWIN1906241350KER 0.2...	2.32e3	79.8	NO
7	7	13C6-PFDA	1901803-01 SWIN1906241350KER 0.2...	1.49e4	66.8	NO
8	8	13C7-PFUdA	1901803-01 SWIN1906241350KER 0.2...	1.60e4	69.1	NO

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Name: 190712M2_59, Date: 13-Jul-2019, Time: 03:45:50, ID: 1901804-01 SWIN1906241420KER 0.23872, Description: SWIN1906241420KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901804-01 SWIN1906241420KER 0.2...	7.33e3	126.3	NO
2	2	13C5-PFHxA	1901804-01 SWIN1906241420KER 0.2...	1.46e4	72.1	NO
3	3	18O2-PFHxS	1901804-01 SWIN1906241420KER 0.2...	9.50e2	82.0	NO
4	4	13C8-PFOA	1901804-01 SWIN1906241420KER 0.2...	1.67e4	71.8	NO
5	5	13C9-PFNA	1901804-01 SWIN1906241420KER 0.2...	1.39e4	77.1	NO
6	6	13C4-PFOS	1901804-01 SWIN1906241420KER 0.2...	2.47e3	84.9	NO
7	7	13C6-PFDA	1901804-01 SWIN1906241420KER 0.2...	1.63e4	73.1	NO
8	8	13C7-PFUdA	1901804-01 SWIN1906241420KER 0.2...	1.68e4	72.7	NO

Name: 190712M2_60, Date: 13-Jul-2019, Time: 03:56:29, ID: 1901833-01 SWIN1906241120GSC 0.23073, Description: SWIN1906241120GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901833-01 SWIN1906241120GSC 0.2...	7.83e3	134.9	NO
2	2	13C5-PFHxA	1901833-01 SWIN1906241120GSC 0.2...	1.53e4	75.5	NO
3	3	18O2-PFHxS	1901833-01 SWIN1906241120GSC 0.2...	8.88e2	76.7	NO
4	4	13C8-PFOA	1901833-01 SWIN1906241120GSC 0.2...	1.78e4	76.7	NO
5	5	13C9-PFNA	1901833-01 SWIN1906241120GSC 0.2...	1.46e4	80.9	NO
6	6	13C4-PFOS	1901833-01 SWIN1906241120GSC 0.2...	2.28e3	78.3	NO
7	7	13C6-PFDA	1901833-01 SWIN1906241120GSC 0.2...	1.60e4	71.8	NO
8	8	13C7-PFUdA	1901833-01 SWIN1906241120GSC 0.2...	1.72e4	74.6	NO

Name: 190712M2_61, Date: 13-Jul-2019, Time: 04:07:07, ID: 1901834-01 SWIN1906241200GSC 0.21167, Description: SWIN1906241200GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901834-01 SWIN1906241200GSC 0.2...	7.46e3	128.6	NO
2	2	13C5-PFHxA	1901834-01 SWIN1906241200GSC 0.2...	1.49e4	73.6	NO
3	3	18O2-PFHxS	1901834-01 SWIN1906241200GSC 0.2...	9.11e2	78.7	NO
4	4	13C8-PFOA	1901834-01 SWIN1906241200GSC 0.2...	1.69e4	72.8	NO
5	5	13C9-PFNA	1901834-01 SWIN1906241200GSC 0.2...	1.34e4	74.2	NO
6	6	13C4-PFOS	1901834-01 SWIN1906241200GSC 0.2...	2.24e3	77.0	NO
7	7	13C6-PFDA	1901834-01 SWIN1906241200GSC 0.2...	1.65e4	73.9	NO
8	8	13C7-PFUdA	1901834-01 SWIN1906241200GSC 0.2...	1.70e4	73.5	NO

Name: 190712M2_62, Date: 13-Jul-2019, Time: 04:17:40, ID: 1901835-01 SWIN1906241230GSC 0.22418, Description: SWIN1906241230GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901835-01 SWIN1906241230GSC 0.2...	7.99e3	137.7	NO
2	2	13C5-PFHxA	1901835-01 SWIN1906241230GSC 0.2...	1.52e4	75.1	NO
3	3	18O2-PFHxS	1901835-01 SWIN1906241230GSC 0.2...	1.04e3	89.4	NO
4	4	13C8-PFOA	1901835-01 SWIN1906241230GSC 0.2...	1.94e4	83.2	NO
5	5	13C9-PFNA	1901835-01 SWIN1906241230GSC 0.2...	1.62e4	89.7	NO
6	6	13C4-PFOS	1901835-01 SWIN1906241230GSC 0.2...	2.60e3	89.6	NO
7	7	13C6-PFDA	1901835-01 SWIN1906241230GSC 0.2...	1.83e4	82.0	NO
8	8	13C7-PFUdA	1901835-01 SWIN1906241230GSC 0.2...	1.86e4	80.6	NO

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Name: 190712M2_63, Date: 13-Jul-2019, Time: 04:28:18, ID: 1901836-01 SWIN1906241300GSC 0.23525, Description: SWIN1906241300GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901836-01 SWIN1906241300GSC 0.2...	7.29e3	125.6	NO
2	2	13C5-PFHxA	1901836-01 SWIN1906241300GSC 0.2...	1.48e4	73.2	NO
3	3	18O2-PFHxS	1901836-01 SWIN1906241300GSC 0.2...	1.07e3	92.1	NO
4	4	13C8-PFOA	1901836-01 SWIN1906241300GSC 0.2...	1.69e4	72.8	NO
5	5	13C9-PFNA	1901836-01 SWIN1906241300GSC 0.2...	1.42e4	78.3	NO
6	6	13C4-PFOS	1901836-01 SWIN1906241300GSC 0.2...	2.36e3	81.1	NO
7	7	13C6-PFDA	1901836-01 SWIN1906241300GSC 0.2...	1.58e4	70.7	NO
8	8	13C7-PFUdA	1901836-01 SWIN1906241300GSC 0.2...	1.73e4	74.8	NO

Name: 190712M2_64, Date: 13-Jul-2019, Time: 04:38:57, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190712M2_65, Date: 13-Jul-2019, Time: 04:49:29, ID: ST190712M2-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-13 PFC CS3 19G1106	6.18e3	106.6	NO
2	2	13C5-PFHxA	ST190712M2-13 PFC CS3 19G1106	2.21e4	108.8	NO
3	3	18O2-PFHxS	ST190712M2-13 PFC CS3 19G1106	1.23e3	106.6	NO
4	4	13C8-PFOA	ST190712M2-13 PFC CS3 19G1106	2.53e4	108.8	NO
5	5	13C9-PFNA	ST190712M2-13 PFC CS3 19G1106	1.97e4	109.2	NO
6	6	13C4-PFOS	ST190712M2-13 PFC CS3 19G1106	3.23e3	110.9	NO
7	7	13C6-PFDA	ST190712M2-13 PFC CS3 19G1106	2.24e4	100.3	NO
8	8	13C7-PFUdA	ST190712M2-13 PFC CS3 19G1106	2.46e4	106.3	NO

Name: 190712M2_66, Date: 13-Jul-2019, Time: 05:00:07, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

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Name: 190712M2_67, Date: 13-Jul-2019, Time: 05:10:41, ID: 1901837-01 SWIN1906241330GSC 0.22552, Description: SWIN1906241330GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901837-01 SWIN1906241330GSC 0.2...	7.82e3	134.8	NO
2	2	13C5-PFHxA	1901837-01 SWIN1906241330GSC 0.2...	1.59e4	78.3	NO
3	3	18O2-PFHxS	1901837-01 SWIN1906241330GSC 0.2...	8.97e2	77.5	NO
4	4	13C8-PFOA	1901837-01 SWIN1906241330GSC 0.2...	1.84e4	79.2	NO
5	5	13C9-PFNA	1901837-01 SWIN1906241330GSC 0.2...	1.40e4	77.7	NO
6	6	13C4-PFOS	1901837-01 SWIN1906241330GSC 0.2...	2.37e3	81.4	NO
7	7	13C6-PFDA	1901837-01 SWIN1906241330GSC 0.2...	1.68e4	75.4	NO
8	8	13C7-PFUdA	1901837-01 SWIN1906241330GSC 0.2...	1.85e4	79.8	NO

Name: 190712M2_68, Date: 13-Jul-2019, Time: 05:21:19, ID: 1901838-01 SWIN1906241410GSC 0.22937, Description: SWIN1906241410GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901838-01 SWIN1906241410GSC 0.2...	7.17e3	123.7	NO
2	2	13C5-PFHxA	1901838-01 SWIN1906241410GSC 0.2...	1.49e4	73.7	NO
3	3	18O2-PFHxS	1901838-01 SWIN1906241410GSC 0.2...	8.21e2	70.9	NO
4	4	13C8-PFOA	1901838-01 SWIN1906241410GSC 0.2...	1.66e4	71.4	NO
5	5	13C9-PFNA	1901838-01 SWIN1906241410GSC 0.2...	1.34e4	74.0	NO
6	6	13C4-PFOS	1901838-01 SWIN1906241410GSC 0.2...	2.21e3	76.1	NO
7	7	13C6-PFDA	1901838-01 SWIN1906241410GSC 0.2...	1.59e4	71.4	NO
8	8	13C7-PFUdA	1901838-01 SWIN1906241410GSC 0.2...	1.62e4	70.2	NO

Name: 190712M2_69, Date: 13-Jul-2019, Time: 05:31:53, ID: B9G0019-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0019-BS1 OPR 0.25	7.14e3	123.1	NO
2	2	13C5-PFHxA	B9G0019-BS1 OPR 0.25	1.44e4	71.0	NO
3	3	18O2-PFHxS	B9G0019-BS1 OPR 0.25	9.90e2	85.5	NO
4	4	13C8-PFOA	B9G0019-BS1 OPR 0.25	1.71e4	73.7	NO
5	5	13C9-PFNA	B9G0019-BS1 OPR 0.25	1.40e4	77.7	NO
6	6	13C4-PFOS	B9G0019-BS1 OPR 0.25	2.40e3	82.4	NO
7	7	13C6-PFDA	B9G0019-BS1 OPR 0.25	1.63e4	72.9	NO
8	8	13C7-PFUdA	B9G0019-BS1 OPR 0.25	1.79e4	77.3	NO

Name: 190712M2_70, Date: 13-Jul-2019, Time: 05:42:31, ID: B9G0019-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0019-BLK1 Method Blank 0.25	7.45e3	128.4	NO
2	2	13C5-PFHxA	B9G0019-BLK1 Method Blank 0.25	1.51e4	74.4	NO
3	3	18O2-PFHxS	B9G0019-BLK1 Method Blank 0.25	1.02e3	87.9	NO
4	4	13C8-PFOA	B9G0019-BLK1 Method Blank 0.25	1.87e4	80.6	NO
5	5	13C9-PFNA	B9G0019-BLK1 Method Blank 0.25	1.49e4	82.5	NO
6	6	13C4-PFOS	B9G0019-BLK1 Method Blank 0.25	2.50e3	86.0	NO
7	7	13C6-PFDA	B9G0019-BLK1 Method Blank 0.25	1.77e4	79.1	NO
8	8	13C7-PFUdA	B9G0019-BLK1 Method Blank 0.25	1.94e4	83.8	NO

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Name: 190712M2_71, Date: 13-Jul-2019, Time: 05:53:04, ID: 1901805-01 SWIN1906251340KER 0.24387, Description: SWIN1906251340KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901805-01 SWIN1906251340KER 0.2...	8.48e3	146.2	NO
2	2	13C5-PFHxA	1901805-01 SWIN1906251340KER 0.2...	1.65e4	81.2	NO
3	3	18O2-PFHxS	1901805-01 SWIN1906251340KER 0.2...	1.06e3	91.7	NO
4	4	13C8-PFOA	1901805-01 SWIN1906251340KER 0.2...	1.93e4	83.2	NO
5	5	13C9-PFNA	1901805-01 SWIN1906251340KER 0.2...	1.45e4	80.1	NO
6	6	13C4-PFOS	1901805-01 SWIN1906251340KER 0.2...	2.64e3	90.8	NO
7	7	13C6-PFDA	1901805-01 SWIN1906251340KER 0.2...	1.81e4	81.0	NO
8	8	13C7-PFUdA	1901805-01 SWIN1906251340KER 0.2...	1.88e4	81.2	NO

Name: 190712M2_72, Date: 13-Jul-2019, Time: 06:03:42, ID: 1901807-01 SWIN1906251000KER 0.24038, Description: SWIN1906251000KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901807-01 SWIN1906251000KER 0.2...	7.53e3	129.9	NO
2	2	13C5-PFHxA	1901807-01 SWIN1906251000KER 0.2...	1.49e4	73.4	NO
3	3	18O2-PFHxS	1901807-01 SWIN1906251000KER 0.2...	9.18e2	79.3	NO
4	4	13C8-PFOA	1901807-01 SWIN1906251000KER 0.2...	1.69e4	72.7	NO
5	5	13C9-PFNA	1901807-01 SWIN1906251000KER 0.2...	1.34e4	74.0	NO
6	6	13C4-PFOS	1901807-01 SWIN1906251000KER 0.2...	2.41e3	83.0	NO
7	7	13C6-PFDA	1901807-01 SWIN1906251000KER 0.2...	1.61e4	71.9	NO
8	8	13C7-PFUdA	1901807-01 SWIN1906251000KER 0.2...	1.71e4	73.8	NO

Name: 190712M2_73, Date: 13-Jul-2019, Time: 06:14:21, ID: 1901808-01 SWIN1906251130KER 0.23854, Description: SWIN1906251130KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901808-01 SWIN1906251130KER 0.2...	8.73e3	150.4	YES
2	2	13C5-PFHxA	1901808-01 SWIN1906251130KER 0.2...	1.73e4	85.5	NO
3	3	18O2-PFHxS	1901808-01 SWIN1906251130KER 0.2...	1.20e3	103.7	NO
4	4	13C8-PFOA	1901808-01 SWIN1906251130KER 0.2...	1.99e4	85.8	NO
5	5	13C9-PFNA	1901808-01 SWIN1906251130KER 0.2...	1.59e4	88.2	NO
6	6	13C4-PFOS	1901808-01 SWIN1906251130KER 0.2...	2.72e3	93.5	NO
7	7	13C6-PFDA	1901808-01 SWIN1906251130KER 0.2...	1.90e4	85.2	NO
8	8	13C7-PFUdA	1901808-01 SWIN1906251130KER 0.2...	2.02e4	87.3	NO

Name: 190712M2_74, Date: 13-Jul-2019, Time: 06:24:54, ID: 1901809-01 SWIN1906251200KER 0.23354, Description: SWIN1906251200KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901809-01 SWIN1906251200KER 0.2...	8.82e3	152.0	YES
2	2	13C5-PFHxA	1901809-01 SWIN1906251200KER 0.2...	1.80e4	88.9	NO
3	3	18O2-PFHxS	1901809-01 SWIN1906251200KER 0.2...	1.07e3	92.7	NO
4	4	13C8-PFOA	1901809-01 SWIN1906251200KER 0.2...	2.00e4	85.9	NO
5	5	13C9-PFNA	1901809-01 SWIN1906251200KER 0.2...	1.58e4	87.7	NO
6	6	13C4-PFOS	1901809-01 SWIN1906251200KER 0.2...	2.67e3	91.9	NO
7	7	13C6-PFDA	1901809-01 SWIN1906251200KER 0.2...	1.88e4	84.0	NO
8	8	13C7-PFUdA	1901809-01 SWIN1906251200KER 0.2...	1.95e4	84.1	NO

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Name: 190712M2_75, Date: 13-Jul-2019, Time: 06:35:32, ID: 1901810-01 SWIN1906251300KER 0.24769, Description: SWIN1906251300KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901810-01 SWIN1906251300KER 0.2...	8.40e3	144.8	NO
2	2	13C5-PFHxA	1901810-01 SWIN1906251300KER 0.2...	1.69e4	83.2	NO
3	3	18O2-PFHxS	1901810-01 SWIN1906251300KER 0.2...	1.08e3	93.6	NO
4	4	13C8-PFOA	1901810-01 SWIN1906251300KER 0.2...	1.98e4	85.1	NO
5	5	13C9-PFNA	1901810-01 SWIN1906251300KER 0.2...	1.52e4	84.4	NO
6	6	13C4-PFOS	1901810-01 SWIN1906251300KER 0.2...	2.65e3	91.1	NO
7	7	13C6-PFDA	1901810-01 SWIN1906251300KER 0.2...	1.83e4	82.1	NO
8	8	13C7-PFUdA	1901810-01 SWIN1906251300KER 0.2...	1.91e4	82.4	NO

Name: 190712M2_76, Date: 13-Jul-2019, Time: 06:46:06, ID: 1901811-01 SWIN1906260910KER 0.24171, Description: SWIN1906260910KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901811-01 SWIN1906260910KER 0.2...	9.56e3	164.8	YES
2	2	13C5-PFHxA	1901811-01 SWIN1906260910KER 0.2...	1.92e4	94.5	NO
3	3	18O2-PFHxS	1901811-01 SWIN1906260910KER 0.2...	1.09e3	94.5	NO
4	4	13C8-PFOA	1901811-01 SWIN1906260910KER 0.2...	2.19e4	94.1	NO
5	5	13C9-PFNA	1901811-01 SWIN1906260910KER 0.2...	1.77e4	98.2	NO
6	6	13C4-PFOS	1901811-01 SWIN1906260910KER 0.2...	2.93e3	100.7	NO
7	7	13C6-PFDA	1901811-01 SWIN1906260910KER 0.2...	2.16e4	96.5	NO
8	8	13C7-PFUdA	1901811-01 SWIN1906260910KER 0.2...	2.23e4	96.5	NO

Name: 190712M2_77, Date: 13-Jul-2019, Time: 06:56:44, ID: 1901812-01 SWIN1906261030KER 0.24255, Description: SWIN1906261030KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901812-01 SWIN1906261030KER 0.2...	8.34e3	143.8	NO
2	2	13C5-PFHxA	1901812-01 SWIN1906261030KER 0.2...	1.65e4	81.3	NO
3	3	18O2-PFHxS	1901812-01 SWIN1906261030KER 0.2...	9.86e2	85.2	NO
4	4	13C8-PFOA	1901812-01 SWIN1906261030KER 0.2...	1.89e4	81.1	NO
5	5	13C9-PFNA	1901812-01 SWIN1906261030KER 0.2...	1.53e4	84.4	NO
6	6	13C4-PFOS	1901812-01 SWIN1906261030KER 0.2...	2.34e3	80.4	NO
7	7	13C6-PFDA	1901812-01 SWIN1906261030KER 0.2...	1.77e4	79.2	NO
8	8	13C7-PFUdA	1901812-01 SWIN1906261030KER 0.2...	1.87e4	80.8	NO

Name: 190712M2_78, Date: 13-Jul-2019, Time: 07:07:16, ID: 1901813-01 SWIN1906261110KER 0.25097, Description: SWIN1906261110KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901813-01 SWIN1906261110KER 0.2...	9.30e3	160.4	YES
2	2	13C5-PFHxA	1901813-01 SWIN1906261110KER 0.2...	1.86e4	91.7	NO
3	3	18O2-PFHxS	1901813-01 SWIN1906261110KER 0.2...	1.02e3	88.4	NO
4	4	13C8-PFOA	1901813-01 SWIN1906261110KER 0.2...	2.15e4	92.6	NO
5	5	13C9-PFNA	1901813-01 SWIN1906261110KER 0.2...	1.67e4	92.5	NO
6	6	13C4-PFOS	1901813-01 SWIN1906261110KER 0.2...	2.94e3	101.2	NO
7	7	13C6-PFDA	1901813-01 SWIN1906261110KER 0.2...	2.00e4	89.4	NO
8	8	13C7-PFUdA	1901813-01 SWIN1906261110KER 0.2...	2.10e4	90.9	NO

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Name: 190712M2_79, Date: 13-Jul-2019, Time: 07:17:54, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190712M2_80, Date: 13-Jul-2019, Time: 07:28:27, ID: ST190712M2-14 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-14 PFC CS3 19G1106	6.33e3	109.1	NO
2	2	13C5-PFHxA	ST190712M2-14 PFC CS3 19G1106	2.17e4	106.8	NO
3	3	18O2-PFHxS	ST190712M2-14 PFC CS3 19G1106	1.25e3	107.8	NO
4	4	13C8-PFOA	ST190712M2-14 PFC CS3 19G1106	2.44e4	105.1	NO
5	5	13C9-PFNA	ST190712M2-14 PFC CS3 19G1106	1.94e4	107.4	NO
6	6	13C4-PFOS	ST190712M2-14 PFC CS3 19G1106	3.24e3	111.5	NO
7	7	13C6-PFDA	ST190712M2-14 PFC CS3 19G1106	2.35e4	105.0	NO
8	8	13C7-PFUdA	ST190712M2-14 PFC CS3 19G1106	2.41e4	104.4	NO

Name: 190712M2_81, Date: 13-Jul-2019, Time: 07:39:05, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190712M2_82, Date: 13-Jul-2019, Time: 07:49:38, ID: 1901814-01 SWIN1906261140KER 0.24991, Description: SWIN1906261140KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901814-01 SWIN1906261140KER 0.2...	9.55e3	164.6	YES
2	2	13C5-PFHxA	1901814-01 SWIN1906261140KER 0.2...	1.82e4	89.6	NO
3	3	18O2-PFHxS	1901814-01 SWIN1906261140KER 0.2...	9.86e2	85.1	NO
4	4	13C8-PFOA	1901814-01 SWIN1906261140KER 0.2...	2.13e4	91.4	NO
5	5	13C9-PFNA	1901814-01 SWIN1906261140KER 0.2...	1.69e4	93.4	NO
6	6	13C4-PFOS	1901814-01 SWIN1906261140KER 0.2...	3.02e3	104.0	NO
7	7	13C6-PFDA	1901814-01 SWIN1906261140KER 0.2...	1.99e4	88.9	NO
8	8	13C7-PFUdA	1901814-01 SWIN1906261140KER 0.2...	2.06e4	88.9	NO

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Name: 190712M2_83, Date: 13-Jul-2019, Time: 08:00:16, ID: 1901815-01 SWIN1906261220KER 0.243, Description: SWIN1906261220KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901815-01 SWIN1906261220KER 0.2...	9.21e3	158.8	YES
2	2	13C5-PFHxA	1901815-01 SWIN1906261220KER 0.2...	1.82e4	89.8	NO
3	3	18O2-PFHxS	1901815-01 SWIN1906261220KER 0.2...	1.05e3	91.1	NO
4	4	13C8-PFOA	1901815-01 SWIN1906261220KER 0.2...	2.06e4	88.5	NO
5	5	13C9-PFNA	1901815-01 SWIN1906261220KER 0.2...	1.66e4	91.9	NO
6	6	13C4-PFOS	1901815-01 SWIN1906261220KER 0.2...	2.91e3	100.2	NO
7	7	13C6-PFDA	1901815-01 SWIN1906261220KER 0.2...	1.94e4	87.0	NO
8	8	13C7-PFUdA	1901815-01 SWIN1906261220KER 0.2...	2.02e4	87.3	NO

Name: 190712M2_84, Date: 13-Jul-2019, Time: 08:10:48, ID: 1901816-01 SWIN1906261300KER 0.24809, Description: SWIN1906261300KER

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901816-01 SWIN1906261300KER 0.2...	8.21e3	141.5	NO
2	2	13C5-PFHxA	1901816-01 SWIN1906261300KER 0.2...	1.58e4	77.7	NO
3	3	18O2-PFHxS	1901816-01 SWIN1906261300KER 0.2...	9.61e2	82.9	NO
4	4	13C8-PFOA	1901816-01 SWIN1906261300KER 0.2...	1.84e4	79.1	NO
5	5	13C9-PFNA	1901816-01 SWIN1906261300KER 0.2...	1.41e4	78.1	NO
6	6	13C4-PFOS	1901816-01 SWIN1906261300KER 0.2...	2.59e3	89.0	NO
7	7	13C6-PFDA	1901816-01 SWIN1906261300KER 0.2...	1.70e4	76.2	NO
8	8	13C7-PFUdA	1901816-01 SWIN1906261300KER 0.2...	1.78e4	77.1	NO

Name: 190712M2_85, Date: 13-Jul-2019, Time: 08:21:27, ID: 1901839-01 SWIN1906250800GSC 0.23982, Description: SWIN1906250800GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901839-01 SWIN1906250800GSC 0.2...	8.13e3	140.2	NO
2	2	13C5-PFHxA	1901839-01 SWIN1906250800GSC 0.2...	1.67e4	82.1	NO
3	3	18O2-PFHxS	1901839-01 SWIN1906250800GSC 0.2...	9.64e2	83.2	NO
4	4	13C8-PFOA	1901839-01 SWIN1906250800GSC 0.2...	1.91e4	82.3	NO
5	5	13C9-PFNA	1901839-01 SWIN1906250800GSC 0.2...	1.49e4	82.4	NO
6	6	13C4-PFOS	1901839-01 SWIN1906250800GSC 0.2...	2.65e3	91.3	NO
7	7	13C6-PFDA	1901839-01 SWIN1906250800GSC 0.2...	1.77e4	79.4	NO
8	8	13C7-PFUdA	1901839-01 SWIN1906250800GSC 0.2...	1.90e4	82.0	NO

Name: 190712M2_86, Date: 13-Jul-2019, Time: 08:32:00, ID: 1901839-02 SWIN1906250800GSC-FD 0.23997, Description: SWIN1906250800GSC-FD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901839-02 SWIN1906250800GSC-FD...	8.11e3	139.8	NO
2	2	13C5-PFHxA	1901839-02 SWIN1906250800GSC-FD...	1.62e4	80.1	NO
3	3	18O2-PFHxS	1901839-02 SWIN1906250800GSC-FD...	9.79e2	84.6	NO
4	4	13C8-PFOA	1901839-02 SWIN1906250800GSC-FD...	1.91e4	82.3	NO
5	5	13C9-PFNA	1901839-02 SWIN1906250800GSC-FD...	1.51e4	83.8	NO
6	6	13C4-PFOS	1901839-02 SWIN1906250800GSC-FD...	2.44e3	83.9	NO
7	7	13C6-PFDA	1901839-02 SWIN1906250800GSC-FD...	1.83e4	81.7	NO
8	8	13C7-PFUdA	1901839-02 SWIN1906250800GSC-FD...	1.88e4	81.1	NO

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Name: 190712M2_87, Date: 13-Jul-2019, Time: 08:42:38, ID: 1901840-01 SWIN1906251015GSC 0.24588, Description: SWIN1906251015GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901840-01 SWIN1906251015GSC 0.2...	7.95e3	137.1	NO
2	2	13C5-PFHxA	1901840-01 SWIN1906251015GSC 0.2...	1.58e4	77.8	NO
3	3	18O2-PFHxS	1901840-01 SWIN1906251015GSC 0.2...	9.04e2	78.0	NO
4	4	13C8-PFOA	1901840-01 SWIN1906251015GSC 0.2...	1.80e4	77.4	NO
5	5	13C9-PFNA	1901840-01 SWIN1906251015GSC 0.2...	1.44e4	79.7	NO
6	6	13C4-PFOS	1901840-01 SWIN1906251015GSC 0.2...	2.46e3	84.5	NO
7	7	13C6-PFDA	1901840-01 SWIN1906251015GSC 0.2...	1.69e4	75.8	NO
8	8	13C7-PFUdA	1901840-01 SWIN1906251015GSC 0.2...	1.83e4	79.1	NO

Name: 190712M2_88, Date: 13-Jul-2019, Time: 08:53:11, ID: 1901841-01 SWIN1906251200GSC 0.24185, Description: SWIN1906251200GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901841-01 SWIN1906251200GSC 0.2...	7.86e3	135.5	NO
2	2	13C5-PFHxA	1901841-01 SWIN1906251200GSC 0.2...	1.53e4	75.4	NO
3	3	18O2-PFHxS	1901841-01 SWIN1906251200GSC 0.2...	8.64e2	74.6	NO
4	4	13C8-PFOA	1901841-01 SWIN1906251200GSC 0.2...	1.77e4	75.9	NO
5	5	13C9-PFNA	1901841-01 SWIN1906251200GSC 0.2...	1.42e4	78.4	NO
6	6	13C4-PFOS	1901841-01 SWIN1906251200GSC 0.2...	2.49e3	85.8	NO
7	7	13C6-PFDA	1901841-01 SWIN1906251200GSC 0.2...	1.63e4	73.1	NO
8	8	13C7-PFUdA	1901841-01 SWIN1906251200GSC 0.2...	1.76e4	75.9	NO

Name: 190712M2_89, Date: 13-Jul-2019, Time: 09:03:49, ID: 1901842-01 SWIN1906251220GSC 0.23393, Description: SWIN1906251220GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901842-01 SWIN1906251220GSC 0.2...	8.05e3	138.8	NO
2	2	13C5-PFHxA	1901842-01 SWIN1906251220GSC 0.2...	1.63e4	80.6	NO
3	3	18O2-PFHxS	1901842-01 SWIN1906251220GSC 0.2...	9.63e2	83.2	NO
4	4	13C8-PFOA	1901842-01 SWIN1906251220GSC 0.2...	1.82e4	78.5	NO
5	5	13C9-PFNA	1901842-01 SWIN1906251220GSC 0.2...	1.48e4	81.7	NO
6	6	13C4-PFOS	1901842-01 SWIN1906251220GSC 0.2...	2.71e3	93.2	NO
7	7	13C6-PFDA	1901842-01 SWIN1906251220GSC 0.2...	1.73e4	77.6	NO
8	8	13C7-PFUdA	1901842-01 SWIN1906251220GSC 0.2...	1.87e4	80.7	NO

Name: 190712M2_90, Date: 13-Jul-2019, Time: 09:14:22, ID: 1901843-01 SWIN1906251330GSC 0.24762, Description: SWIN1906251330GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901843-01 SWIN1906251330GSC 0.2...	8.06e3	139.0	NO
2	2	13C5-PFHxA	1901843-01 SWIN1906251330GSC 0.2...	1.61e4	79.4	NO
3	3	18O2-PFHxS	1901843-01 SWIN1906251330GSC 0.2...	9.66e2	83.4	NO
4	4	13C8-PFOA	1901843-01 SWIN1906251330GSC 0.2...	1.81e4	77.8	NO
5	5	13C9-PFNA	1901843-01 SWIN1906251330GSC 0.2...	1.45e4	80.3	NO
6	6	13C4-PFOS	1901843-01 SWIN1906251330GSC 0.2...	2.39e3	82.3	NO
7	7	13C6-PFDA	1901843-01 SWIN1906251330GSC 0.2...	1.71e4	76.5	NO
8	8	13C7-PFUdA	1901843-01 SWIN1906251330GSC 0.2...	1.81e4	78.4	NO

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Name: 190712M2_91, Date: 13-Jul-2019, Time: 09:25:00, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA			NO
3	3	18O2-PFHxS	IPA			NO
4	4	13C8-PFOA	IPA			NO
5	5	13C9-PFNA	IPA			NO
6	6	13C4-PFOS	IPA			NO
7	7	13C6-PFDA	IPA			NO
8	8	13C7-PFUdA	IPA			NO

Name: 190712M2_92, Date: 13-Jul-2019, Time: 09:35:34, ID: ST190712M2-15 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190712M2-15 PFC CS3 19G1106	6.06e3	104.5	NO
2	2	13C5-PFHxA	ST190712M2-15 PFC CS3 19G1106	2.22e4	109.7	NO
3	3	18O2-PFHxS	ST190712M2-15 PFC CS3 19G1106	1.36e3	117.3	NO
4	4	13C8-PFOA	ST190712M2-15 PFC CS3 19G1106	2.54e4	109.2	NO
5	5	13C9-PFNA	ST190712M2-15 PFC CS3 19G1106	1.97e4	109.1	NO
6	6	13C4-PFOS	ST190712M2-15 PFC CS3 19G1106	3.45e3	118.8	NO
7	7	13C6-PFDA	ST190712M2-15 PFC CS3 19G1106	2.37e4	106.2	NO
8	8	13C7-PFUdA	ST190712M2-15 PFC CS3 19G1106	2.47e4	106.7	NO

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Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8		2082.429	1.00					NO		
2	2	PFPrS	248.9 > 79.9		556.826	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		3829.493	1.00					NO		
4	4	PFPeA	263.1 > 218.9		3829.493	1.00					NO		
5	5	PFBS	299.0 > 79.7		556.826	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		1262.880	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	2082.429	3139.752	1.00	1.18	8.291	12.8	102.0	NO		
8	49	13C3-PFBS	302.0 > 98.8	556.826	602.155	1.00	2.46	11.559	11.2	89.3	NO		
9	48	13C3-PFPeA	266.0 > 221.8	3829.493	10917.353	1.00	2.17	4.385	10.8	86.1	NO		
10	48	13C3-PFPeA	266.0 > 221.8	3829.493	10917.353	1.00	2.17	4.385	10.8	86.1	NO		
11	49	13C3-PFBS	302.0 > 98.8	556.826	602.155	1.00	2.46	11.559	11.2	89.3	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1262.880	602.155	1.00	2.88	26.216	11.7	93.7	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0		3402.869	1.00					NO		
15	8	PFPeS	349.1>80.1		556.826	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1241.046	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		4188.277	1.00					NO		
18	11	PFHpA	363.0 > 318.9		4188.277	1.00					NO		
19	12	ADONA	376.8 > 250.9		4188.277	1.00					NO		
20	52	13C2-PFHxA	315.0 > 270.0	3402.869	10917.353	1.00	2.97	3.896	4.9	98.3	NO		
21	49	13C3-PFBS	302.0 > 98.8	556.826	602.155	1.00	2.46	11.559	11.2	89.3	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1241.046	10917.353	1.00	3.18	1.421	4.6	92.7	NO		
23	53	13C4-PFHpA	367.2 > 321.8	4188.277	10917.353	1.00	3.59	4.795	12.3	98.1	NO		
24	53	13C4-PFHpA	367.2 > 321.8	4188.277	10917.353	1.00	3.59	4.795	12.3	98.1	NO		
25	53	13C4-PFHpA	367.2 > 321.8	4188.277	10917.353	1.00	3.59	4.795	12.3	98.1	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	6.435	1440.783	1.00	3.74	0.056	0.2		NO	22.266	YES
28	15	6:2 FTS	427.0 > 406.9		1128.066	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	20.398	7985.296	1.00	4.11	0.032			NO	1.436	YES
30	18	PFecHS	460.8 > 381.0		7985.296	1.00					NO		
31	19	PFHpS	449.0 > 80.0		1384.866	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		8834.818	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	1440.783	602.155	1.00	3.74	29.909	11.7	93.9	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1128.066	1389.837	1.00	4.06	10.146	13.8	110.3	NO		
35	58	13C2-PFOA	414.9 > 369.7	7985.296	15024.184	1.00	4.11	6.644	11.8	94.2	NO		
36	58	13C2-PFOA	414.9 > 369.7	7985.296	15024.184	1.00	4.11	6.644	11.8	94.2	NO		

CGH 7/12/2019

Dataset: F:\Projects\PFAS.PRO\Results\190712M1\190712M1-IB.qld

Last Altered: Friday, July 12, 2019 12:30:13 Pacific Daylight Time
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Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	1384.866	1389.837	1.00	4.64	12.455	11.8	94.0	NO		
38	56	13C5-PFNA	468.2 > 422.9	8834.818	9260.604	1.00	4.56	11.925	12.1	97.1	NO		
39	-1												
40	21	PFNA	463.0 > 418.8		8834.818	1.00					NO		
41	22	PFOSA	497.9 > 77.9		1611.925	1.00					NO		
42	23	L-PFOS	498.9 > 79.9		1384.866	1.00					NO		
43	25	9Cl-PF30NS	530.7 > 350.8		1384.866	1.00					NO		
44	26	PFDA	513 > 468.8		7709.601	1.00					NO		
45	27	8:2 FTS	527.0 > 506.9		1001.451	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	8834.818	9260.604	1.00	4.56	11.925	12.1	97.1	NO		
47	57	13C8-PFOSA	506.1 > 77.7	1611.925	12742.808	1.00	4.62	1.581	12.1	97.1	NO		
48	59	13C8-PFOS	507.0 > 79.9	1384.866	1389.837	1.00	4.64	12.455	11.8	94.0	NO		
49	59	13C8-PFOS	507.0 > 79.9	1384.866	1389.837	1.00	4.64	12.455	11.8	94.0	NO		
50	60	13C2-PFDA	515.1 > 469.9	7709.601	11153.614	1.00	4.94	8.640	13.0	104.4	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1001.451	1389.837	1.00	4.90	9.007	13.0	103.6	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		1384.866	1.00					NO		
54	29	L-MeFOSAA	570 > 419		1545.079	1.00					NO		
55	31	L-EtFOSAA	584.1 > 419		1889.642	1.00					NO		
56	33	PFUdA	563.0 > 518.9		11672.776	1.00					NO		
57	34	PFDS	598.8 > 79.9		1001.451	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		13046.855	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	1384.866	1389.837	1.00	4.64	12.455	11.8	94.0	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1545.079	12742.808	1.00	5.08	1.516	11.7	94.0	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1889.642	12742.808	1.00	5.24	1.854	12.6	100.6	NO		
62	63	13C2-PFUdA	565 > 519.8	11672.776	12742.808	1.00	5.26	11.450	13.4	106.9	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1001.451	1389.837	1.00	4.90	9.007	13.0	103.6	NO		
64	65	13C2-PFDoA	614.7 > 569.7	13046.855	11153.614	1.00	5.55	14.622	11.9	95.2	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		1001.451	1.00					NO		
67	37	PFDoA	612.9 > 569.0		13046.855	1.00					NO		
68	38	N-MeFOSA	512.1 > 168.9		3568.511	1.00					NO		
69	39	PFTrDA	662.9 > 618.9		13046.855	1.00					NO		
70	40	PFDoS	698.8 > 79.9		6712.177	1.00					NO		
71	41	PFTeDA	713.0 > 669.0		6712.177	1.00					NO		
72	65	13C2-PFDoA	614.7 > 569.7	13046.855	11153.614	1.00	5.55	14.622	11.9	95.2	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190712M1\190712M1-IB.qld

Last Altered: Friday, July 12, 2019 12:30:13 Pacific Daylight Time
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Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	13046.855	11153.614	1.00	5.55	14.622	11.9	95.2	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	3568.511	12742.808	1.00	5.71	3.501	158.0	105.3	NO		
75	65	13C2-PFDoA	614.7 > 569.7	13046.855	11153.614	1.00	5.55	14.622	11.9	95.2	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	6712.177	12742.808	1.00	6.02	6.584	12.9	103.0	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	6712.177	12742.808	1.00	6.02	6.584	12.9	103.0	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		5073.952	1.00					NO		
80	43	PFHxDA	813.1 > 768.6		3796.567	1.00					NO		
81	44	PFODA	913.1 > 868.8		3796.567	1.00					NO		
82	45	N-MeFOSE	616.1 > 58.9		4793.504	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		4552.058	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	3139.752	3139.752	1.00	1.18	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	5073.952	12742.808	1.00	6.13	4.977	159.7	106.5	NO		
86	69	13C2-PFHxDA	815 > 769.7	3796.567	12742.808	1.00	6.38	3.724	5.1	101.4	NO		
87	69	13C2-PFHxDA	815 > 769.7	3796.567	12742.808	1.00	6.38	3.724	5.1	101.4	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	4793.504	12742.808	1.00	6.29	4.702	168.2	112.1	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	4552.058	12742.808	1.00	6.44	4.465	162.3	108.2	NO		
90	73	13C5-PFHxA	318.0 > 272.9	10917.353	10917.353	1.00	2.97	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	15024.184	15024.184	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	602.155	602.155	1.00	3.74	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	9260.604	9260.604	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1389.837	1389.837	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	11153.614	11153.614	1.00	4.94	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	12742.808	12742.808	1.00	5.26	12.500	12.5	100.0	NO		

Vista Analytical Laboratory

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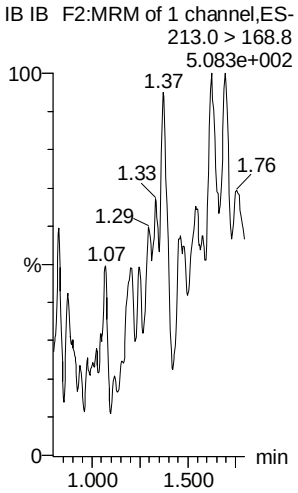
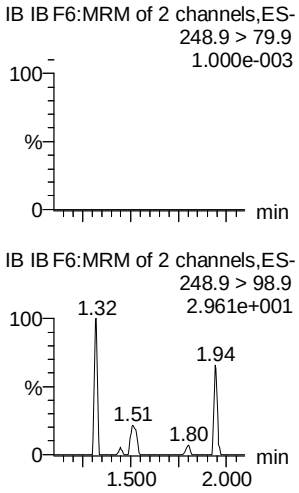
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 12 Jul 2019 12:07:39
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

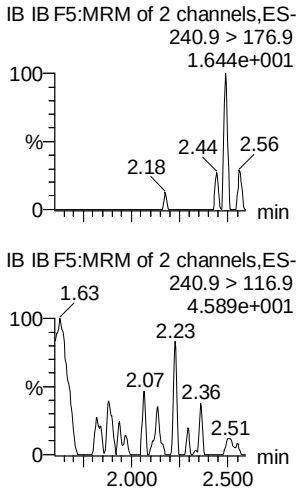
PFBA



PFPrS



3:3 FTCA



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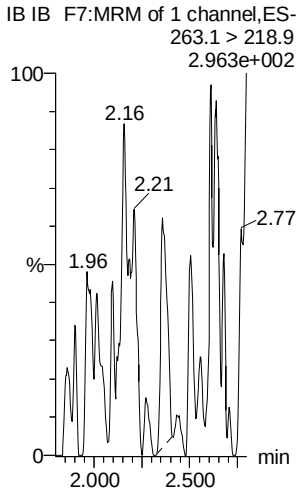
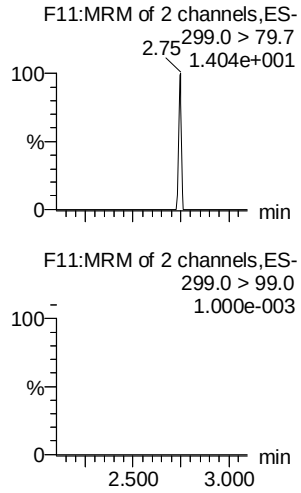
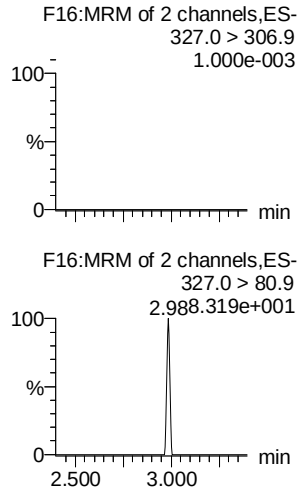


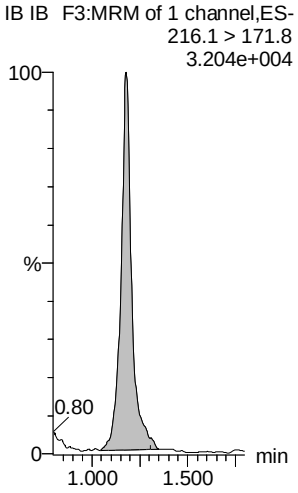
PFBS



4:2 FTS



13C3-PFBA



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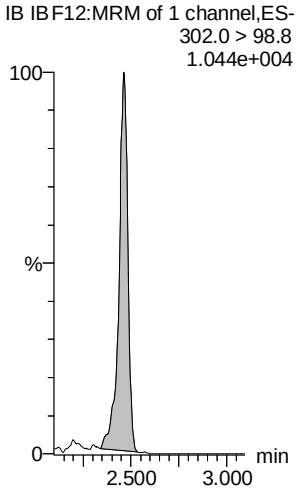
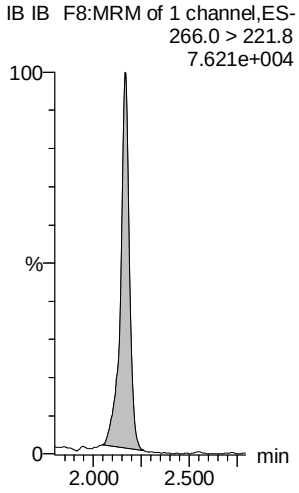


13C3-PFPeA



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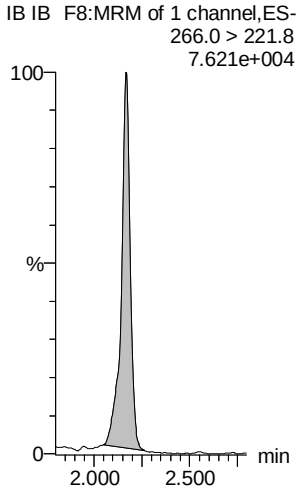
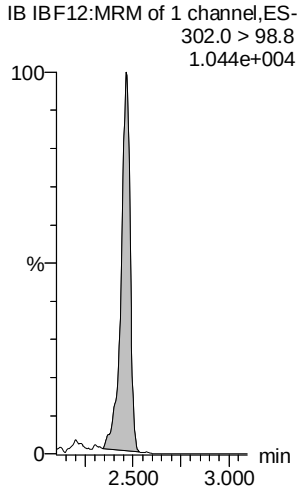
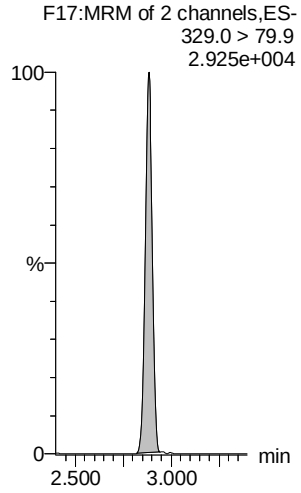


13C3-PFBS



13C2-4:2 FTS



Dataset: F:\Projects\PFAS.PRO\Results\190712M1\190712M1-IB.qld

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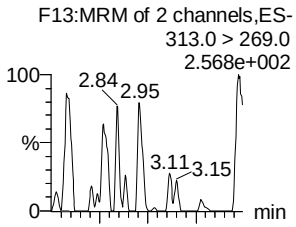
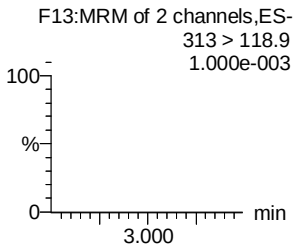
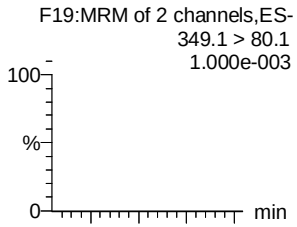
Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

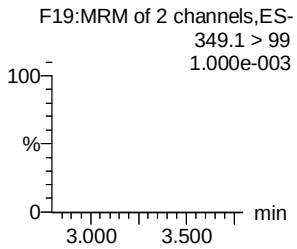
PFHxA



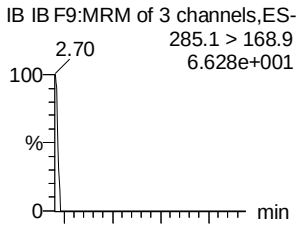


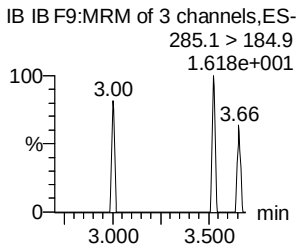
PFPeS



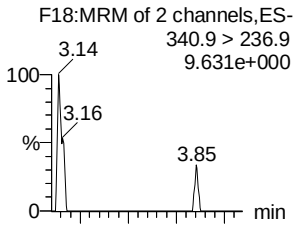


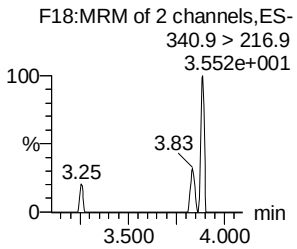
HFPO-DA



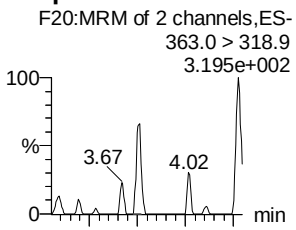


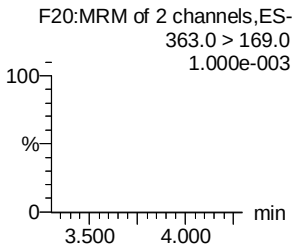
5:3 FTCA



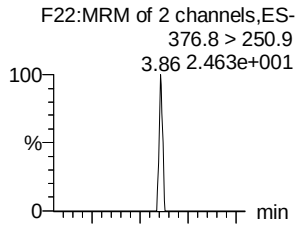


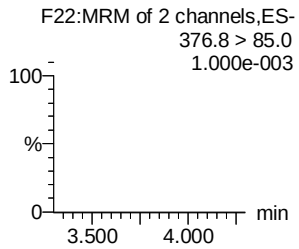
PFHpA





ADONA





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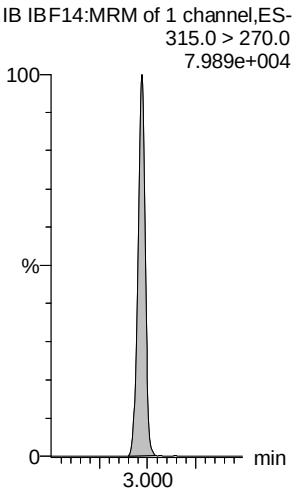
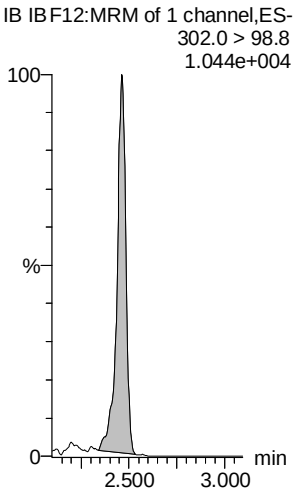
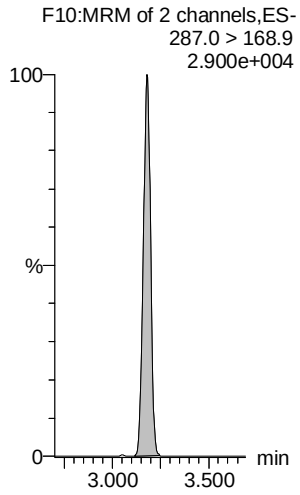


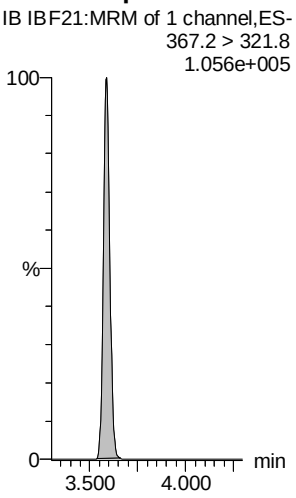
13C3-PFBS



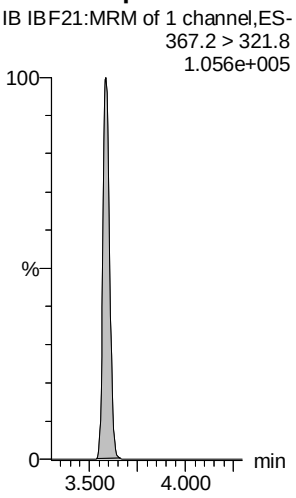
13C3-HFPO-DA



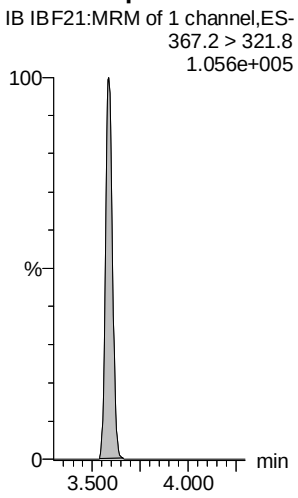
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA



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Last Altered: Friday, July 12, 2019 12:30:13 Pacific Daylight Time
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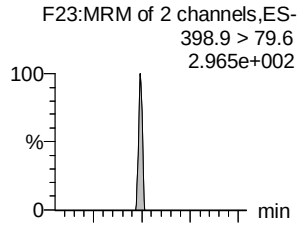
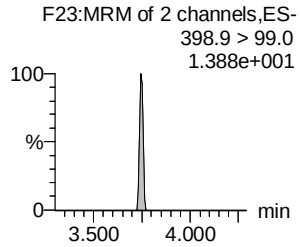
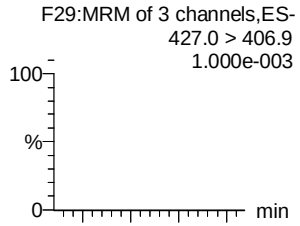
Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

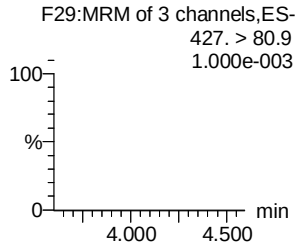
L-PFHxS



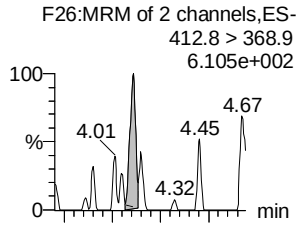


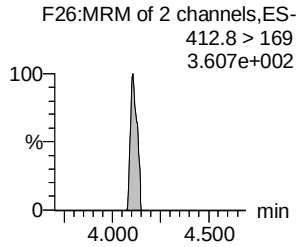
6:2 FTS





L-PFOA





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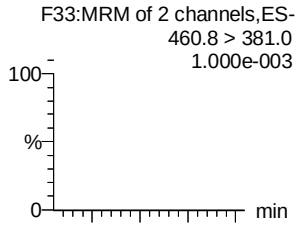

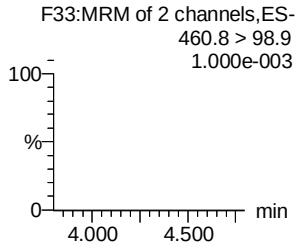

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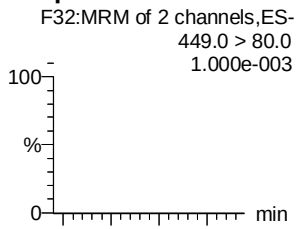
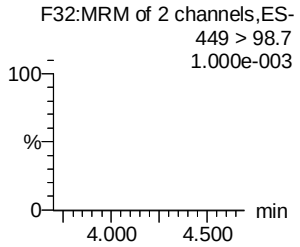
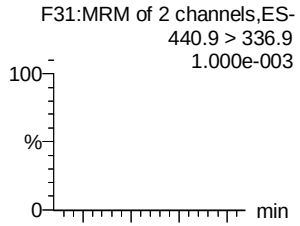
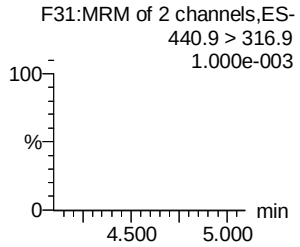


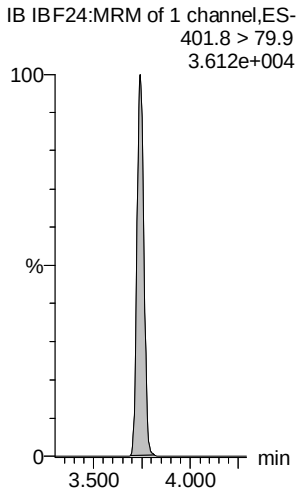


7:3 FTCA

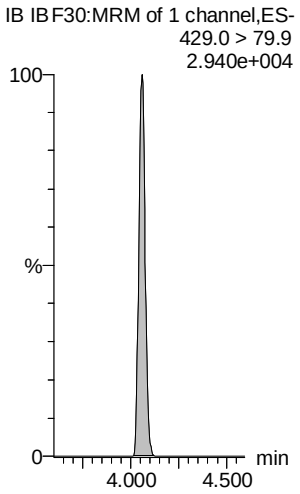




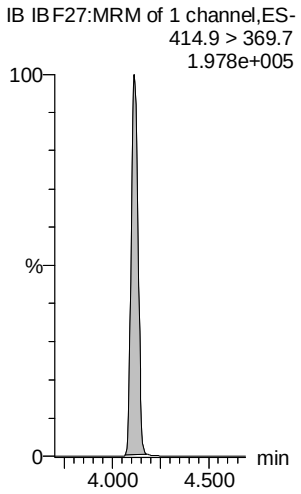
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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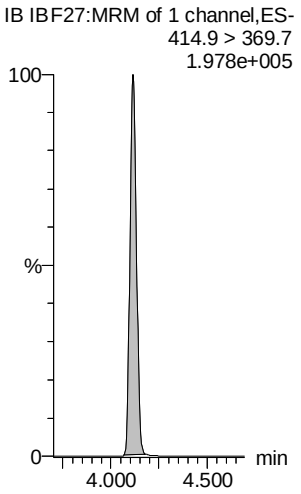
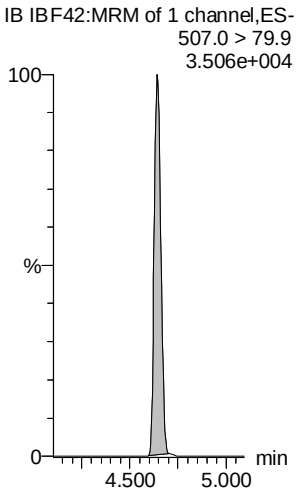
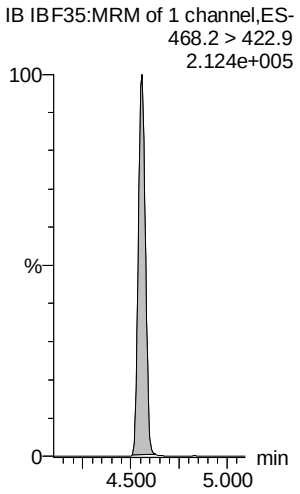


13C8-PFOS



13C5-PFNA



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Last Altered: Friday, July 12, 2019 12:30:13 Pacific Daylight Time
Printed: Friday, July 12, 2019 12:30:43 Pacific Daylight Time

Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

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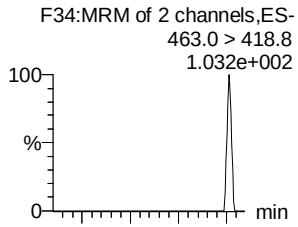

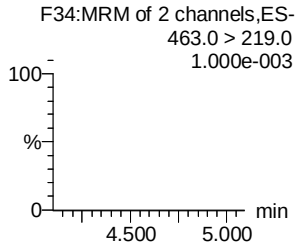

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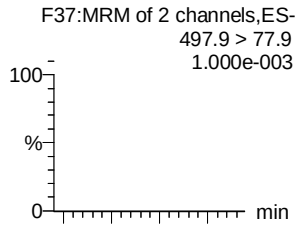
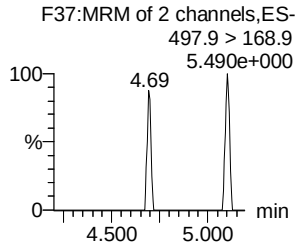
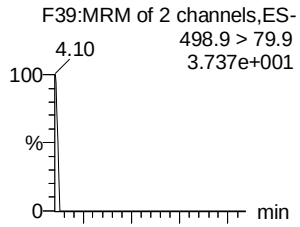
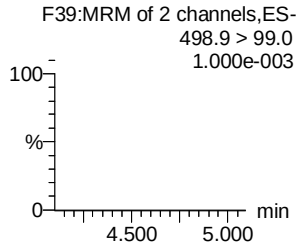




L-PFOS





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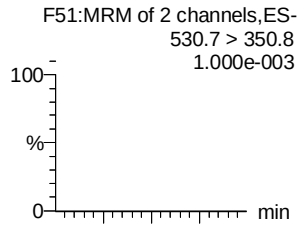

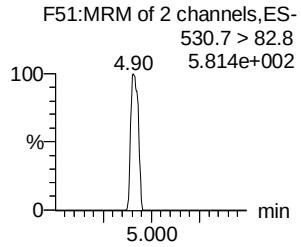

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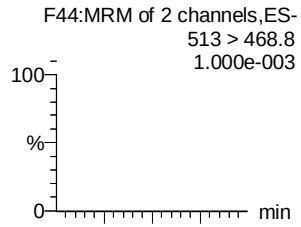

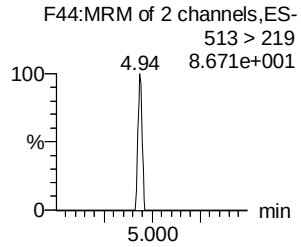

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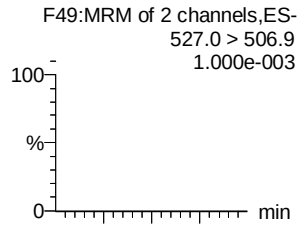

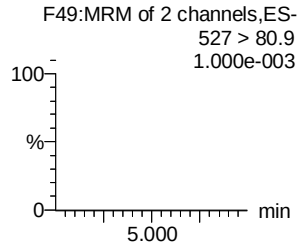

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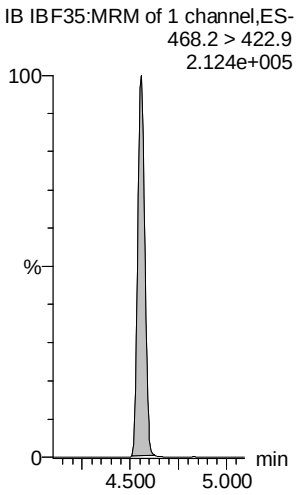
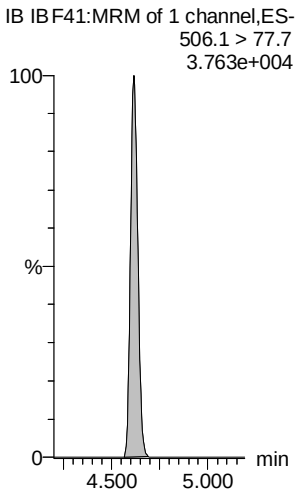


13C8-PFOSA



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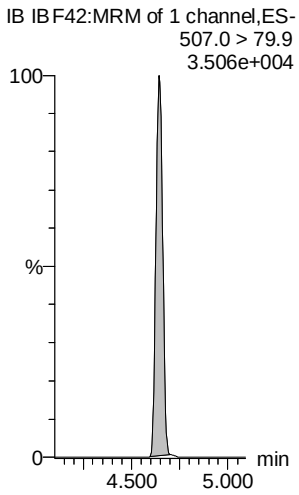

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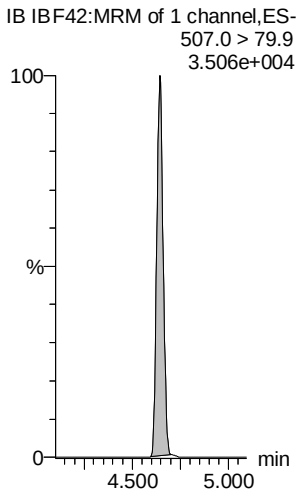

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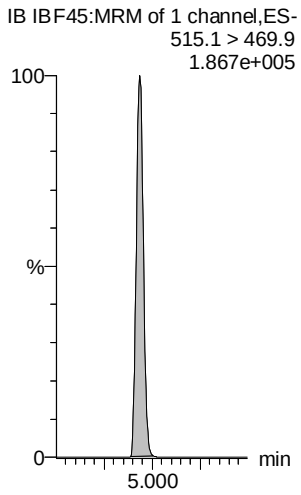
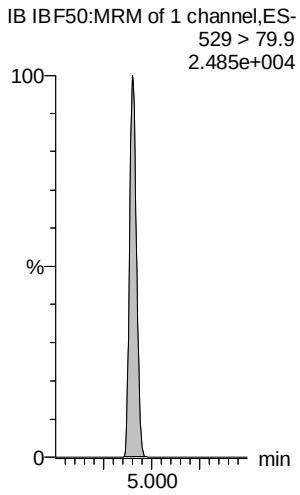


13C2-8:2 FTS



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Last Altered: Friday, July 12, 2019 12:30:13 Pacific Daylight Time
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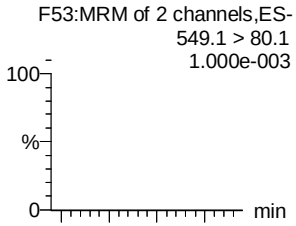
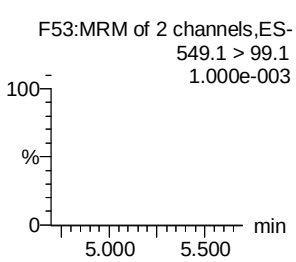
Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

PFNS





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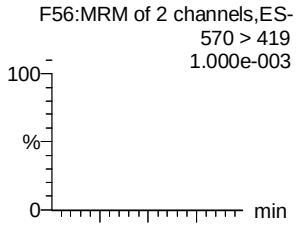
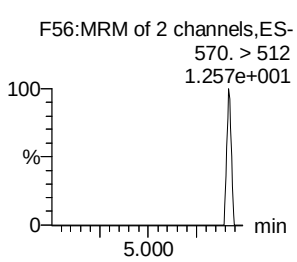
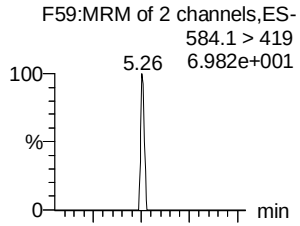
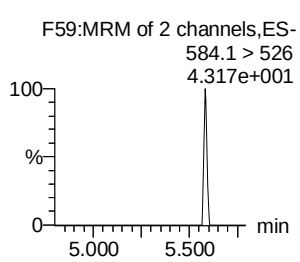


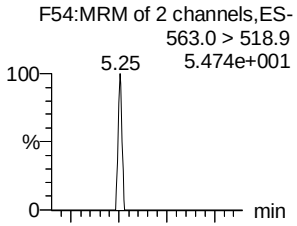


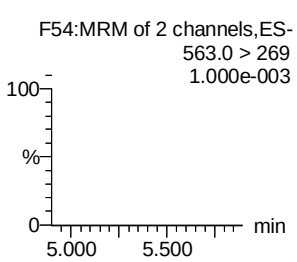
L-EtFOSAA





PFUdA





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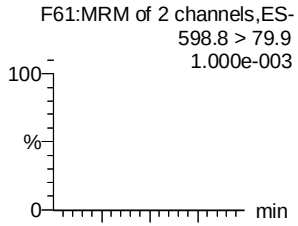
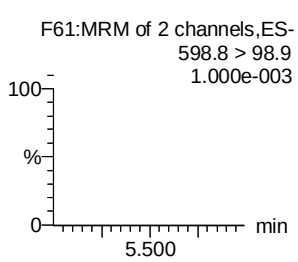
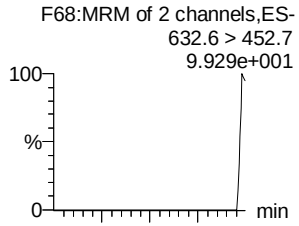
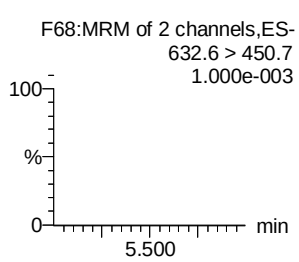


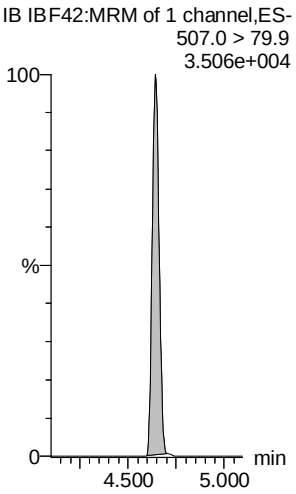


11Cl-PF30UdS

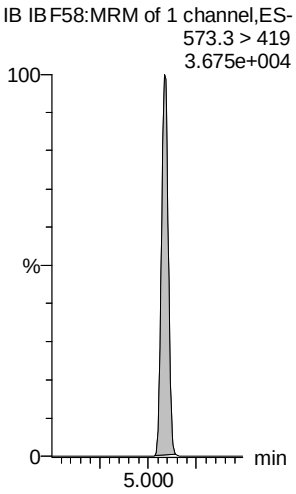




13C8-PFOS



d3-N-MeFOSAA



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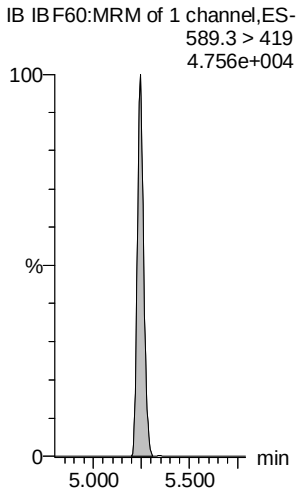

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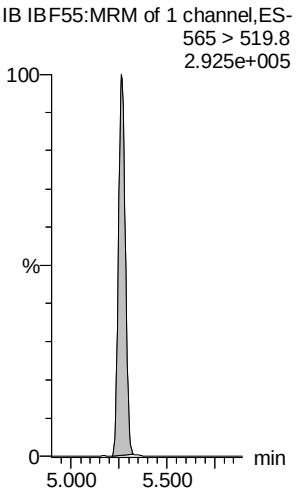

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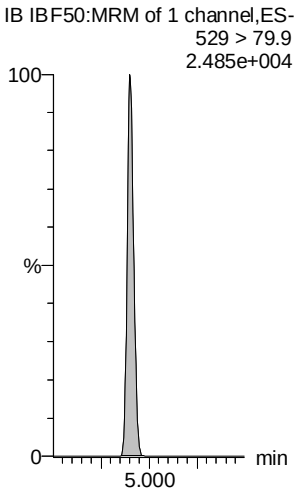

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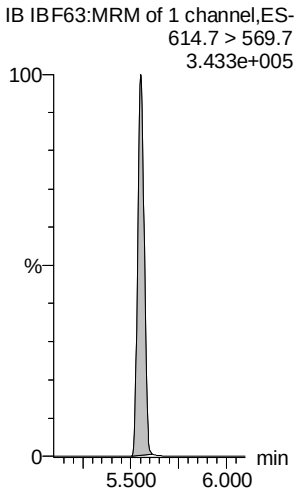

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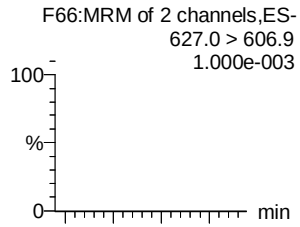
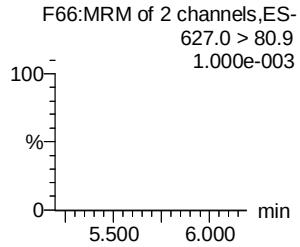
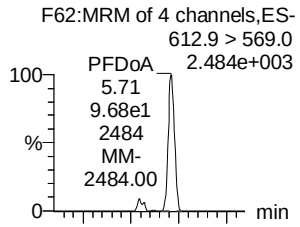
Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

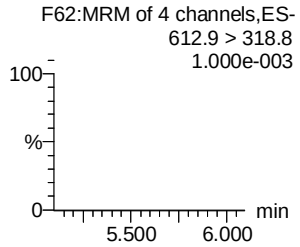
10:2 FTS



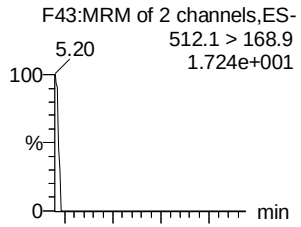


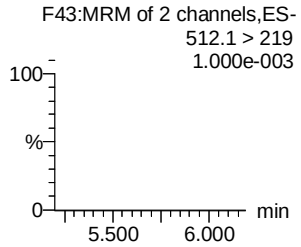
PFDoA



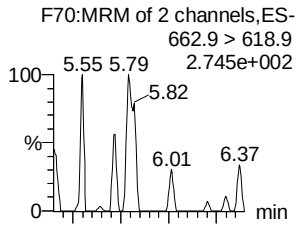


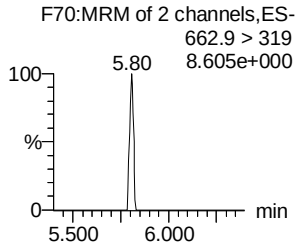
N-MeFOSA



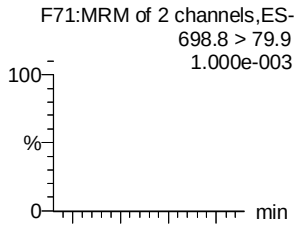


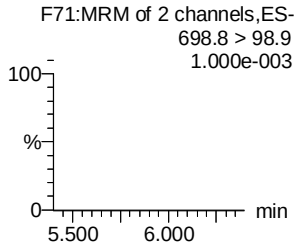
PFTrDA



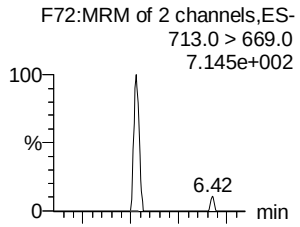


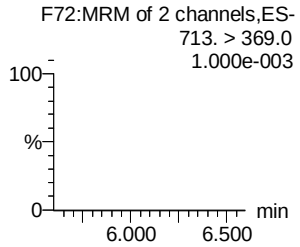
PFDoS



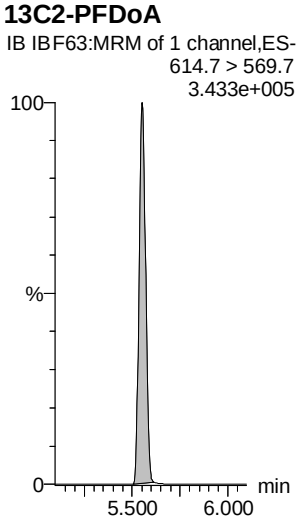


PFTeDA

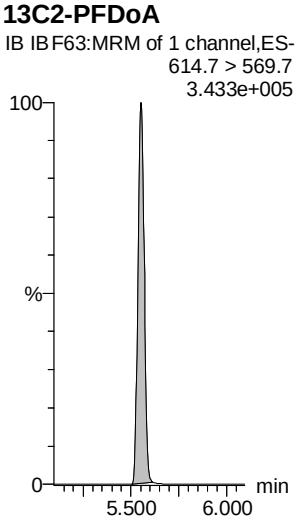




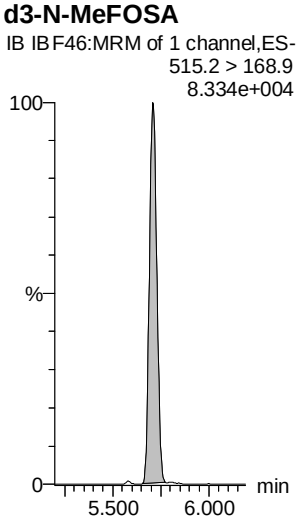
13C2-PFDoA



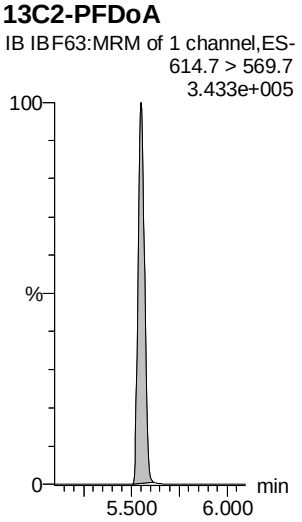
13C2-PFDoA



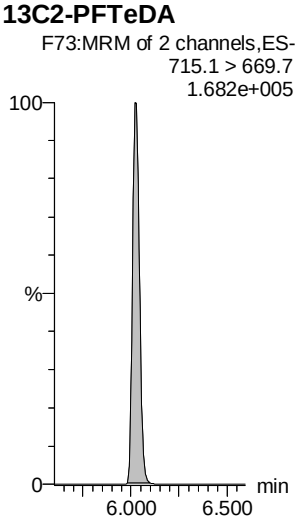
d3-N-MeFOSA



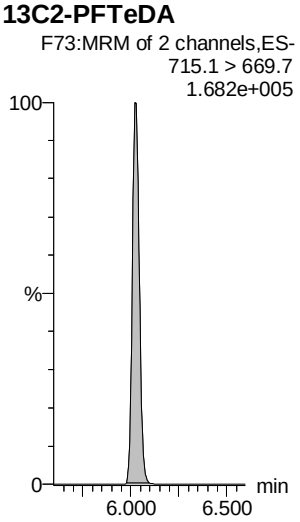
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

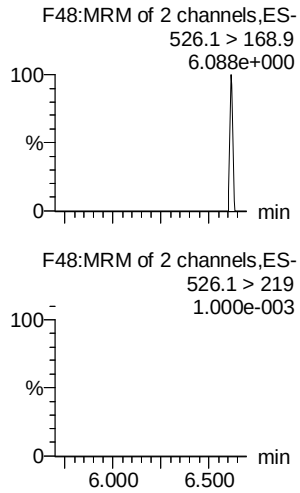


Dataset: F:\Projects\PFAS.PRO\Results\190712M1\190712M1-IB.qld

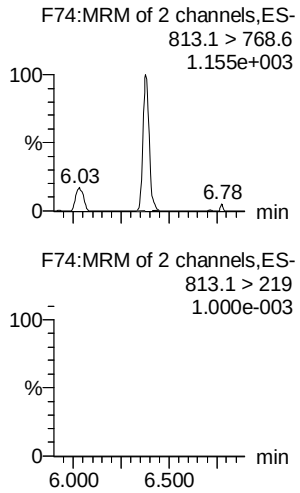
Last Altered: Friday, July 12, 2019 12:30:13 Pacific Daylight Time
Printed: Friday, July 12, 2019 12:30:43 Pacific Daylight Time

Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

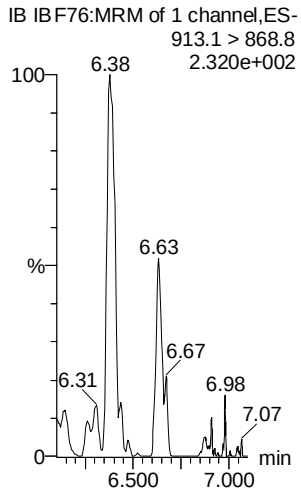
N-EtFOSA



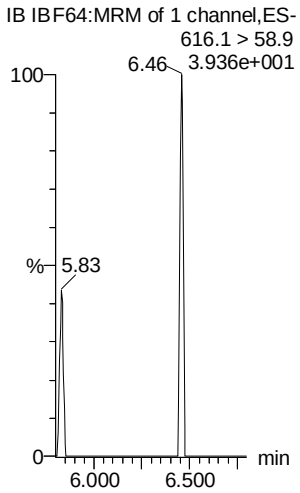
PFHxDA



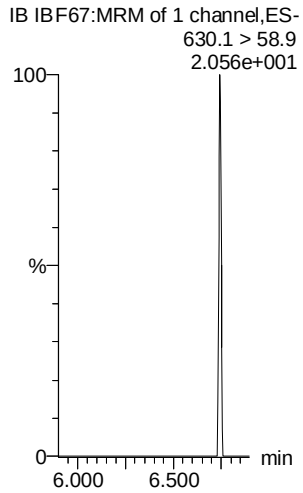
PFODA



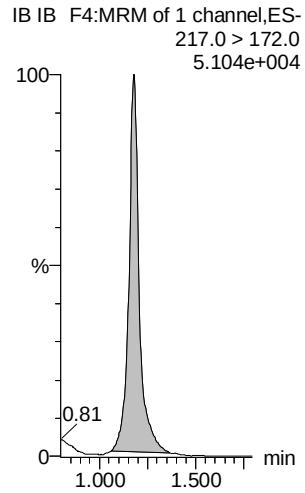
N-MeFOSE



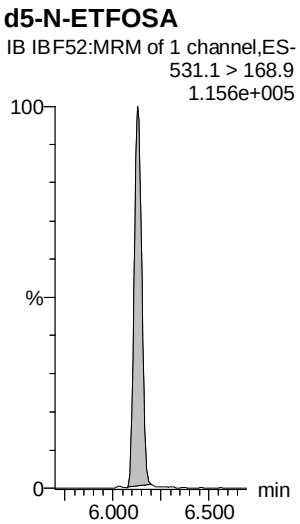
N-EtFOSE



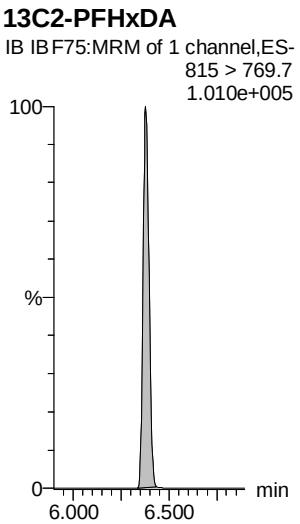
13C4-PFBA



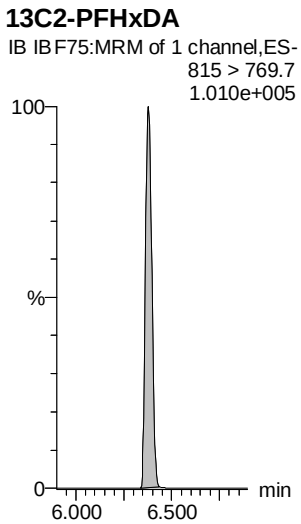
d5-N-ETFOSA



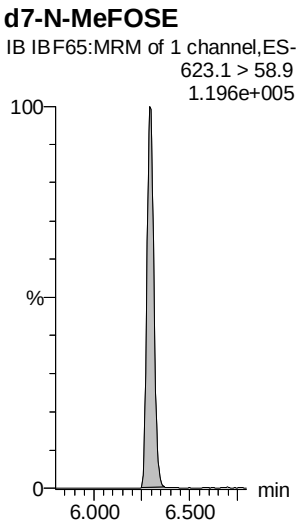
13C2-PFHxDA



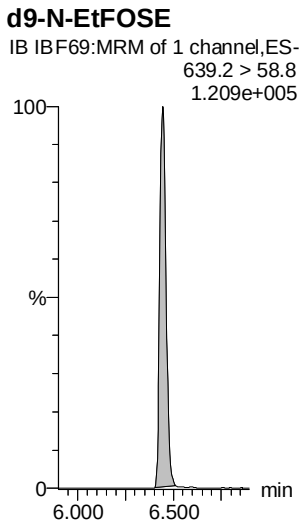
13C2-PFHxDA



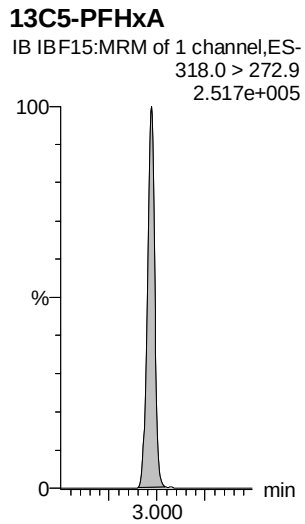
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

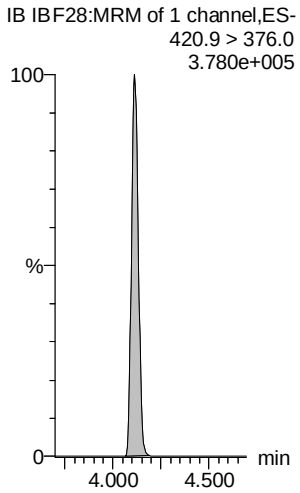


Dataset: F:\Projects\PFAS.PRO\Results\190712M1\190712M1-IB.qld

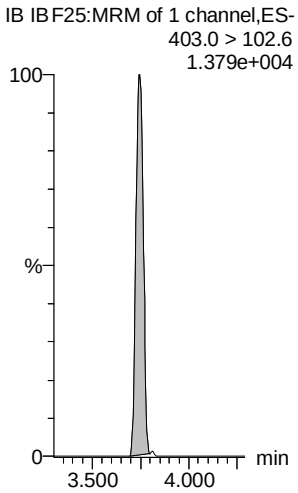
Last Altered: Friday, July 12, 2019 12:30:13 Pacific Daylight Time
Printed: Friday, July 12, 2019 12:30:43 Pacific Daylight Time

Name: 190712M1_3, Date: 12-Jul-2019, Time: 10:41:27, ID: IB, Description: IB

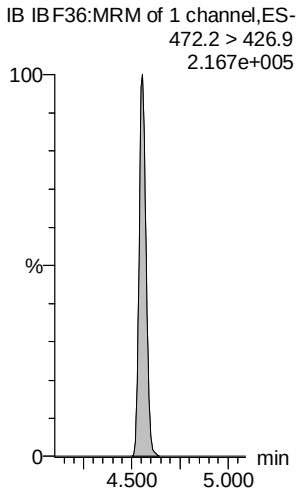
13C8-PFOA



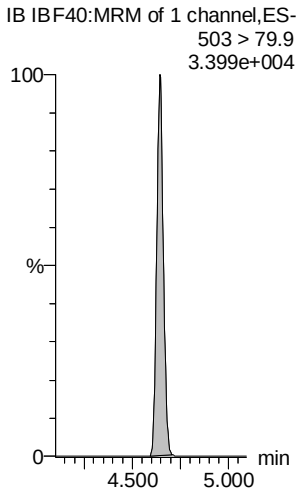
18O2-PFHxS



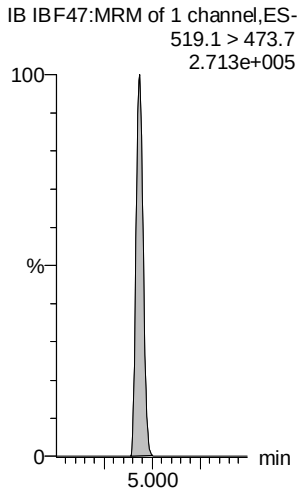
13C9-PFNA



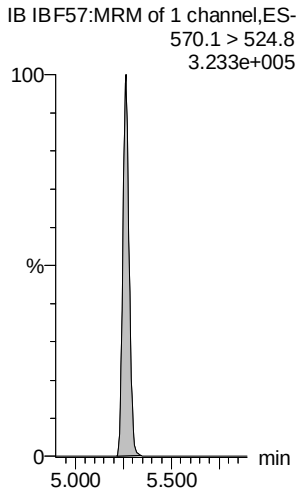
13C4-PFOS



13C6-PFDA



13C7-PFUdA



LC Calibration Standards Review Checklist 04

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NA
Calibration ID: ST190712M2-11	L M H	☑	☑	☑	☑	☑	☑	☐
Calibration ID: -12	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID: -13	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID: -14	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID: -15	L M H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

NA 7/14/19

Full Mass Cal. Date: 7/3/19

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

All Branches in Acquisition Window ☑

IIS Area Saved ☑

Reviewed By: [illegible] 7/14/19
Initials/Date

Comments:

NA [illegible] 7/14/19

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

JM2 7/14/19

Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	4465.543	4365.716	1.00	1.15	12.786	10.3	102.8	NO		
2	2	PFPrS	248.9 > 79.9	924.435	1261.097	1.00	1.51	9.163	9.9	99.0	NO	2.530	NO
3	3	3:3 FTCA	240.9 > 176.9	253.574	10084.398	1.00	1.98	0.314	9.8	97.7	NO	2.116	NO
4	4	PFPeA	263.1 > 218.9	7664.600	10084.398	1.00	2.13	9.501	10.1	101.4	NO		
5	5	PFBS	299.0 > 79.7	2466.210	1261.097	1.00	2.42	24.445	10.4	103.7	NO	2.890	NO
6	6	4:2 FTS	327.0 > 306.9	3900.428	2352.277	1.00	2.85	20.727	9.3	92.7	NO	1.589	NO
7	47	13C3-PFBA	216.1 > 171.8	4365.716	5928.742	1.00	1.15	9.205	12.6	100.6	NO		
8	49	13C3-PFBS	302.0 > 98.8	1261.097	1194.878	1.00	2.42	13.193	12.3	98.4	NO		
9	48	13C3-PFPeA	266.0 > 221.8	10084.398	21540.266	1.00	2.13	5.852	11.5	92.0	NO		
10	48	13C3-PFPeA	266.0 > 221.8	10084.398	21540.266	1.00	2.13	5.852	11.5	92.0	NO		
11	49	13C3-PFBS	302.0 > 98.8	1261.097	1194.878	1.00	2.42	13.193	12.3	98.4	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	2352.277	1194.878	1.00	2.84	24.608	13.9	110.9	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	15217.889	8099.055	1.00	2.93	9.395	10.7	107.3	NO	15.412	NO
15	8	PFPeS	349.1>80.1	2021.337	1261.097	1.00	3.13	20.036	11.8	117.8	NO	1.689	NO
16	9	HFPO-DA	285.1 > 168.9	1602.080	1216.664	1.00	3.14	6.584	12.6	126.5	NO	2.345	NO
17	10	5:3 FTCA	340.9 > 236.9	1331.298	10702.437	1.00	3.48	1.555	10.0	100.4	NO	1.544	NO
18	11	PFHpA	363.0 > 318.9	11027.521	10702.437	1.00	3.55	12.880	9.9	98.6	NO	12.570	NO
19	12	ADONA	376.8 > 250.9	25448.795	10702.437	1.00	3.67	29.723	9.4	93.7	NO	3.461	NO
20	52	13C2-PFHxA	315.0 > 270.0	8099.055	21540.266	1.00	2.93	4.700	4.7	93.2	NO		
21	49	13C3-PFBS	302.0 > 98.8	1261.097	1194.878	1.00	2.42	13.193	12.3	98.4	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1216.664	21540.266	1.00	3.14	0.706	4.1	81.8	NO		
23	53	13C4-PFHpA	367.2 > 321.8	10702.437	21540.266	1.00	3.55	6.211	12.1	97.0	NO		
24	53	13C4-PFHpA	367.2 > 321.8	10702.437	21540.266	1.00	3.55	6.211	12.1	97.0	NO		
25	53	13C4-PFHpA	367.2 > 321.8	10702.437	21540.266	1.00	3.55	6.211	12.1	97.0	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	1996.353	2716.090	1.00	3.71	9.188	9.7	97.4	NO	1.895	NO
28	15	6:2 FTS	427.0 > 406.9	4587.095	1884.843	1.00	4.02	30.421	10.0	99.8	NO	2.155	NO
29	16	L-PFOA	412.8 > 368.9	20726.605	18561.695	1.00	4.08	13.958	10.2	101.7	NO	3.391	NO
30	18	PFecHS	460.8 > 381.0	2895.123	18561.695	1.00	4.10	1.950	9.9	98.9	NO	0.763	NO
31	19	PFHpS	449.0 > 80.0	2540.250	3141.364	1.00	4.19	10.108	10.7	106.9	NO	2.080	NO
32	20	7:3 FTCA	440.9 > 336.9	1447.516	18805.922	1.00	4.51	0.962	9.2	91.6	NO	1.879	NO
33	54	13C3-PFHxS	401.8 > 79.9	2716.090	1194.878	1.00	3.71	28.414	12.9	103.4	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1884.843	2997.198	1.00	4.02	7.861	13.3	106.7	NO		

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
35	58	13C2-PFOA	414.9 > 369.7	18561.695	23806.930	1.00	4.08	9.746	12.3	98.8	NO		
36	58	13C2-PFOA	414.9 > 369.7	18561.695	23806.930	1.00	4.08	9.746	12.3	98.8	NO		
37	59	13C8-PFOS	507.0 > 79.9	3141.364	2997.198	1.00	4.61	13.101	12.9	103.1	NO		
38	56	13C5-PFNA	468.2 > 422.9	18805.922	18874.678	1.00	4.52	12.454	12.6	100.6	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	18402.420	18805.922	1.00	4.52	12.232	10.0	99.7	NO	4.613	NO
41	22	PFOSA	497.9 > 77.9	2925.539	3310.981	1.00	4.59	11.045	9.5	94.9	NO	27.031	NO
42	23	L-PFOS	498.9 > 79.9	2596.912	3141.364	1.00	4.61	10.334	9.4	94.1	NO	2.024	NO
43	25	9Cl-PF30NS	530.7 > 350.8	4657.964	3141.364	1.00	4.83	18.535	9.7	97.3	NO	14.852	NO
44	26	PFDA	513 > 468.8	20288.828	17635.783	1.00	4.90	14.380	10.5	105.1	NO	5.939	NO
45	27	8:2 FTS	527.0 > 506.9	2832.852	1859.778	1.00	4.88	19.040	10.4	103.7	NO	1.107	NO
46	56	13C5-PFNA	468.2 > 422.9	18805.922	18874.678	1.00	4.52	12.454	12.6	100.6	NO		
47	57	13C8-PFOSA	506.1 > 77.7	3310.981	24057.434	1.00	4.58	1.720	11.6	92.7	NO		
48	59	13C8-PFOS	507.0 > 79.9	3141.364	2997.198	1.00	4.61	13.101	12.9	103.1	NO		
49	59	13C8-PFOS	507.0 > 79.9	3141.364	2997.198	1.00	4.61	13.101	12.9	103.1	NO		
50	60	13C2-PFDA	515.1 > 469.9	17635.783	23269.193	1.00	4.90	9.474	11.7	93.8	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1859.778	2997.198	1.00	4.88	7.756	13.0	104.3	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	1876.785	3141.364	1.00	4.97	7.468	10.1	100.8	NO	1.852	NO
54	29	L-MeFOSAA	570 > 419	7387.040	3127.678	1.00	5.06	29.523	10.1	101.5	NO	2.505	NO
55	31	L-EtFOSAA	584.1 > 419	5222.178	3784.248	1.00	5.22	17.250	10.6	105.9	NO	1.464	NO
56	33	PFUdA	563.0 > 518.9	19337.852	24405.525	1.00	5.23	9.904	10.7	107.4	NO	12.055	NO
57	34	PFDS	598.8 > 79.9	2524.982	1859.778	1.00	5.28	16.971	9.6	96.3	NO	1.564	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1260.236	23076.705	1.00	5.45	0.683	10.0	99.8	NO	5.772	NO
59	59	13C8-PFOS	507.0 > 79.9	3141.364	2997.198	1.00	4.61	13.101	12.9	103.1	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	3127.678	24057.434	1.00	5.06	1.625	11.6	93.2	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	3784.248	24057.434	1.00	5.22	1.966	11.7	93.8	NO		
62	63	13C2-PFUdA	565 > 519.8	24405.525	24057.434	1.00	5.23	12.681	12.1	96.6	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1859.778	2997.198	1.00	4.88	7.756	13.0	104.3	NO		
64	65	13C2-PFDoA	614.7 > 569.7	23076.705	23269.193	1.00	5.52	12.397	11.9	95.3	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	3608.508	1859.778	1.00	5.51	24.254	9.9	99.0	NO	1.566	NO
67	37	PFDoA	612.9 > 569.0	20321.809	23076.705	1.00	5.52	11.008	10.5	105.3	NO	8.117	NO
68	38	N-MeFOSA	512.1 > 168.9	4231.219	9758.595	1.00	5.67	65.038	48.8	97.5	NO	1.459	NO

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
69	39	PFTrDA	662.9 > 618.9	22659.500	23076.705	1.00	5.78	12.274	10.2	102.4	NO	25.799	NO
70	40	PFDoS	698.8 > 79.9	2268.270	16247.282	1.00	5.80	1.745	9.9	99.4	NO	1.945	NO
71	41	PFTeDA	713.0 > 669.0	17877.287	16247.282	1.00	6.00	13.754	10.3	103.3	NO	12.889	NO
72	65	13C2-PFDoA	614.7 > 569.7	23076.705	23269.193	1.00	5.52	12.397	11.9	95.3	NO		
73	65	13C2-PFDoA	614.7 > 569.7	23076.705	23269.193	1.00	5.52	12.397	11.9	95.3	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	9758.595	24057.434	1.00	5.69	5.070	134.5	89.6	NO		
75	65	13C2-PFDoA	614.7 > 569.7	23076.705	23269.193	1.00	5.52	12.397	11.9	95.3	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	16247.282	24057.434	1.00	6.00	8.442	12.2	97.9	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	16247.282	24057.434	1.00	6.00	8.442	12.2	97.9	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	4534.106	14777.929	1.00	6.09	46.022	45.4	90.7	NO	1.527	NO
80	43	PFHxDA	813.1 > 768.6	12074.604	8280.127	1.00	6.36	7.291	9.7	97.3	NO	38.217	NO
81	44	PFODA	913.1 > 868.8	12414.029	8280.127	1.00	6.61	7.496	11.0	109.9	NO		
82	45	N-MeFOSE	616.1 > 58.9	3461.398	9005.272	1.00	6.29	57.656	52.2	104.3	NO		
83	46	N-EtFOSE	630.1 > 58.9	4270.490	8801.746	1.00	6.44	72.778	51.0	102.0	NO		
84	72	13C4-PFBA	217.0 > 172.0	5928.742	5928.742	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	14777.929	24057.434	1.00	6.12	7.678	144.0	96.0	NO		
86	69	13C2-PFHxDA	815 > 769.7	8280.127	24057.434	1.00	6.36	4.302	4.8	95.7	NO		
87	69	13C2-PFHxDA	815 > 769.7	8280.127	24057.434	1.00	6.36	4.302	4.8	95.7	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	9005.272	24057.434	1.00	6.28	4.679	134.4	89.6	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	8801.746	24057.434	1.00	6.43	4.573	139.0	92.7	NO		
90	73	13C5-PFHxA	318.0 > 272.9	21540.266	21540.266	1.00	2.93	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	23806.930	23806.930	1.00	4.08	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	1194.878	1194.878	1.00	3.71	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	18874.678	18874.678	1.00	4.52	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	2997.198	2997.198	1.00	4.61	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	23269.193	23269.193	1.00	4.90	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	24057.434	24057.434	1.00	5.23	12.500	12.5	100.0	NO		

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Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\LOG.qld

Last Altered: Sunday, July 14, 2019 14:36:28 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:38:56 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
1	1 190712M2_5	IPA	12-Jul-19	18:13:51
2	2 190712M2_6	ST190712M2-1 PFC CS-2 19G1101	12-Jul-19	18:24:24
3	3 190712M2_7	ST190712M2-2 PFC CS-1 19G1102	12-Jul-19	18:35:02
4	4 190712M2_8	ST190712M2-3 PFC CS0 19G1103	12-Jul-19	18:45:35
5	5 190712M2_9	ST190712M2-4 PFC CS1 19G1104	12-Jul-19	18:56:14
6	6 190712M2_10	ST190712M2-5 PFC CS2 19G1105	12-Jul-19	19:06:47
7	7 190712M2_11	ST190712M2-6 PFC CS3 19G1106	12-Jul-19	19:17:24
8	8 190712M2_12	ST190712M2-7 PFC CS4 19G1107	12-Jul-19	19:27:57
9	9 190712M2_13	ST190712M2-8 PFC CS5 19G1108	12-Jul-19	19:38:36
10	10 190712M2_14	ST190712M2-9 PFC CS6 19G1109	12-Jul-19	19:49:09
11	11 190712M2_15	ST190712M2-10 PFC CS7 19G1110	12-Jul-19	19:59:47
12	12 190712M2_16	IB	12-Jul-19	20:10:19
13	13 190712M2_17	ST190712M2-1 PFC ICV 19G1111	12-Jul-19	20:20:58
14	14 190712M2_18	IPA	12-Jul-19	20:31:30
15	15 190712M2_19	B9G0095-BS1 OPR 0.25	12-Jul-19	20:42:09
16	16 190712M2_20	1901920-11 NAOA-B02-GW 0.122	12-Jul-19	20:52:47
17	17 190712M2_21	1901920-17 NAOA-B01-GW-D 0.13768	12-Jul-19	21:03:19
18	18 190712M2_22	B9G0116-BS1 OPR 1	12-Jul-19	21:13:58
19	19 190712M2_23	B9G0116-MS1 Matrix Spike 1.01	12-Jul-19	21:24:30
20	20 190712M2_24	B9G0116-MSD1 Matrix Spike Dup 1.03	12-Jul-19	21:35:09
21	21 190712M2_25	B9G0116-BLK1 Method Blank 1	12-Jul-19	21:45:47
22	22 190712M2_26	1901857-02 SAOA-B09-SO-1-1.5 1.01	12-Jul-19	21:56:20
23	23 190712M2_27	1901857-03 SAOA-B09-SO-20-20.5 1.03	12-Jul-19	22:06:59
24	24 190712M2_28	1901857-07 SAOA-B11-SO-1-1.5 1	12-Jul-19	22:17:29
25	25 190712M2_29	1901857-08 SAOA-B11-SO-20-20.5 1.05	12-Jul-19	22:28:07
26	26 190712M2_30	1901857-10 SAOA-B08-SO-1-1.5 1.06	12-Jul-19	22:38:40
27	27 190712M2_31	1901920-01 SAOA-B08-SO-30-30.5 1.01	12-Jul-19	22:49:18
28	28 190712M2_32	1901920-07 NAOA-B08-SO-1-1.5 1.03	12-Jul-19	22:59:51
29	29 190712M2_33	1901920-08 NAOA-B08-SO-20-20.5 1.01	12-Jul-19	23:10:30
30	30 190712M2_34	IPA	12-Jul-19	23:21:08
31	31 190712M2_35	ST190712M2-11 PFC CS3 19G1106	12-Jul-19	23:31:41
32	32 190712M2_36	IPA	12-Jul-19	23:42:20

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\LOG.qld

Last Altered: Sunday, July 14, 2019 14:36:28 Pacific Daylight Time
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Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	190712M2_37	1901920-09 NAOA-B09-SO-1-1.5 1.06	12-Jul-19	23:52:52
34	34	190712M2_38	1901920-10 NAOA-B09-SO-20-20.5 1.06	13-Jul-19	00:03:31
35	35	190712M2_39	1901920-13 NAOA-B01-SO-1-1.5 1.05	13-Jul-19	00:14:01
36	36	190712M2_40	1901920-15 NAOA-B01-SO-20-20.5 1.04	13-Jul-19	00:24:40
37	37	190712M2_41	1901920-18 CAOA-B02-SO-0.5-1 1.03	13-Jul-19	00:35:12
38	38	190712M2_42	1901920-19 CAOA-B02-SO-20-20.5 1.02	13-Jul-19	00:45:50
39	39	190712M2_43	B9G0081-BS1 OPR 0.0992	13-Jul-19	00:56:23
40	40	190712M2_44	B9G0081-BLK1 Method Blank 0.0995	13-Jul-19	01:07:02
41	41	190712M2_45	1901989-01 #1 0.0995	13-Jul-19	01:17:34
42	42	190712M2_46	1901989-02 #2 0.0997	13-Jul-19	01:28:12
43	43	190712M2_47	1901989-03 #3 0.0996	13-Jul-19	01:38:45
44	44	190712M2_48	1901989-04 #4 0.0996	13-Jul-19	01:49:15
45	45	190712M2_49	IPA	13-Jul-19	01:59:53
46	46	190712M2_50	ST190712M2-12 PFC CS3 19G1106	13-Jul-19	02:10:27
47	47	190712M2_51	IPA	13-Jul-19	02:21:05
48	48	190712M2_52	B9G0018-BS1 OPR 0.25	13-Jul-19	02:31:38
49	49	190712M2_53	B9G0018-BLK1 Method Blank 0.25	13-Jul-19	02:42:16
50	50	190712M2_54	1901800-01 SWIN1906241030KER 0.23934	13-Jul-19	02:52:55
51	51	190712M2_55	1901800-02 SWIN1906241030KER-FD 0.24043	13-Jul-19	03:03:27
52	52	190712M2_56	1901801-01 SWIN1906241130KER 0.23531	13-Jul-19	03:14:06
53	53	190712M2_57	1901802-01 SWIN1906241230KER 0.2312	13-Jul-19	03:24:39
54	54	190712M2_58	1901803-01 SWIN1906241350KER 0.2306	13-Jul-19	03:35:17
55	55	190712M2_59	1901804-01 SWIN1906241420KER 0.23872	13-Jul-19	03:45:50
56	56	190712M2_60	1901833-01 SWIN1906241120GSC 0.23073	13-Jul-19	03:56:29
57	57	190712M2_61	1901834-01 SWIN1906241200GSC 0.21167	13-Jul-19	04:07:07
58	58	190712M2_62	1901835-01 SWIN1906241230GSC 0.22418	13-Jul-19	04:17:40
59	59	190712M2_63	1901836-01 SWIN1906241300GSC 0.23525	13-Jul-19	04:28:18
60	60	190712M2_64	IPA	13-Jul-19	04:38:57
61	61	190712M2_65	ST190712M2-13 PFC CS3 19G1106	13-Jul-19	04:49:29
62	62	190712M2_66	IPA	13-Jul-19	05:00:07
63	63	190712M2_67	1901837-01 SWIN1906241330GSC 0.22552	13-Jul-19	05:10:41
64	64	190712M2_68	1901838-01 SWIN1906241410GSC 0.22937	13-Jul-19	05:21:19
65	65	190712M2_69	B9G0019-BS1 OPR 0.25	13-Jul-19	05:31:53
66	66	190712M2_70	B9G0019-BLK1 Method Blank 0.25	13-Jul-19	05:42:31
67	67	190712M2_71	1901805-01 SWIN1906251340KER 0.24387	13-Jul-19	05:53:04
68	68	190712M2_72	1901807-01 SWIN1906251000KER 0.24038	13-Jul-19	06:03:42

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Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\LOG.qld

Last Altered: Sunday, July 14, 2019 14:36:28 Pacific Daylight Time
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Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
69	69	190712M2_73	1901808-01 SWIN1906251130KER 0.23854	13-Jul-19	06:14:21
70	70	190712M2_74	1901809-01 SWIN1906251200KER 0.23354	13-Jul-19	06:24:54
71	71	190712M2_75	1901810-01 SWIN1906251300KER 0.24769	13-Jul-19	06:35:32
72	72	190712M2_76	1901811-01 SWIN1906260910KER 0.24171	13-Jul-19	06:46:06
73	73	190712M2_77	1901812-01 SWIN1906261030KER 0.24255	13-Jul-19	06:56:44
74	74	190712M2_78	1901813-01 SWIN1906261110KER 0.25097	13-Jul-19	07:07:16
75	75	190712M2_79	IPA	13-Jul-19	07:17:54
76	76	190712M2_80	ST190712M2-14 PFC CS3 19G1106	13-Jul-19	07:28:27
77	77	190712M2_81	IPA	13-Jul-19	07:39:05
78	78	190712M2_82	1901814-01 SWIN1906261140KER 0.24991	13-Jul-19	07:49:38
79	79	190712M2_83	1901815-01 SWIN1906261220KER 0.243	13-Jul-19	08:00:16
80	80	190712M2_84	1901816-01 SWIN1906261300KER 0.24809	13-Jul-19	08:10:48
81	81	190712M2_85	1901839-01 SWIN1906250800GSC 0.23982	13-Jul-19	08:21:27
82	82	190712M2_86	1901839-02 SWIN1906250800GSC-FD 0.23997	13-Jul-19	08:32:00
83	83	190712M2_87	1901840-01 SWIN1906251015GSC 0.24588	13-Jul-19	08:42:38
84	84	190712M2_88	1901841-01 SWIN1906251200GSC 0.24185	13-Jul-19	08:53:11
85	85	190712M2_89	1901842-01 SWIN1906251220GSC 0.23393	13-Jul-19	09:03:49
86	86	190712M2_90	1901843-01 SWIN1906251330GSC 0.24762	13-Jul-19	09:14:22
87	87	190712M2_91	IPA	13-Jul-19	09:25:00
88	88	190712M2_92	ST190712M2-15 PFC CS3 19G1106	13-Jul-19	09:35:34
89	89	190712M2_93	IPA	13-Jul-19	09:46:12

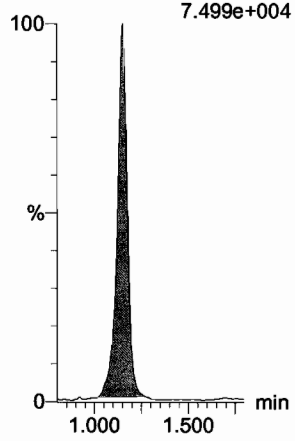
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

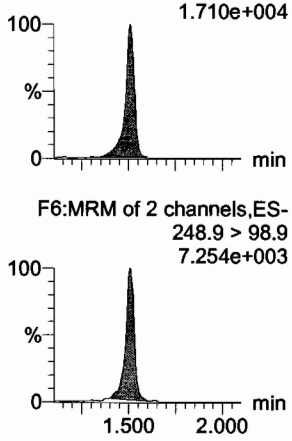
Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

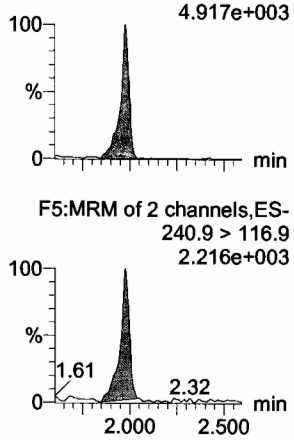
PFBA



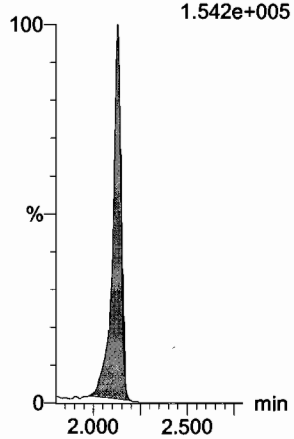
PFPrS



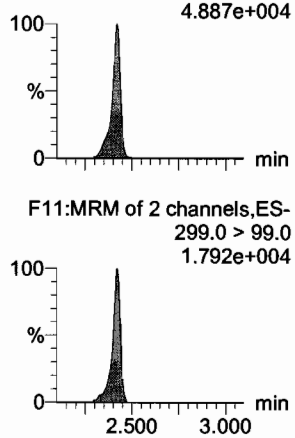
3:3 FTCA



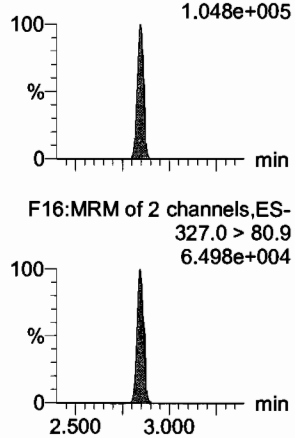
PFPeA



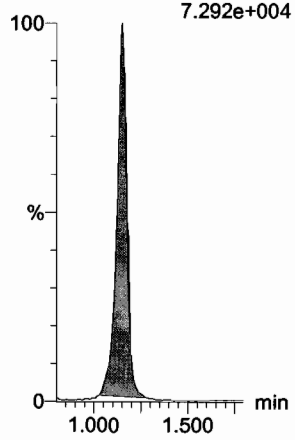
PFBS



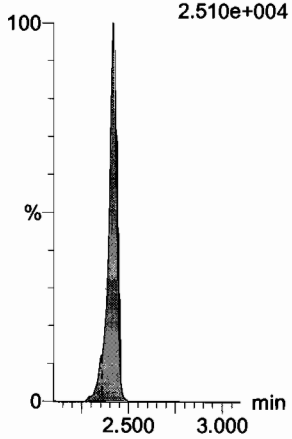
4:2 FTS



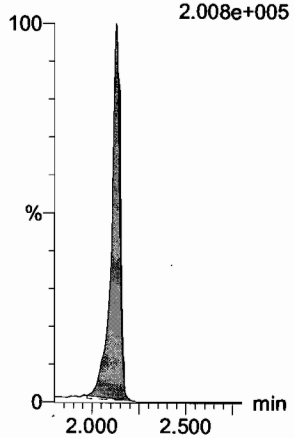
13C3-PFBA



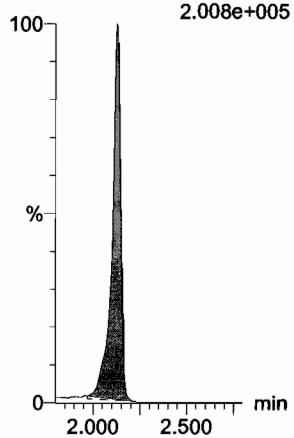
13C3-PFBS



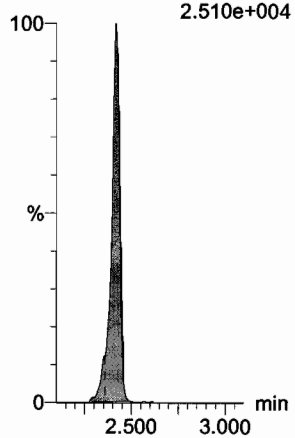
13C3-PFPeA



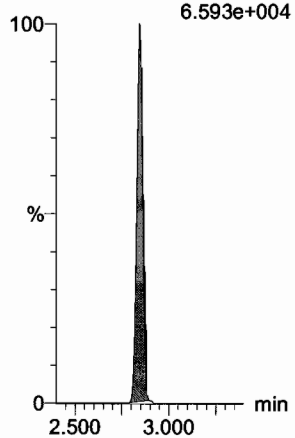
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

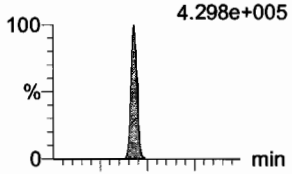


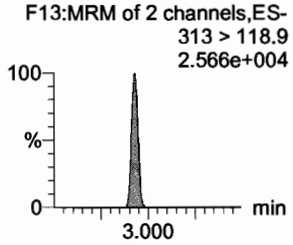
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

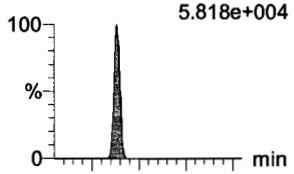
Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

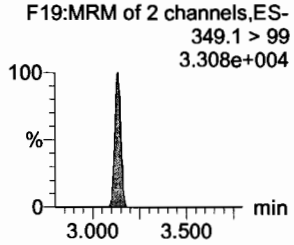
PFHxA



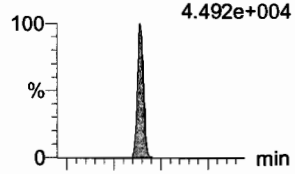


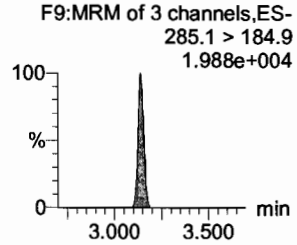
PFPeS



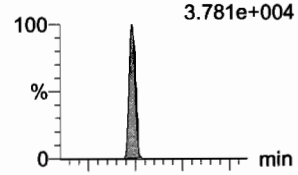


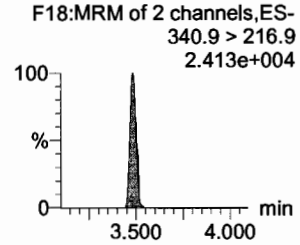
HFPO-DA



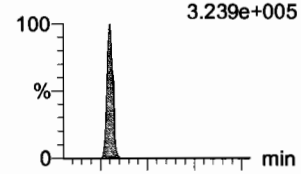


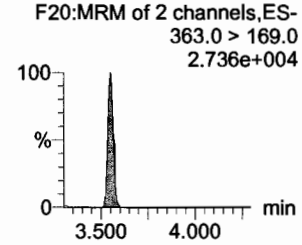
5:3 FTCA



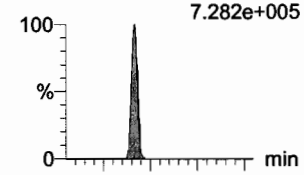


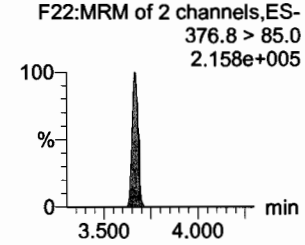
PFHpA



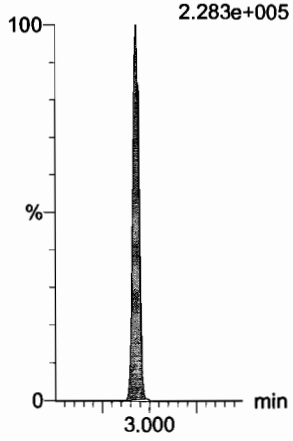


ADONA

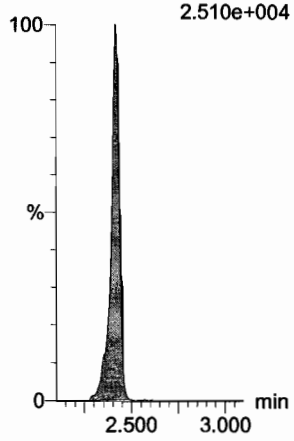




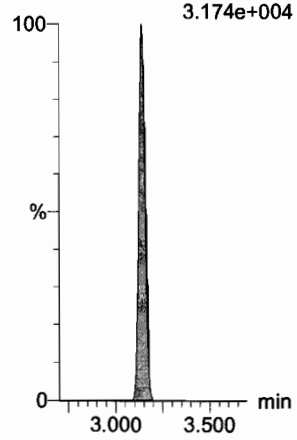
13C2-PFHxA



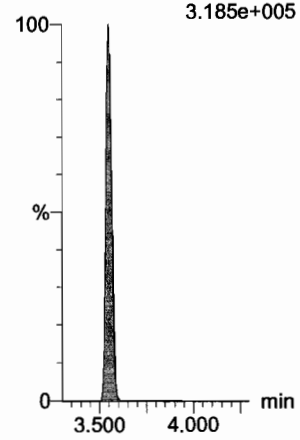
13C3-PFBS



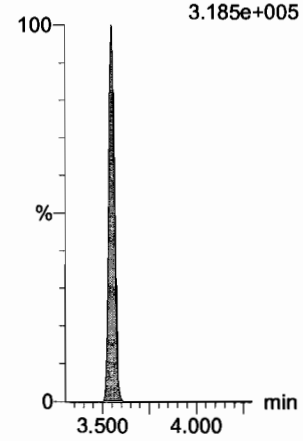
13C3-HFPO-DA



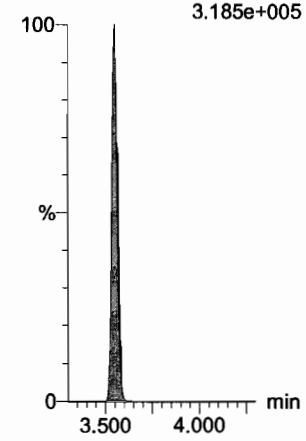
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

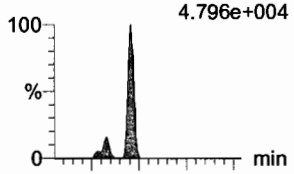


Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

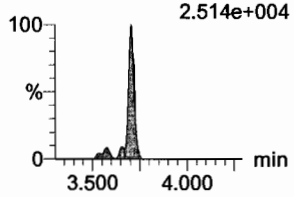
Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

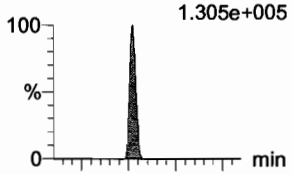
L-PFHxS
F23:MRM of 2 channels,ES-
398.9 > 79.6
4.796e+004



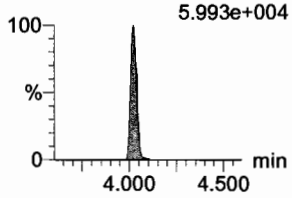
F23:MRM of 2 channels,ES-
398.9 > 99.0
2.514e+004



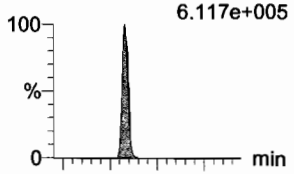
6:2 FTS
F29:MRM of 3 channels,ES-
427.0 > 406.9
1.305e+005



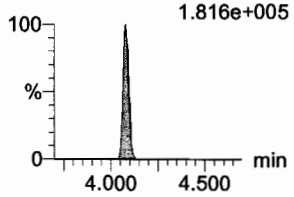
F29:MRM of 3 channels,ES-
427. > 80.9
5.993e+004



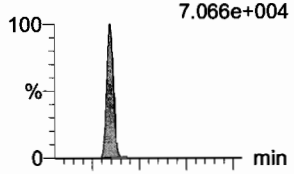
L-PFOA
F26:MRM of 2 channels,ES-
412.8 > 368.9
6.117e+005



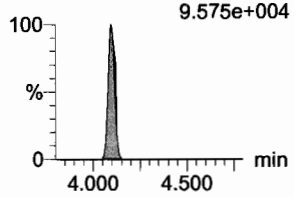
F26:MRM of 2 channels,ES-
412.8 > 169
1.816e+005



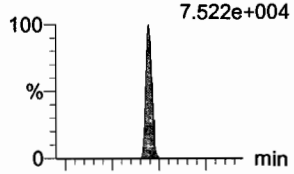
PFEChS
F33:MRM of 2 channels,ES-
460.8 > 381.0
7.066e+004



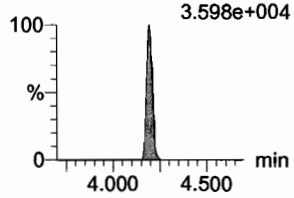
F33:MRM of 2 channels,ES-
460.8 > 98.9
9.575e+004



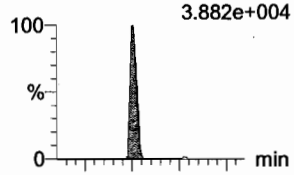
PFHpS
F32:MRM of 2 channels,ES-
449.0 > 80.0
7.522e+004



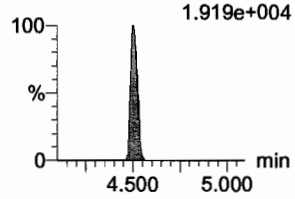
F32:MRM of 2 channels,ES-
449 > 98.7
3.598e+004



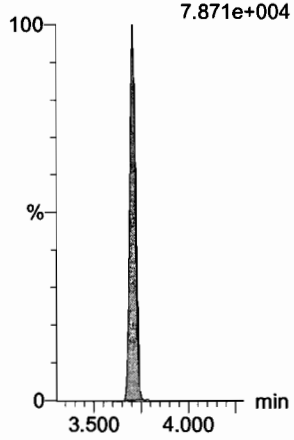
7:3 FTCA
F31:MRM of 2 channels,ES-
440.9 > 336.9
3.882e+004



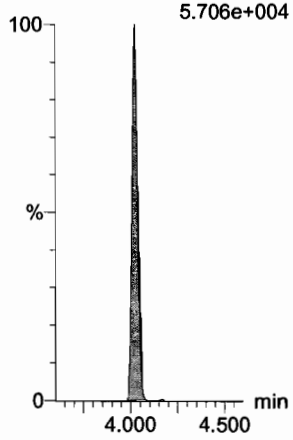
F31:MRM of 2 channels,ES-
440.9 > 316.9
1.919e+004



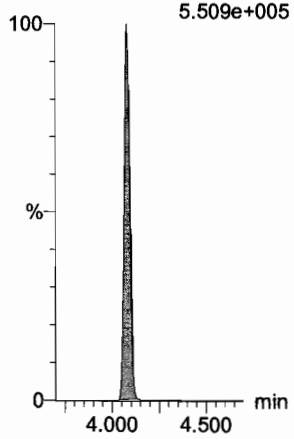
13C3-PFHxS
F24:MRM of 1 channel,ES-
401.8 > 79.9
7.871e+004



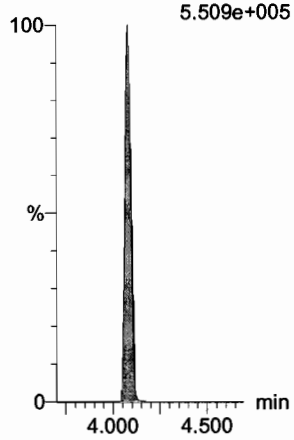
13C2-6:2 FTS
F30:MRM of 1 channel,ES-
429.0 > 79.9
5.706e+004



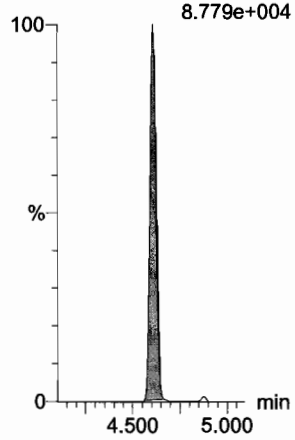
13C2-PFOA
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.509e+005



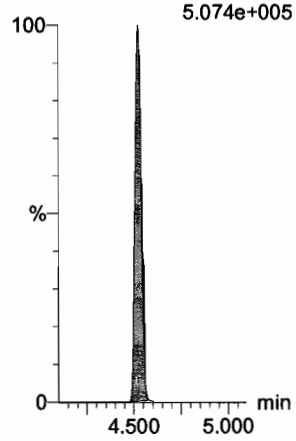
13C2-PFOA
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.509e+005



13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
8.779e+004



13C5-PFNA
F35:MRM of 1 channel,ES-
468.2 > 422.9
5.074e+005

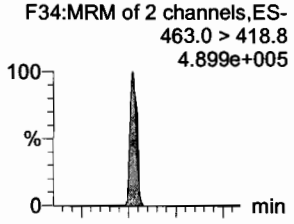


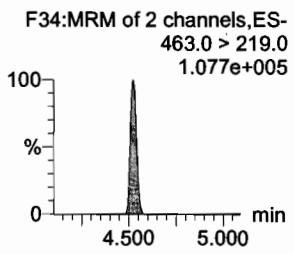
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

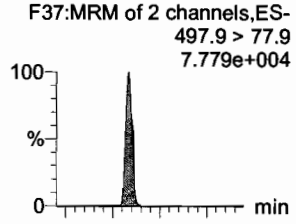
Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

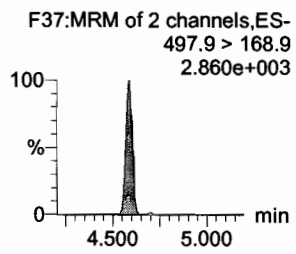
PFNA



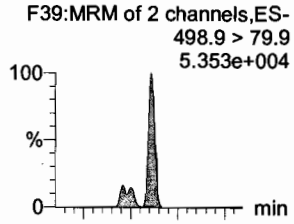


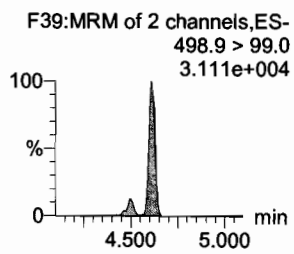
PFOSA



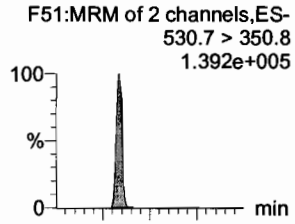


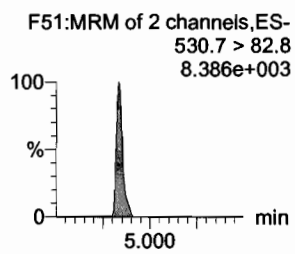
L-PFOS



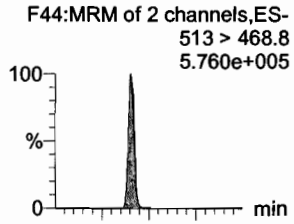


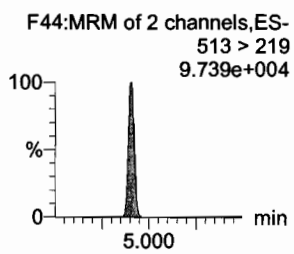
9Cl-PF30NS



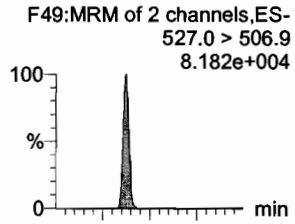


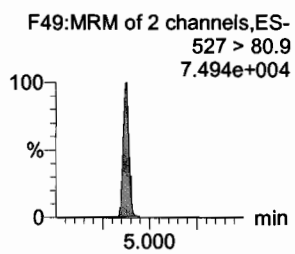
PFDA



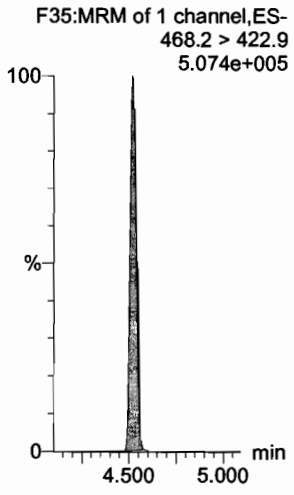


8:2 FTS

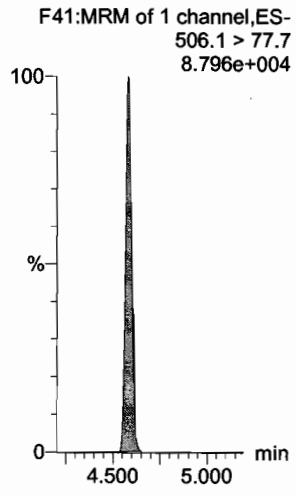




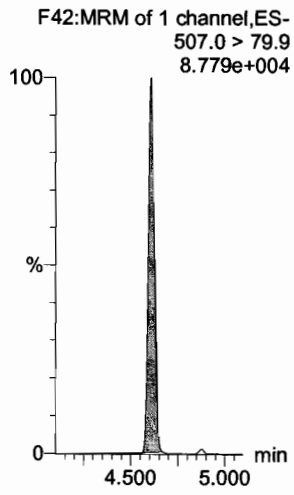
13C5-PFNA



13C8-PFOSA



13C8-PFOS



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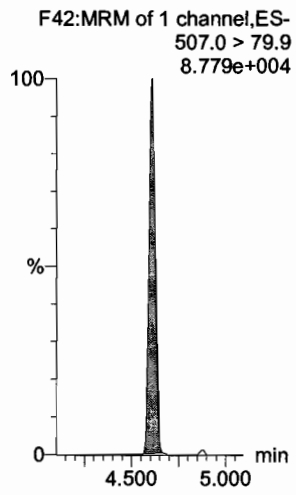
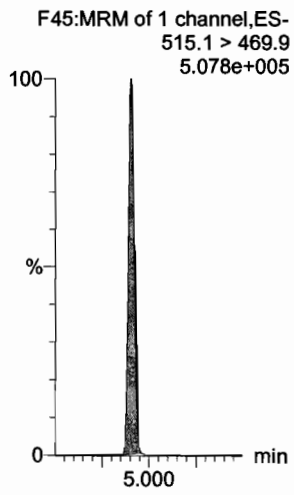
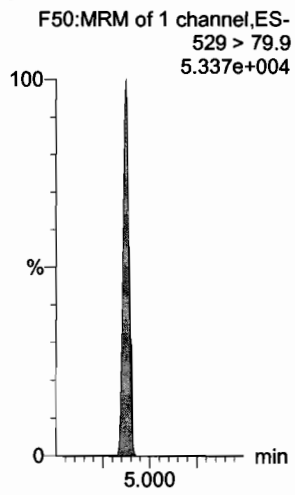


13C2-PFDA



13C2-8:2 FTS

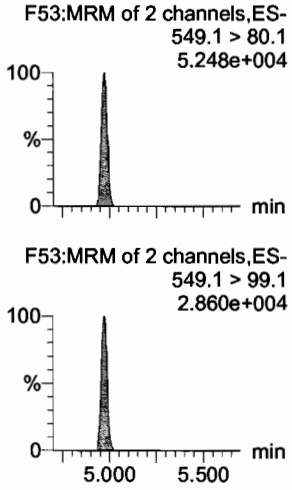


Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

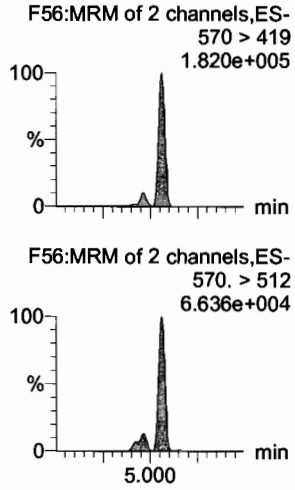
Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFNS



L-MeFOSAA



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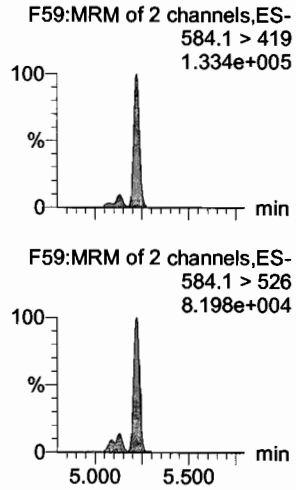
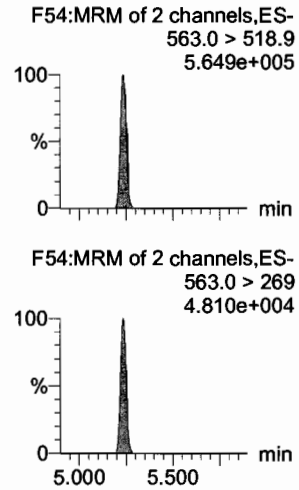
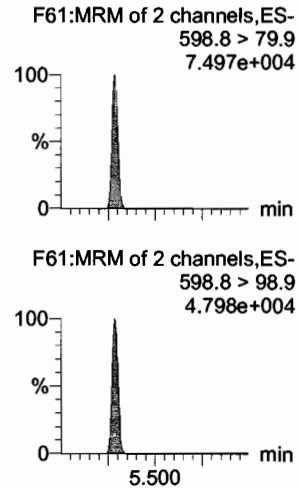


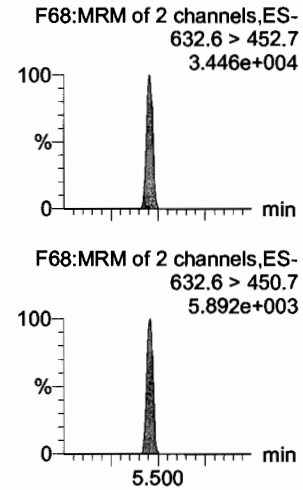
PFUdA



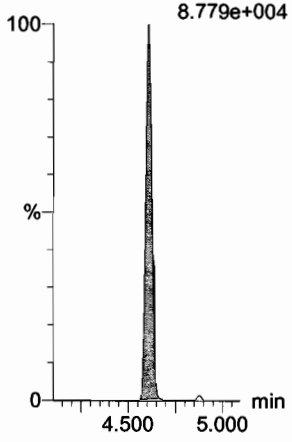
PFDS



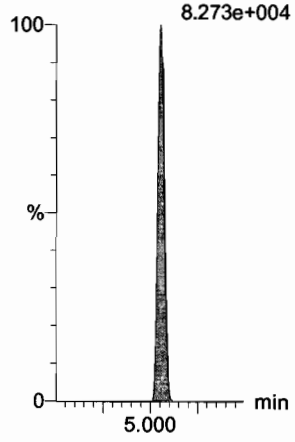
11Cl-PF30UdS



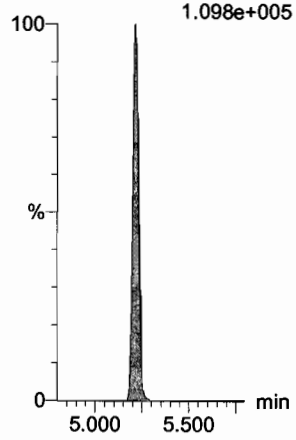
13C8-PFOS



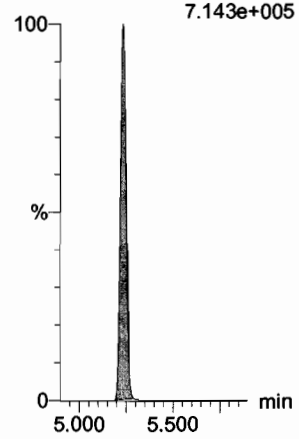
d3-N-MeFOSAA



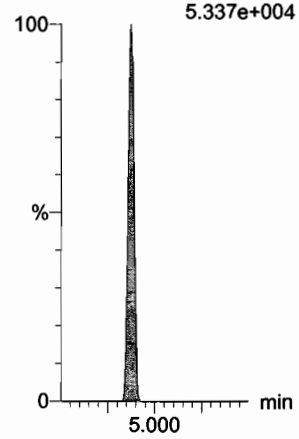
d5-N-EtFOSAA



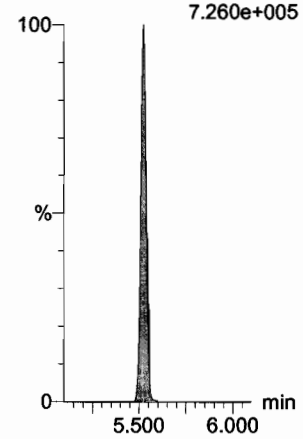
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

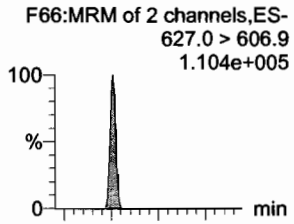


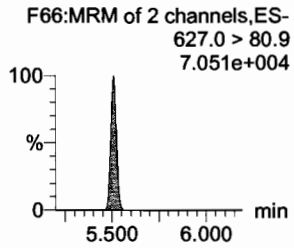
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

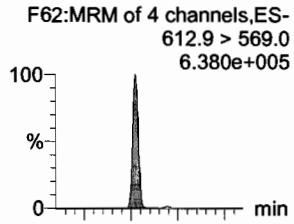
Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

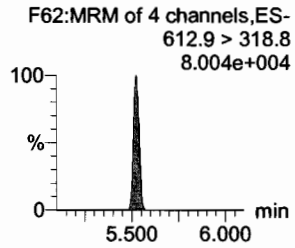
10:2 FTS



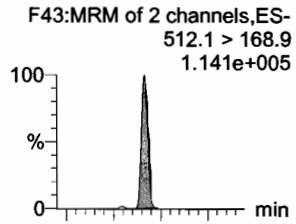


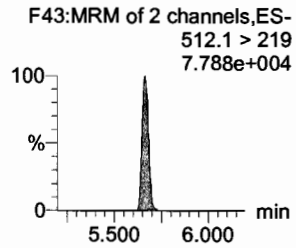
PFDoA





N-MeFOSA





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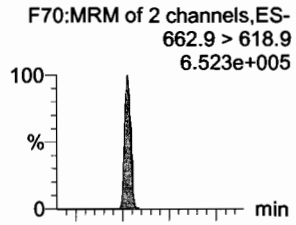
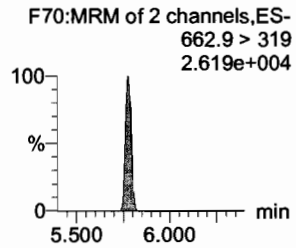
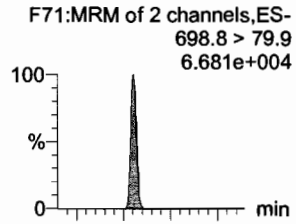
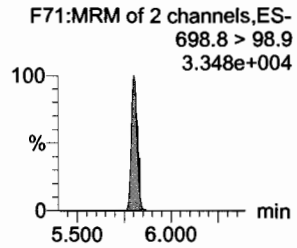


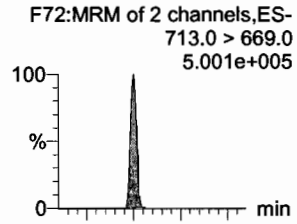


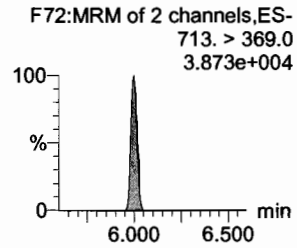
PFDoS



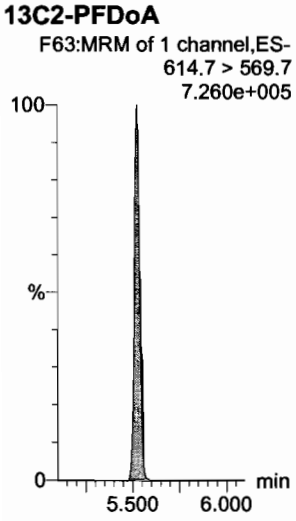


PFTeDA

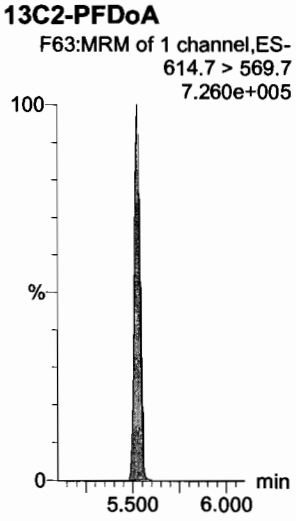




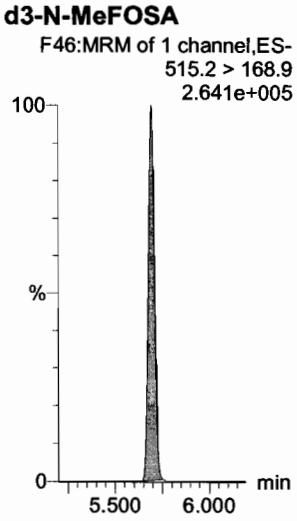
13C2-PFDoA



13C2-PFDoA



d3-N-MeFOSA



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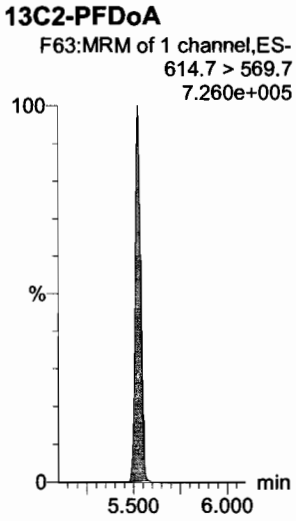

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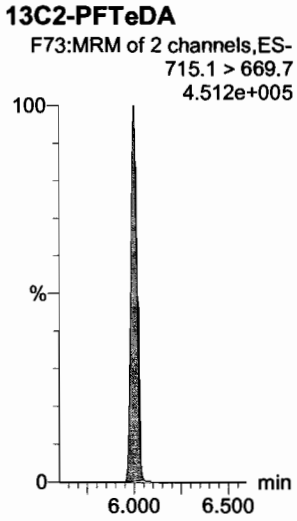
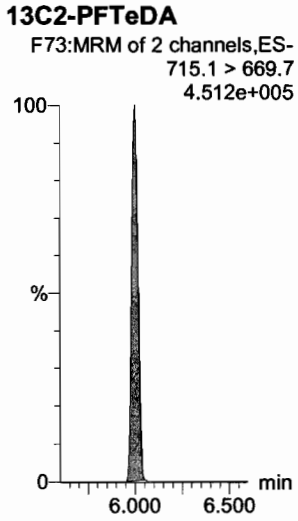


13C2-PFTeDA

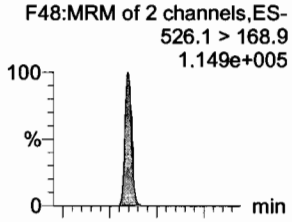


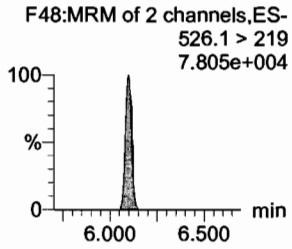
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

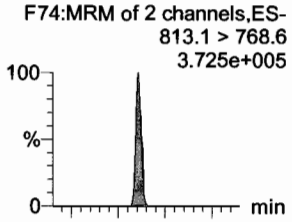
Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

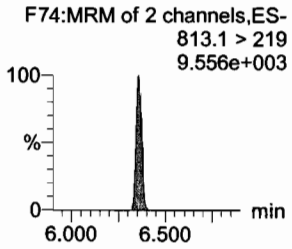
N-EtFOSA



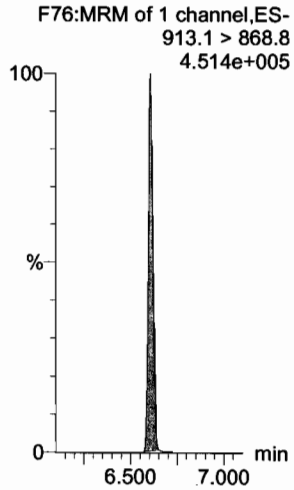


PFHxDA

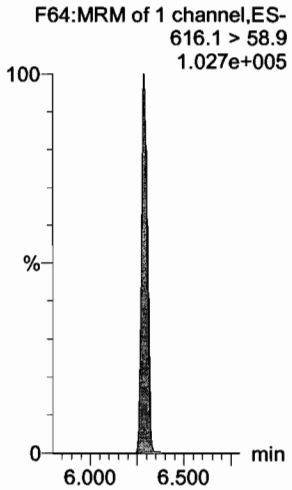




PFODA



N-MeFOSE



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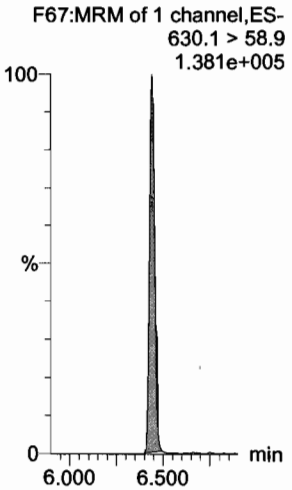

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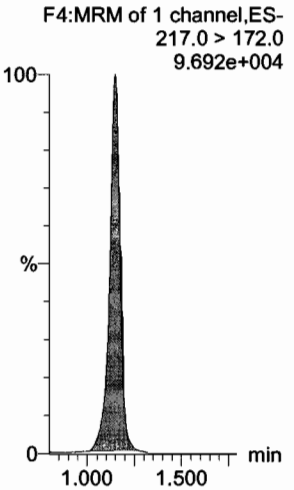
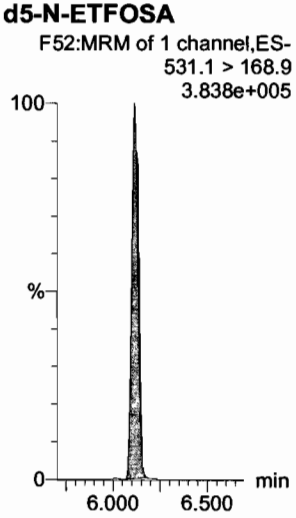
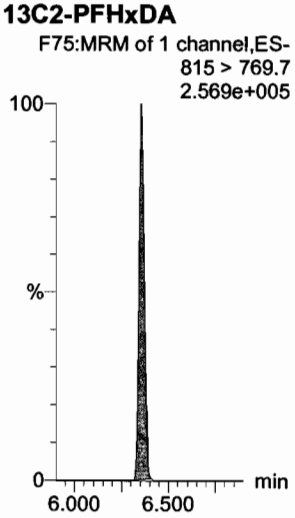


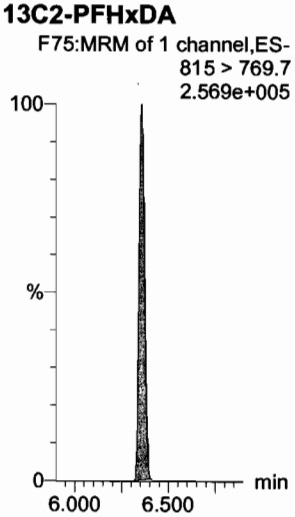
d5-N-ETFOSA



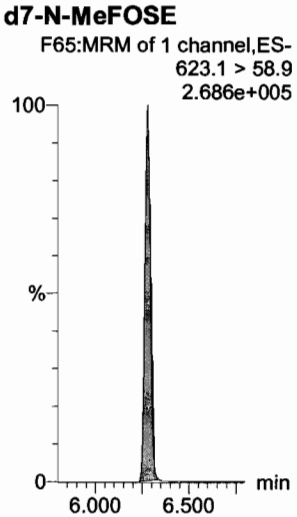
13C2-PFHxDA



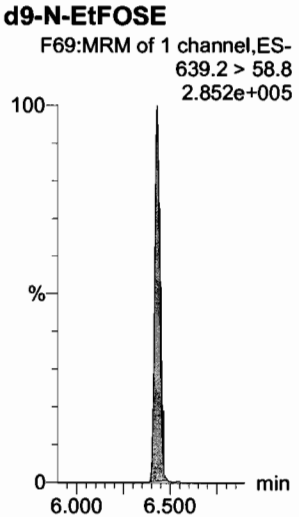
13C2-PFHxDA



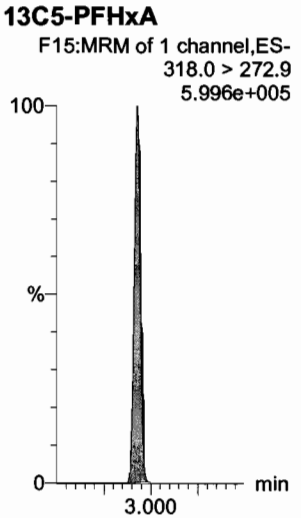
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

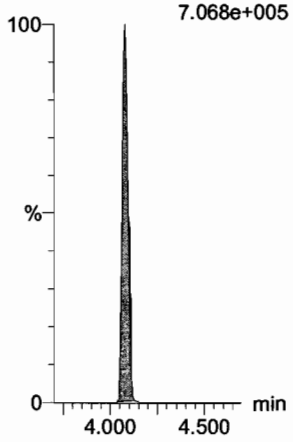


Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-35.qld

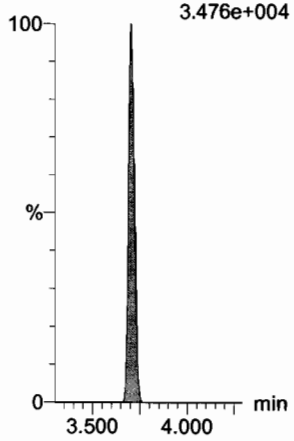
Last Altered: Sunday, July 14, 2019 14:01:58 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:10:52 Pacific Daylight Time

Name: 190712M2_35, Date: 12-Jul-2019, Time: 23:31:41, ID: ST190712M2-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

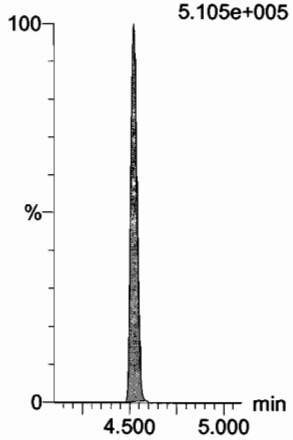
13C8-PFOA



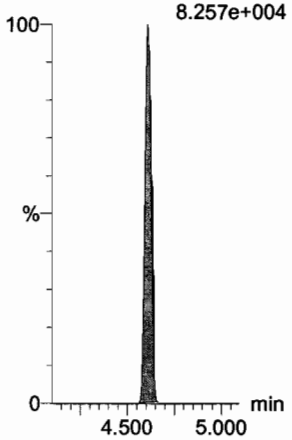
18O2-PFHxS



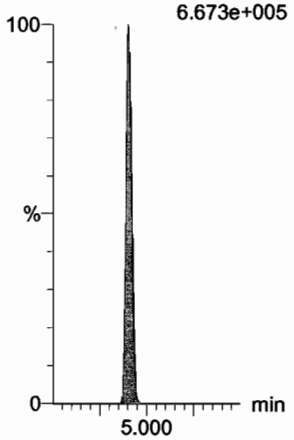
13C9-PFNA



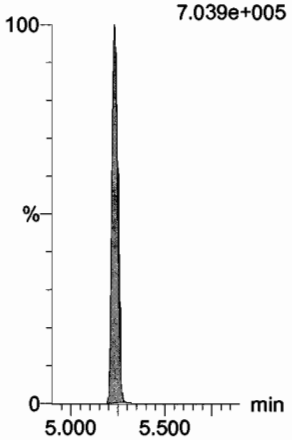
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

JM 7/14/19

Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	4407.548	4377.446	1.00	1.15	12.586	10.1	101.2	NO		
2	2	PFPrS	248.9 > 79.9	948.947	1226.747	1.00	1.51	9.669	10.4	104.4	NO	2.440	NO
3	3	3:3 FTCA	240.9 > 176.9	248.534	9882.854	1.00	1.98	0.314	9.8	97.7	NO	2.180	NO
4	4	PFPeA	263.1 > 218.9	7806.390	9882.854	1.00	2.13	9.874	10.5	105.4	NO		
5	5	PFBS	299.0 > 79.7	2308.515	1226.747	1.00	2.42	23.523	10.0	99.8	NO	2.788	NO
6	6	4:2 FTS	327.0 > 306.9	3895.575	2220.865	1.00	2.85	21.926	9.8	98.1	NO	1.578	NO
7	47	13C3-PFBA	216.1 > 171.8	4377.446	6062.168	1.00	1.15	9.026	12.3	98.6	NO		
8	49	13C3-PFBS	302.0 > 98.8	1226.747	1289.777	1.00	2.42	11.889	11.1	88.7	NO		
9	48	13C3-PFPeA	266.0 > 221.8	9882.854	20301.568	1.00	2.13	6.085	12.0	95.6	NO		
10	48	13C3-PFPeA	266.0 > 221.8	9882.854	20301.568	1.00	2.13	6.085	12.0	95.6	NO		
11	49	13C3-PFBS	302.0 > 98.8	1226.747	1289.777	1.00	2.42	11.889	11.1	88.7	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	2220.865	1289.777	1.00	2.85	21.524	12.1	97.0	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	14519.396	8132.261	1.00	2.93	8.927	10.2	101.9	NO	15.439	NO
15	8	PFPeS	349.1>80.1	2039.162	1226.747	1.00	3.13	20.778	12.2	122.1	NO	1.678	NO
16	9	HFPO-DA	285.1 > 168.9	1601.722	1506.588	1.00	3.14	5.316	10.2	102.3	NO	2.321	NO
17	10	5:3 FTCA	340.9 > 236.9	1257.449	10465.981	1.00	3.49	1.502	9.7	97.0	NO	1.446	NO
18	11	PFHpA	363.0 > 318.9	10645.959	10465.981	1.00	3.55	12.715	9.7	97.4	NO	12.476	NO
19	12	ADONA	376.8 > 250.9	26118.697	10465.981	1.00	3.67	31.195	9.8	98.3	NO	3.504	NO
20	52	13C2-PFHxA	315.0 > 270.0	8132.261	20301.568	1.00	2.93	5.007	5.0	99.2	NO		
21	49	13C3-PFBS	302.0 > 98.8	1226.747	1289.777	1.00	2.42	11.889	11.1	88.7	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1506.588	20301.568	1.00	3.14	0.928	5.4	107.5	NO		
23	53	13C4-PFHpA	367.2 > 321.8	10465.981	20301.568	1.00	3.55	6.444	12.6	100.7	NO		
24	53	13C4-PFHpA	367.2 > 321.8	10465.981	20301.568	1.00	3.55	6.444	12.6	100.7	NO		
25	53	13C4-PFHpA	367.2 > 321.8	10465.981	20301.568	1.00	3.55	6.444	12.6	100.7	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	2035.706	2728.103	1.00	3.71	9.327	9.9	98.9	NO	1.985	NO
28	15	6:2 FTS	427.0 > 406.9	4342.890	1924.174	1.00	4.02	28.213	9.3	92.6	NO	2.065	NO
29	16	L-PFOA	412.8 > 368.9	21042.148	18568.984	1.00	4.08	14.165	10.3	103.2	NO	3.678	NO
30	18	PFecHS	460.8 > 381.0	3002.230	18568.984	1.00	4.10	2.021	10.3	102.5	NO	0.816	NO
31	19	PFHpS	449.0 > 80.0	2389.400	2910.729	1.00	4.19	10.261	10.9	108.6	NO	1.913	NO
32	20	7:3 FTCA	440.9 > 336.9	1157.332	18371.074	1.00	4.51	0.787	7.5	75.3	NO	1.410	NO
33	54	13C3-PFHxS	401.8 > 79.9	2728.103	1289.777	1.00	3.71	26.440	12.0	96.3	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1924.174	3086.120	1.00	4.02	7.794	13.2	105.8	NO		

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

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Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
35	58	13C2-PFOA	414.9 > 369.7	18568.984	23511.303	1.00	4.08	9.872	12.5	100.0	NO		
36	58	13C2-PFOA	414.9 > 369.7	18568.984	23511.303	1.00	4.08	9.872	12.5	100.0	NO		
37	59	13C8-PFOS	507.0 > 79.9	2910.729	3086.120	1.00	4.61	11.790	11.6	92.8	NO		
38	56	13C5-PFNA	468.2 > 422.9	18371.074	18857.359	1.00	4.52	12.178	12.3	98.3	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	18521.844	18371.074	1.00	4.53	12.603	10.3	102.7	NO	4.565	NO
41	22	PFOSA	497.9 > 77.9	3016.887	2946.992	1.00	4.59	12.796	11.0	109.8	NO	27.763	NO
42	23	L-PFOS	498.9 > 79.9	2718.751	2910.729	1.00	4.61	11.676	10.6	106.1	NO	2.082	NO
43	25	9Cl-PF30NS	530.7 > 350.8	4563.494	2910.729	1.00	4.83	19.598	10.3	102.9	NO	18.031	NO
44	26	PFDA	513 > 468.8	20722.141	17470.076	1.00	4.90	14.827	10.8	108.4	NO	6.523	NO
45	27	8:2 FTS	527.0 > 506.9	2474.357	1690.201	1.00	4.87	18.299	10.0	99.7	NO	0.999	NO
46	56	13C5-PFNA	468.2 > 422.9	18371.074	18857.359	1.00	4.52	12.178	12.3	98.3	NO		
47	57	13C8-PFOSA	506.1 > 77.7	2946.992	23594.887	1.00	4.59	1.561	10.5	84.1	NO		
48	59	13C8-PFOS	507.0 > 79.9	2910.729	3086.120	1.00	4.61	11.790	11.6	92.8	NO		
49	59	13C8-PFOS	507.0 > 79.9	2910.729	3086.120	1.00	4.61	11.790	11.6	92.8	NO		
50	60	13C2-PFDA	515.1 > 469.9	17470.076	22592.773	1.00	4.90	9.666	12.0	95.7	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1690.201	3086.120	1.00	4.88	6.846	11.5	92.1	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	1975.746	2910.729	1.00	4.97	8.485	11.5	114.5	NO	1.583	NO
54	29	L-MeFOSAA	570 > 419	7412.047	3251.308	1.00	5.06	28.496	9.8	98.0	NO	2.568	NO
55	31	L-EtFOSAA	584.1 > 419	5241.532	3859.928	1.00	5.22	16.974	10.4	104.2	NO	1.342	NO
56	33	PFUdA	563.0 > 518.9	19558.127	24073.230	1.00	5.24	10.156	11.0	110.1	NO	11.393	NO
57	34	PFDS	598.8 > 79.9	2617.683	1690.201	1.00	5.28	19.359	11.0	110.0	NO	1.835	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1319.299	22104.871	1.00	5.45	0.746	10.9	109.0	NO	6.294	NO
59	59	13C8-PFOS	507.0 > 79.9	2910.729	3086.120	1.00	4.61	11.790	11.6	92.8	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	3251.308	23594.887	1.00	5.06	1.722	12.3	98.7	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	3859.928	23594.887	1.00	5.22	2.045	12.2	97.6	NO		
62	63	13C2-PFUdA	565 > 519.8	24073.230	23594.887	1.00	5.24	12.753	12.1	97.1	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1690.201	3086.120	1.00	4.88	6.846	11.5	92.1	NO		
64	65	13C2-PFDoA	614.7 > 569.7	22104.871	22592.773	1.00	5.52	12.230	11.8	94.0	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	3573.661	1690.201	1.00	5.51	26.429	10.8	107.9	NO	1.529	NO
67	37	PFDoA	612.9 > 569.0	19480.885	22104.871	1.00	5.53	11.016	10.5	105.4	NO	7.882	NO
68	38	N-MeFOSA	512.1 > 168.9	4449.868	9773.664	1.00	5.67	68.294	51.2	102.4	NO	1.591	NO

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

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Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
69	39	PFTrDA	662.9 > 618.9	22653.854	22104.871	1.00	5.78	12.810	10.7	106.9	NO	27.387	NO
70	40	PFDoS	698.8 > 79.9	2398.475	15656.699	1.00	5.80	1.915	10.9	109.0	NO	1.840	NO
71	41	PFTeDA	713.0 > 669.0	17783.250	15656.699	1.00	6.00	14.198	10.7	106.6	NO	14.041	NO
72	65	13C2-PFDoA	614.7 > 569.7	22104.871	22592.773	1.00	5.52	12.230	11.8	94.0	NO		
73	65	13C2-PFDoA	614.7 > 569.7	22104.871	22592.773	1.00	5.52	12.230	11.8	94.0	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	9773.664	23594.887	1.00	5.69	5.178	137.3	91.5	NO		
75	65	13C2-PFDoA	614.7 > 569.7	22104.871	22592.773	1.00	5.52	12.230	11.8	94.0	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	15656.699	23594.887	1.00	6.00	8.295	12.0	96.2	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	15656.699	23594.887	1.00	6.00	8.295	12.0	96.2	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	5011.530	15170.022	1.00	6.10	49.554	48.8	97.7	NO	1.676	NO
80	43	PFHxDA	813.1 > 768.6	12227.946	8190.690	1.00	6.36	7.465	10.0	99.7	NO	38.283	NO
81	44	PFODA	913.1 > 868.8	12461.062	8190.690	1.00	6.61	7.607	11.2	111.6	NO		
82	45	N-MeFOSE	616.1 > 58.9	3242.525	8915.140	1.00	6.29	54.556	49.4	98.7	NO		
83	46	N-EtFOSE	630.1 > 58.9	3994.352	8747.305	1.00	6.44	68.496	48.0	96.0	NO		
84	72	13C4-PFBA	217.0 > 172.0	6062.168	6062.168	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	15170.022	23594.887	1.00	6.12	8.037	150.7	100.4	NO		
86	69	13C2-PFHxDA	815 > 769.7	8190.690	23594.887	1.00	6.36	4.339	4.8	96.5	NO		
87	69	13C2-PFHxDA	815 > 769.7	8190.690	23594.887	1.00	6.36	4.339	4.8	96.5	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	8915.140	23594.887	1.00	6.28	4.723	135.6	90.4	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	8747.305	23594.887	1.00	6.43	4.634	140.9	93.9	NO		
90	73	13C5-PFHxA	318.0 > 272.9	20301.568	20301.568	1.00	2.93	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	23511.303	23511.303	1.00	4.08	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	1289.777	1289.777	1.00	3.71	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	18857.359	18857.359	1.00	4.52	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	3086.120	3086.120	1.00	4.61	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	22592.773	22592.773	1.00	4.90	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	23594.887	23594.887	1.00	5.23	12.500	12.5	100.0	NO		

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Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\LOG.qld

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Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190712M2_5	IPA	12-Jul-19	18:13:51
2	2	190712M2_6	ST190712M2-1 PFC CS-2 19G1101	12-Jul-19	18:24:24
3	3	190712M2_7	ST190712M2-2 PFC CS-1 19G1102	12-Jul-19	18:35:02
4	4	190712M2_8	ST190712M2-3 PFC CS0 19G1103	12-Jul-19	18:45:35
5	5	190712M2_9	ST190712M2-4 PFC CS1 19G1104	12-Jul-19	18:56:14
6	6	190712M2_10	ST190712M2-5 PFC CS2 19G1105	12-Jul-19	19:06:47
7	7	190712M2_11	ST190712M2-6 PFC CS3 19G1106	12-Jul-19	19:17:24
8	8	190712M2_12	ST190712M2-7 PFC CS4 19G1107	12-Jul-19	19:27:57
9	9	190712M2_13	ST190712M2-8 PFC CS5 19G1108	12-Jul-19	19:38:36
10	10	190712M2_14	ST190712M2-9 PFC CS6 19G1109	12-Jul-19	19:49:09
11	11	190712M2_15	ST190712M2-10 PFC CS7 19G1110	12-Jul-19	19:59:47
12	12	190712M2_16	IB	12-Jul-19	20:10:19
13	13	190712M2_17	ST190712M2-1 PFC ICV 19G1111	12-Jul-19	20:20:58
14	14	190712M2_18	IPA	12-Jul-19	20:31:30
15	15	190712M2_19	B9G0095-BS1 OPR 0.25	12-Jul-19	20:42:09
16	16	190712M2_20	1901920-11 NAOA-B02-GW 0.122	12-Jul-19	20:52:47
17	17	190712M2_21	1901920-17 NAOA-B01-GW-D 0.13768	12-Jul-19	21:03:19
18	18	190712M2_22	B9G0116-BS1 OPR 1	12-Jul-19	21:13:58
19	19	190712M2_23	B9G0116-MS1 Matrix Spike 1.01	12-Jul-19	21:24:30
20	20	190712M2_24	B9G0116-MSD1 Matrix Spike Dup 1.03	12-Jul-19	21:35:09
21	21	190712M2_25	B9G0116-BLK1 Method Blank 1	12-Jul-19	21:45:47
22	22	190712M2_26	1901857-02 SAOA-B09-SO-1-1.5 1.01	12-Jul-19	21:56:20
23	23	190712M2_27	1901857-03 SAOA-B09-SO-20-20.5 1.03	12-Jul-19	22:06:59
24	24	190712M2_28	1901857-07 SAOA-B11-SO-1-1.5 1	12-Jul-19	22:17:29
25	25	190712M2_29	1901857-08 SAOA-B11-SO-20-20.5 1.05	12-Jul-19	22:28:07
26	26	190712M2_30	1901857-10 SAOA-B08-SO-1-1.5 1.06	12-Jul-19	22:38:40
27	27	190712M2_31	1901920-01 SAOA-B08-SO-30-30.5 1.01	12-Jul-19	22:49:18
28	28	190712M2_32	1901920-07 NAOA-B08-SO-1-1.5 1.03	12-Jul-19	22:59:51
29	29	190712M2_33	1901920-08 NAOA-B08-SO-20-20.5 1.01	12-Jul-19	23:10:30
30	30	190712M2_34	IPA	12-Jul-19	23:21:08
31	31	190712M2_35	ST190712M2-11 PFC CS3 19G1106	12-Jul-19	23:31:41
32	32	190712M2_36	IPA	12-Jul-19	23:42:20

Vista Analytical Laboratory

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\LOG.qld

Last Altered: Sunday, July 14, 2019 14:36:28 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:38:56 Pacific Daylight Time

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	190712M2_37	1901920-09 NAOA-B09-SO-1-1.5 1.06	12-Jul-19	23:52:52
34	34	190712M2_38	1901920-10 NAOA-B09-SO-20-20.5 1.06	13-Jul-19	00:03:31
35	35	190712M2_39	1901920-13 NAOA-B01-SO-1-1.5 1.05	13-Jul-19	00:14:01
36	36	190712M2_40	1901920-15 NAOA-B01-SO-20-20.5 1.04	13-Jul-19	00:24:40
37	37	190712M2_41	1901920-18 CAOA-B02-SO-0.5-1 1.03	13-Jul-19	00:35:12
38	38	190712M2_42	1901920-19 CAOA-B02-SO-20-20.5 1.02	13-Jul-19	00:45:50
39	39	190712M2_43	B9G0081-BS1 OPR 0.0992	13-Jul-19	00:56:23
40	40	190712M2_44	B9G0081-BLK1 Method Blank 0.0995	13-Jul-19	01:07:02
41	41	190712M2_45	1901989-01 #1 0.0995	13-Jul-19	01:17:34
42	42	190712M2_46	1901989-02 #2 0.0997	13-Jul-19	01:28:12
43	43	190712M2_47	1901989-03 #3 0.0996	13-Jul-19	01:38:45
44	44	190712M2_48	1901989-04 #4 0.0996	13-Jul-19	01:49:15
45	45	190712M2_49	IPA	13-Jul-19	01:59:53
46	46	190712M2_50	ST190712M2-12 PFC CS3 19G1106	13-Jul-19	02:10:27
47	47	190712M2_51	IPA	13-Jul-19	02:21:05
48	48	190712M2_52	B9G0018-BS1 OPR 0.25	13-Jul-19	02:31:38
49	49	190712M2_53	B9G0018-BLK1 Method Blank 0.25	13-Jul-19	02:42:16
50	50	190712M2_54	1901800-01 SWIN1906241030KER 0.23934	13-Jul-19	02:52:55
51	51	190712M2_55	1901800-02 SWIN1906241030KER-FD 0.24043	13-Jul-19	03:03:27
52	52	190712M2_56	1901801-01 SWIN1906241130KER 0.23531	13-Jul-19	03:14:06
53	53	190712M2_57	1901802-01 SWIN1906241230KER 0.2312	13-Jul-19	03:24:39
54	54	190712M2_58	1901803-01 SWIN1906241350KER 0.2306	13-Jul-19	03:35:17
55	55	190712M2_59	1901804-01 SWIN1906241420KER 0.23872	13-Jul-19	03:45:50
56	56	190712M2_60	1901833-01 SWIN1906241120GSC 0.23073	13-Jul-19	03:56:29
57	57	190712M2_61	1901834-01 SWIN1906241200GSC 0.21167	13-Jul-19	04:07:07
58	58	190712M2_62	1901835-01 SWIN1906241230GSC 0.22418	13-Jul-19	04:17:40
59	59	190712M2_63	1901836-01 SWIN1906241300GSC 0.23525	13-Jul-19	04:28:18
60	60	190712M2_64	IPA	13-Jul-19	04:38:57
61	61	190712M2_65	ST190712M2-13 PFC CS3 19G1106	13-Jul-19	04:49:29
62	62	190712M2_66	IPA	13-Jul-19	05:00:07
63	63	190712M2_67	1901837-01 SWIN1906241330GSC 0.22552	13-Jul-19	05:10:41
64	64	190712M2_68	1901838-01 SWIN1906241410GSC 0.22937	13-Jul-19	05:21:19
65	65	190712M2_69	B9G0019-BS1 OPR 0.25	13-Jul-19	05:31:53
66	66	190712M2_70	B9G0019-BLK1 Method Blank 0.25	13-Jul-19	05:42:31
67	67	190712M2_71	1901805-01 SWIN1906251340KER 0.24387	13-Jul-19	05:53:04
68	68	190712M2_72	1901807-01 SWIN1906251000KER 0.24038	13-Jul-19	06:03:42

Vista Analytical Laboratory

Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\LOG.qld

Last Altered: Sunday, July 14, 2019 14:36:28 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:38:56 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
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70	70 190712M2_74	1901809-01 SWIN1906251200KER 0.23354	13-Jul-19	06:24:54
71	71 190712M2_75	1901810-01 SWIN1906251300KER 0.24769	13-Jul-19	06:35:32
72	72 190712M2_76	1901811-01 SWIN1906260910KER 0.24171	13-Jul-19	06:46:06
73	73 190712M2_77	1901812-01 SWIN1906261030KER 0.24255	13-Jul-19	06:56:44
74	74 190712M2_78	1901813-01 SWIN1906261110KER 0.25097	13-Jul-19	07:07:16
75	75 190712M2_79	IPA	13-Jul-19	07:17:54
76	76 190712M2_80	ST190712M2-14 PFC CS3 19G1106	13-Jul-19	07:28:27
77	77 190712M2_81	IPA	13-Jul-19	07:39:05
78	78 190712M2_82	1901814-01 SWIN1906261140KER 0.24991	13-Jul-19	07:49:38
79	79 190712M2_83	1901815-01 SWIN1906261220KER 0.243	13-Jul-19	08:00:16
80	80 190712M2_84	1901816-01 SWIN1906261300KER 0.24809	13-Jul-19	08:10:48
81	81 190712M2_85	1901839-01 SWIN1906250800GSC 0.23982	13-Jul-19	08:21:27
82	82 190712M2_86	1901839-02 SWIN1906250800GSC-FD 0.23997	13-Jul-19	08:32:00
83	83 190712M2_87	1901840-01 SWIN1906251015GSC 0.24588	13-Jul-19	08:42:38
84	84 190712M2_88	1901841-01 SWIN1906251200GSC 0.24185	13-Jul-19	08:53:11
85	85 190712M2_89	1901842-01 SWIN1906251220GSC 0.23393	13-Jul-19	09:03:49
86	86 190712M2_90	1901843-01 SWIN1906251330GSC 0.24762	13-Jul-19	09:14:22
87	87 190712M2_91	IPA	13-Jul-19	09:25:00
88	88 190712M2_92	ST190712M2-15 PFC CS3 19G1106	13-Jul-19	09:35:34
89	89 190712M2_93	IPA	13-Jul-19	09:46:12

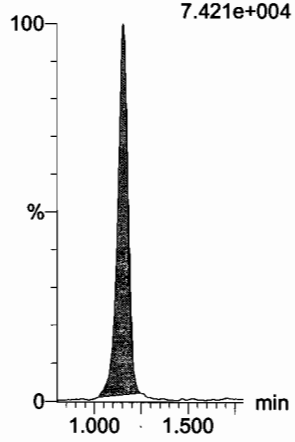
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

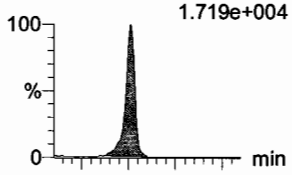
Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

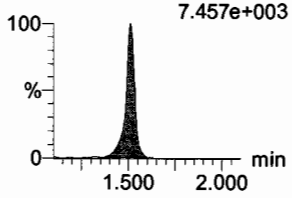
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
7.421e+004



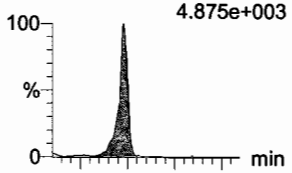
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
1.719e+004



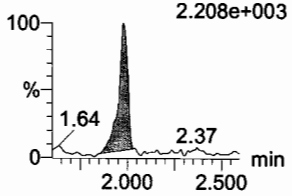
F6:MRM of 2 channels,ES-
248.9 > 98.9
7.457e+003



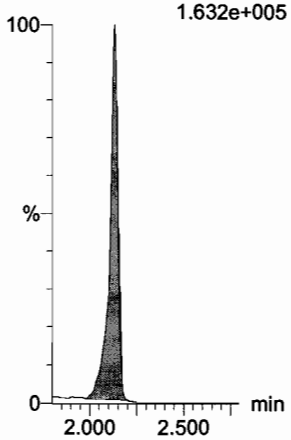
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
4.875e+003



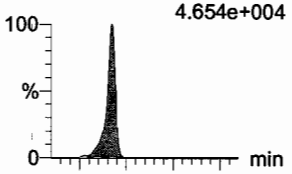
F5:MRM of 2 channels,ES-
240.9 > 116.9
2.208e+003



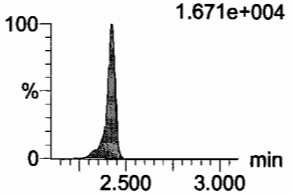
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
1.632e+005



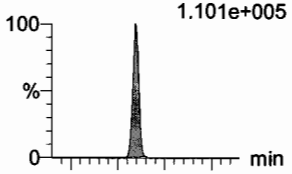
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
4.654e+004



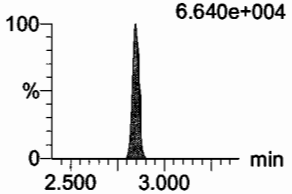
F11:MRM of 2 channels,ES-
299.0 > 99.0
1.671e+004



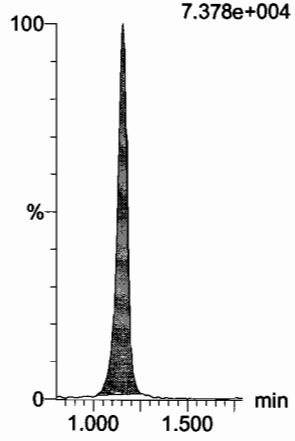
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.101e+005



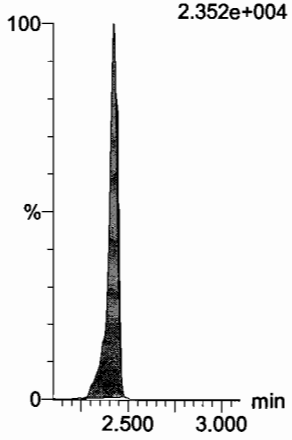
F16:MRM of 2 channels,ES-
327.0 > 80.9
6.640e+004



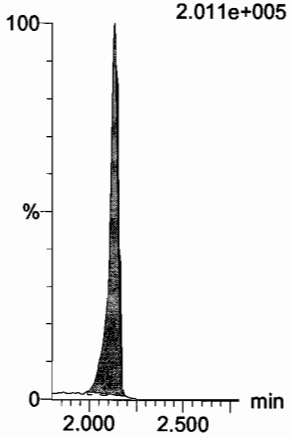
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
7.378e+004



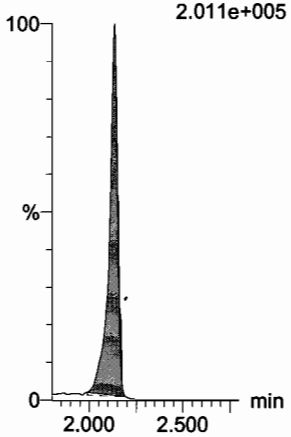
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
2.352e+004



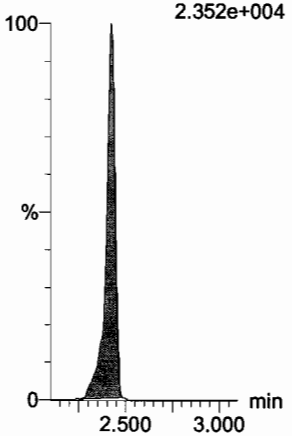
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.011e+005



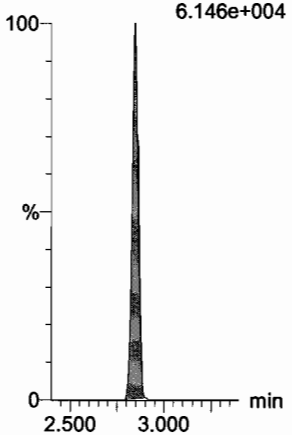
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.011e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
2.352e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.146e+004

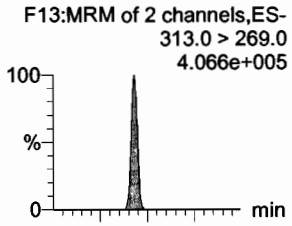


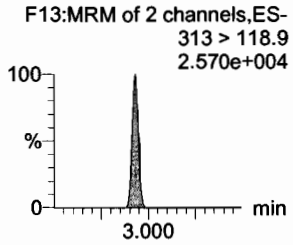
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

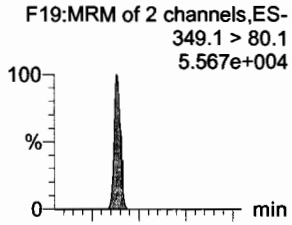
Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

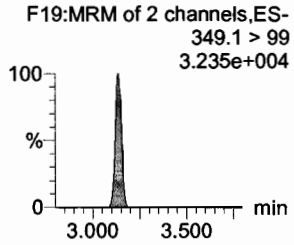
PFHxA



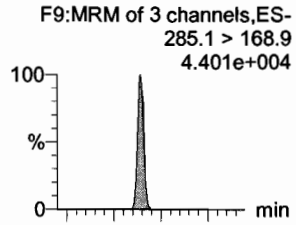


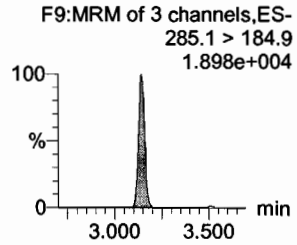
PFPeS



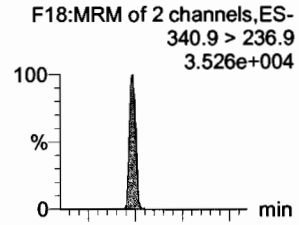


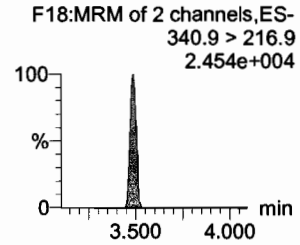
HFPO-DA



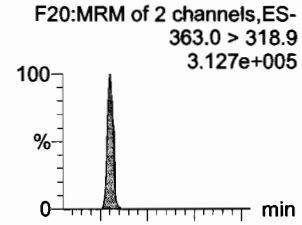


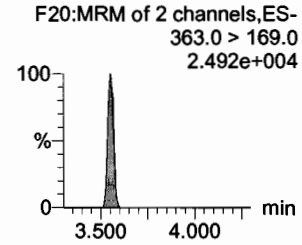
5:3 FTCA



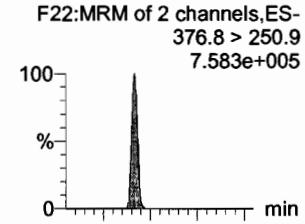


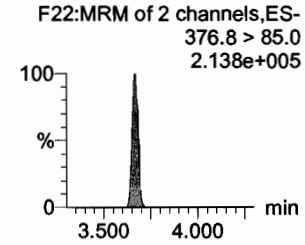
PFHpA



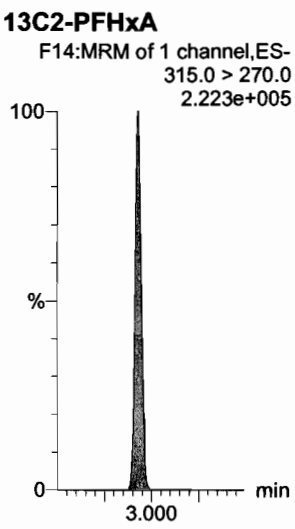


ADONA

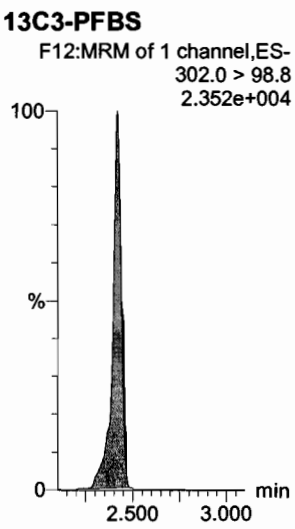




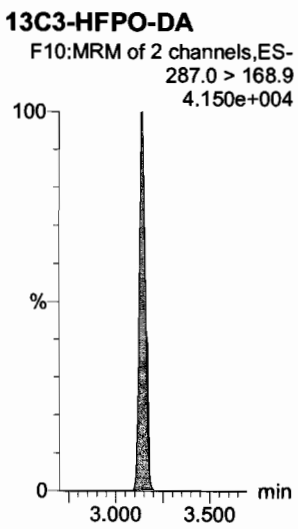
13C2-PFHxA



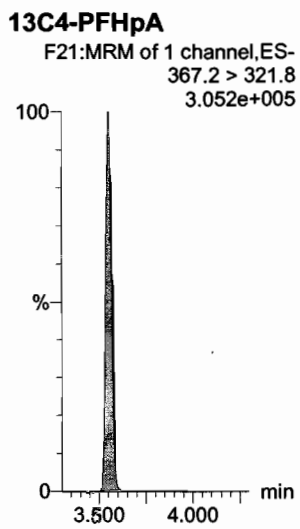
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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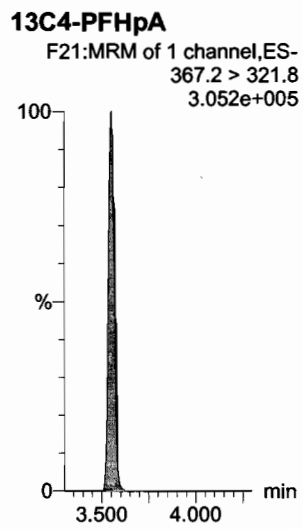

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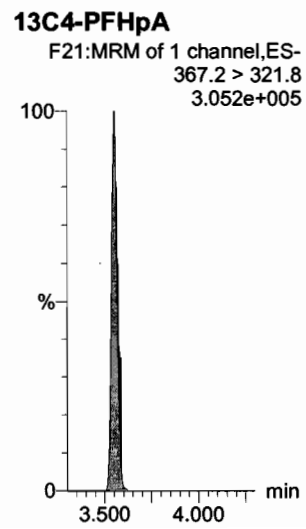
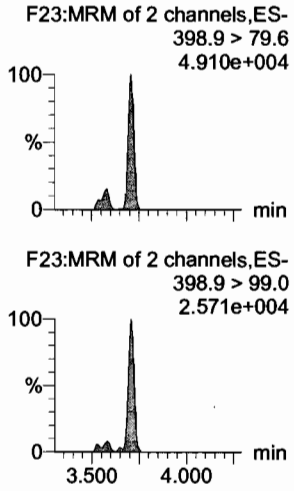


Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

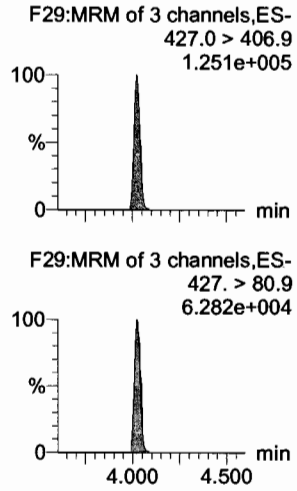
Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

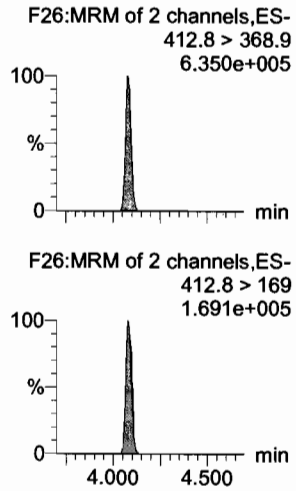
L-PFHxS



6:2 FTS



L-PFOA



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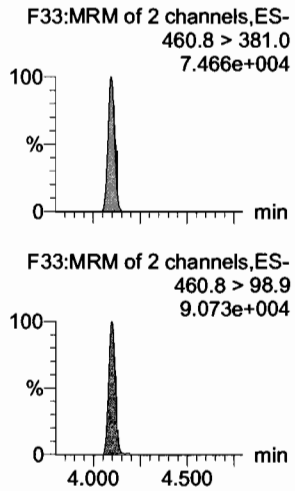
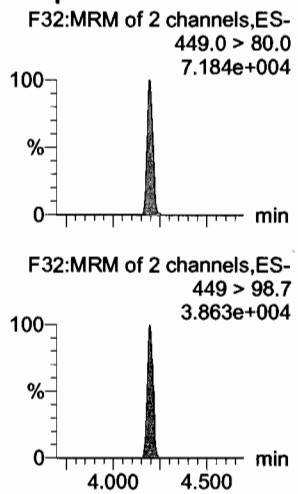
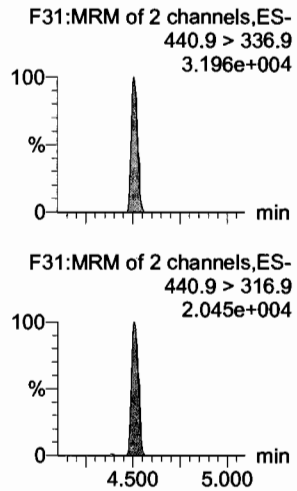


PFHpS



7:3 FTCA



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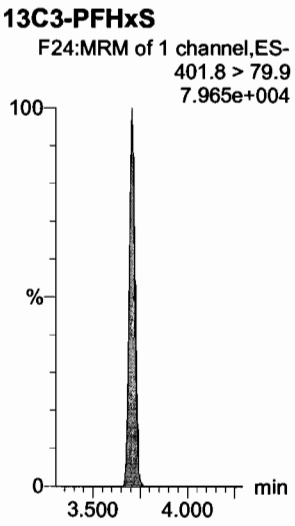
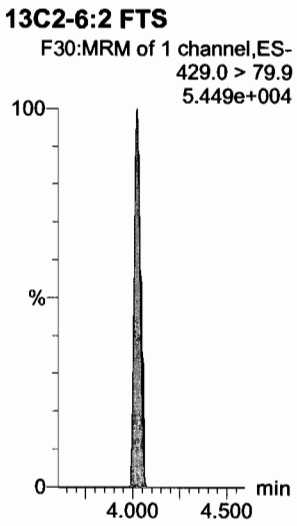
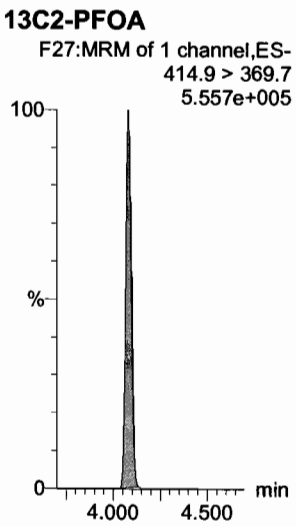


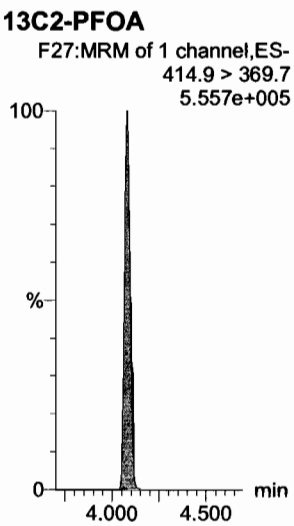
13C2-6:2 FTS



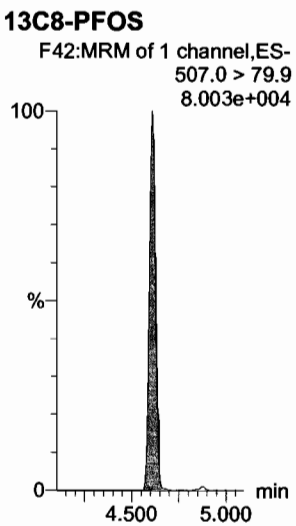
13C2-PFOA



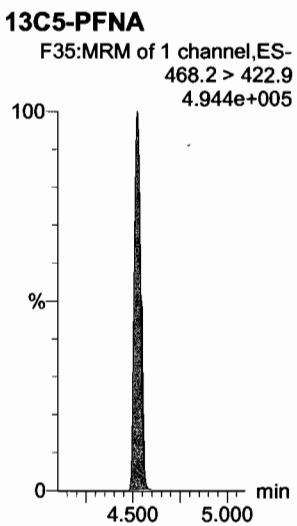
13C2-PFOA



13C8-PFOS



13C5-PFNA



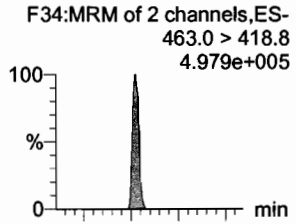
Vista Analytical Laboratory

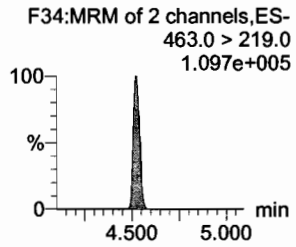
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

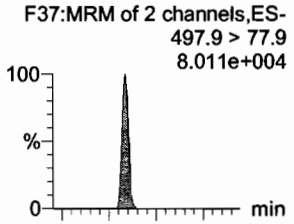
Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

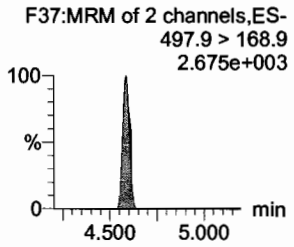
PFNA



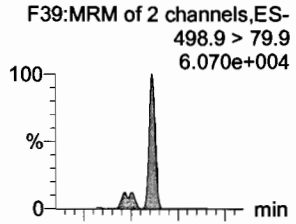


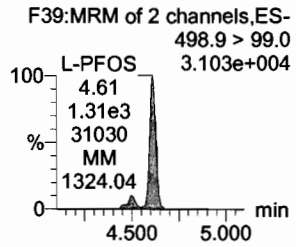
PFOSA



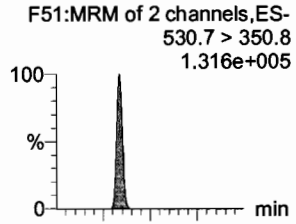


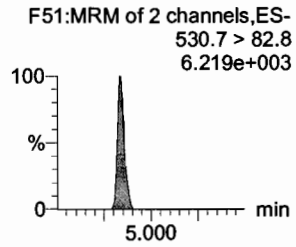
L-PFOS





9Cl-PF30NS





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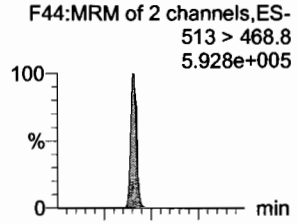
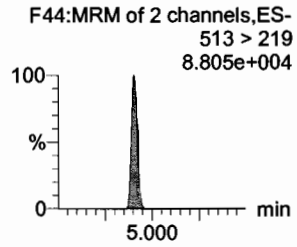
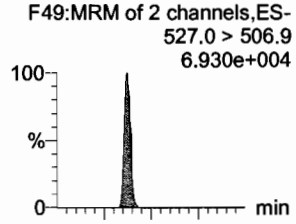
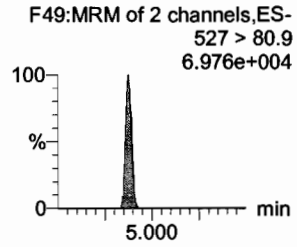


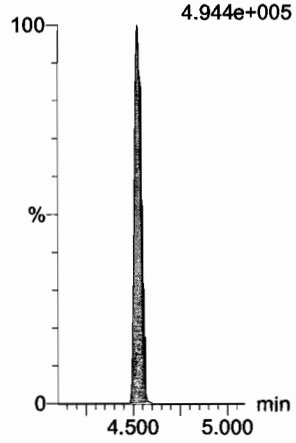


8:2 FTS

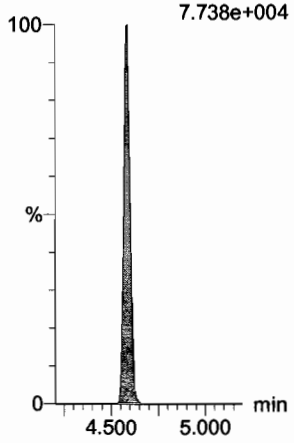




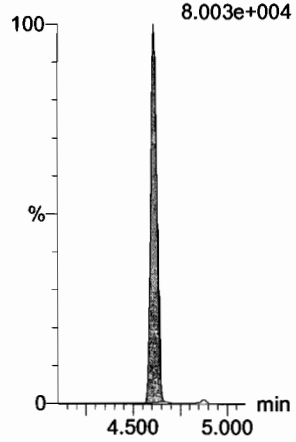
13C5-PFNA



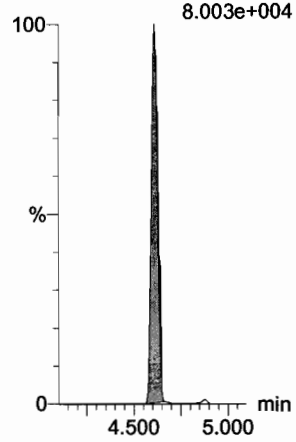
13C8-PFOSA



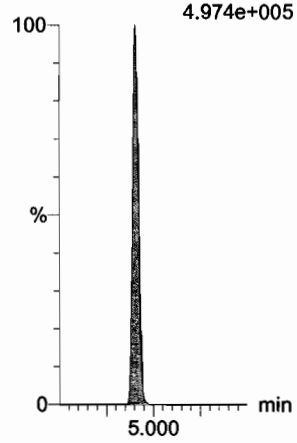
13C8-PFOS



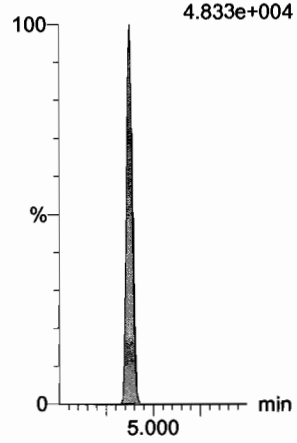
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS



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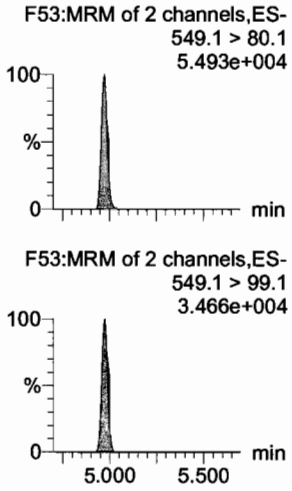
Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFNS



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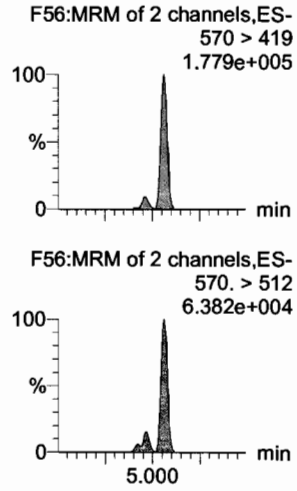

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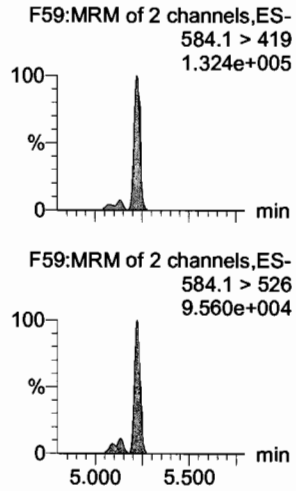
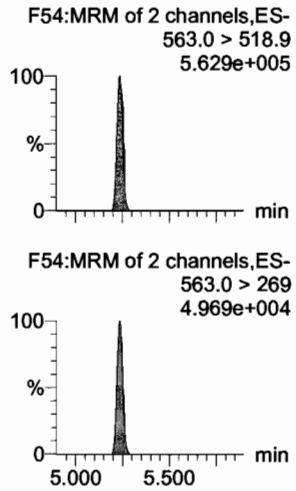
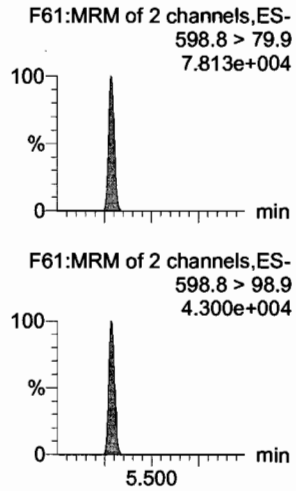


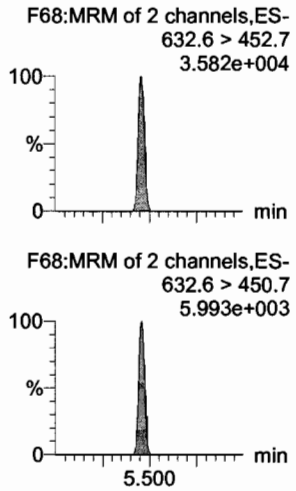
PFUdA



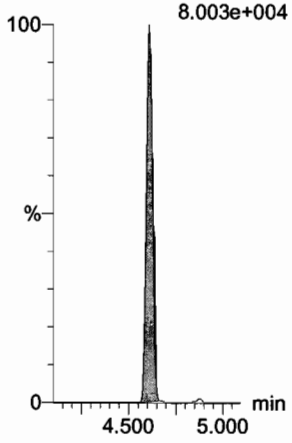
PFDS



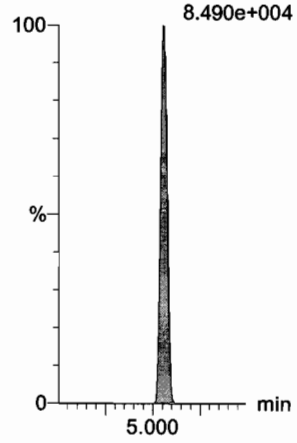
11Cl-PF30UdS



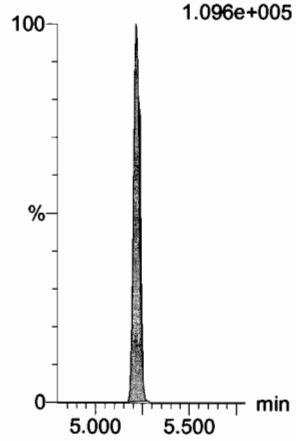
13C8-PFOS



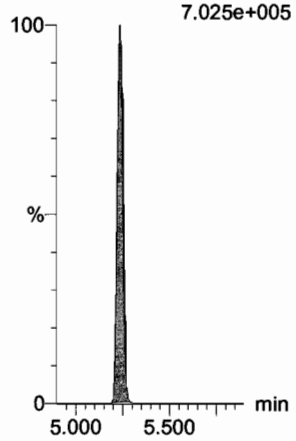
d3-N-MeFOSAA



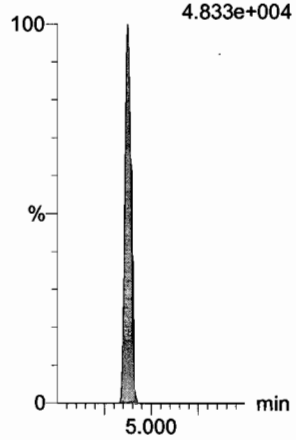
d5-N-EtFOSAA



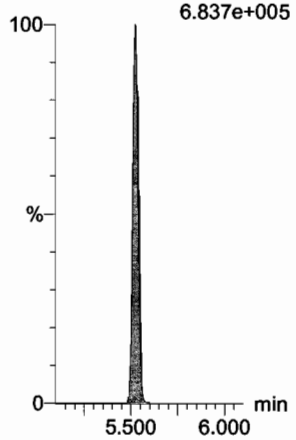
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

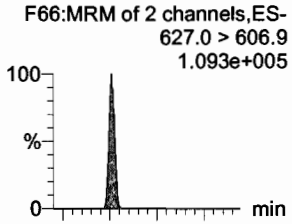


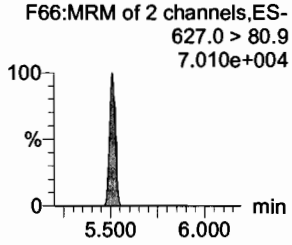
Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

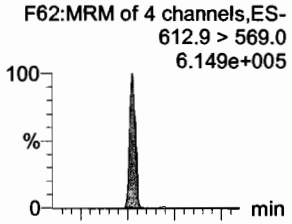
Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

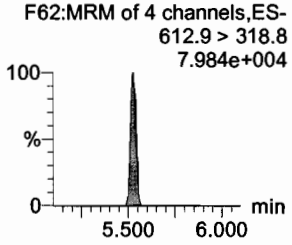
10:2 FTS



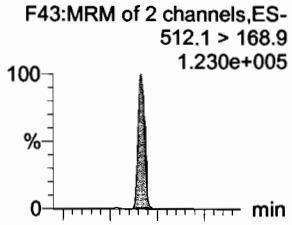


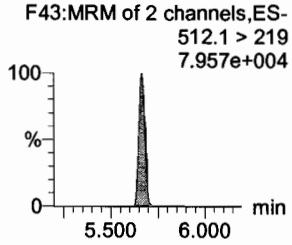
PFDoA



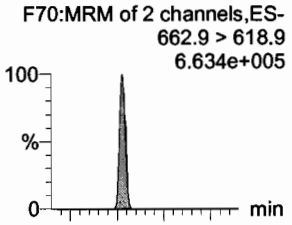


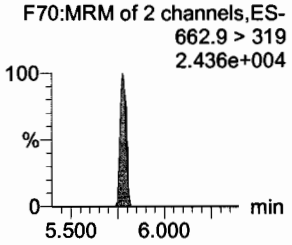
N-MeFOSA



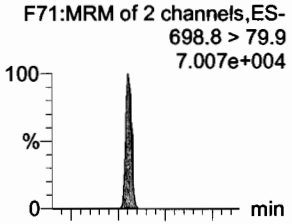


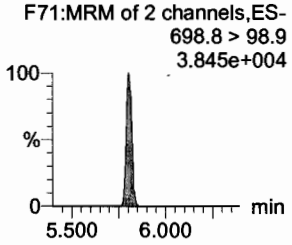
PFTrDA



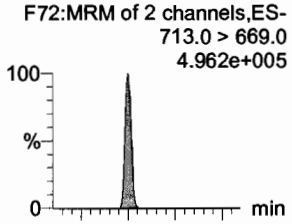


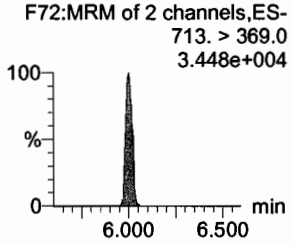
PFDoS



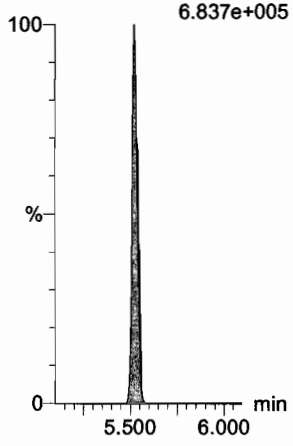


PFTeDA

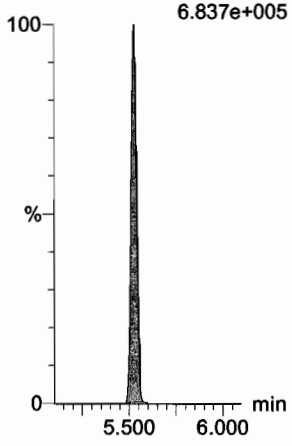




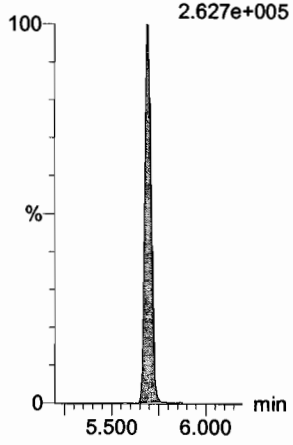
13C2-PFDoA



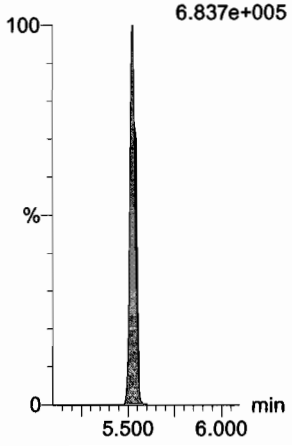
13C2-PFDoA



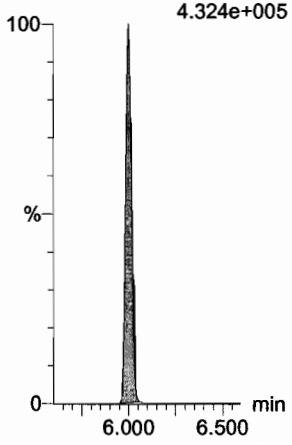
d3-N-MeFOSA



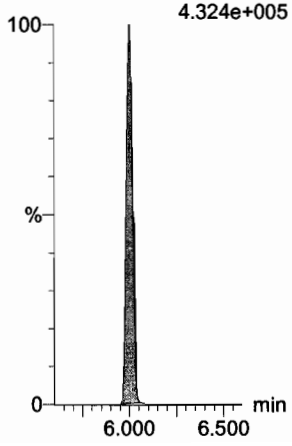
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

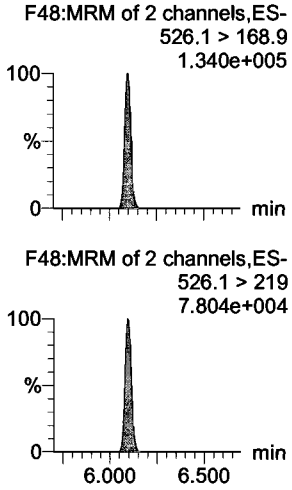


Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

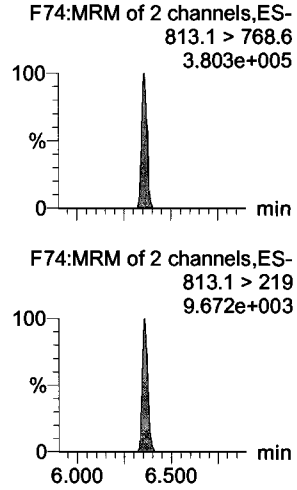
Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

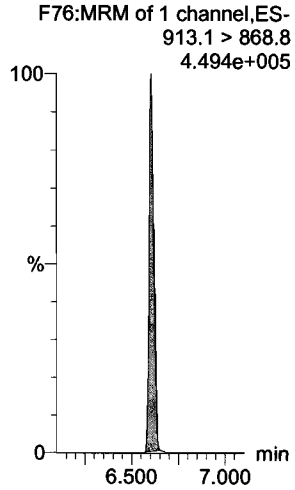
N-EtFOSA



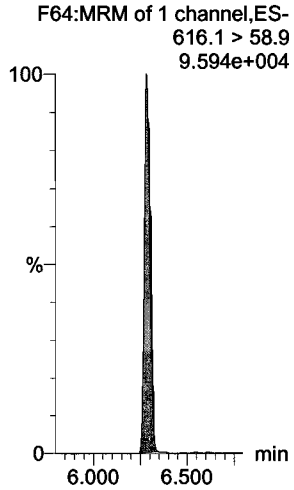
PFHxDA



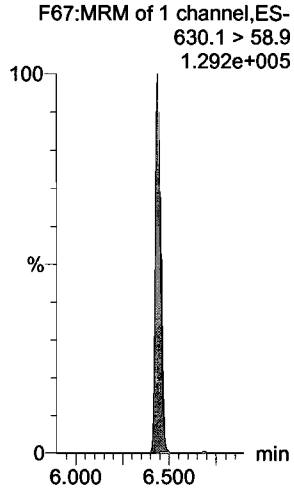
PFODA



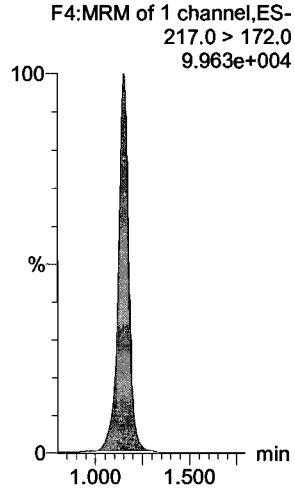
N-MeFOSE



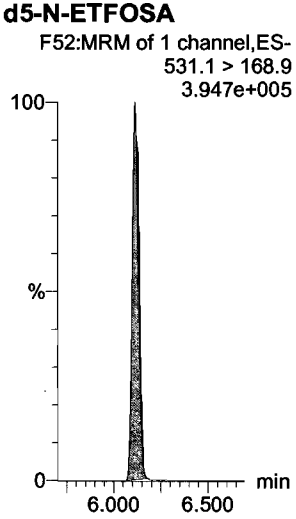
N-EtFOSE



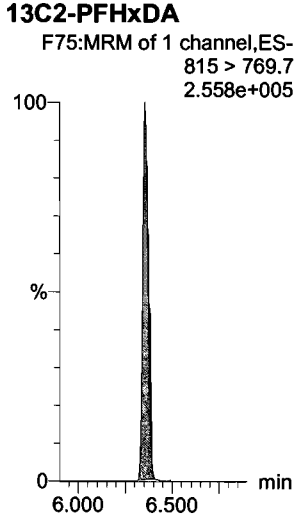
13C4-PFBA



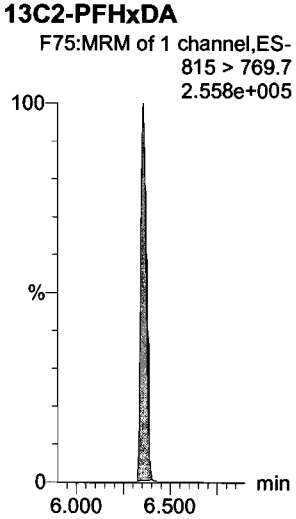
d5-N-ETFOSA



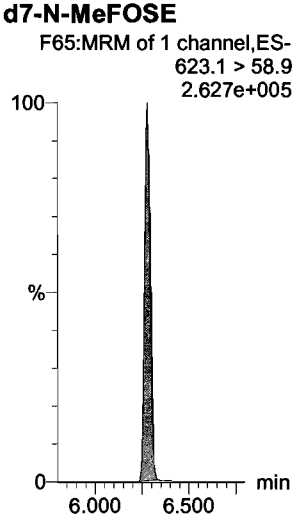
13C2-PFHxDA



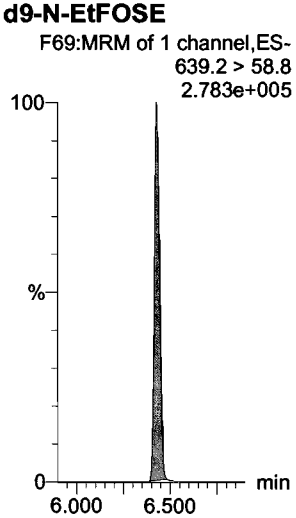
13C2-PFHxDA



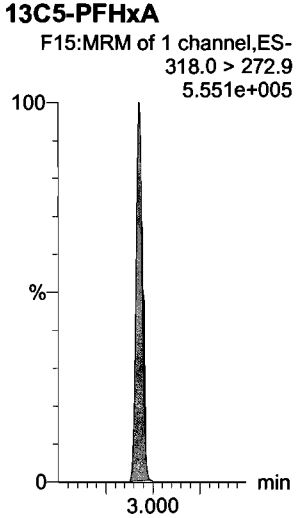
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

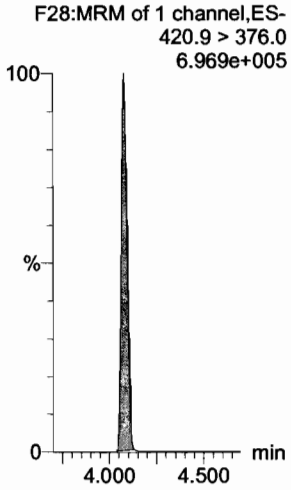


Dataset: Z:\Projects\PFAS.PRO\Results\190712M2\190712m2-50.qld

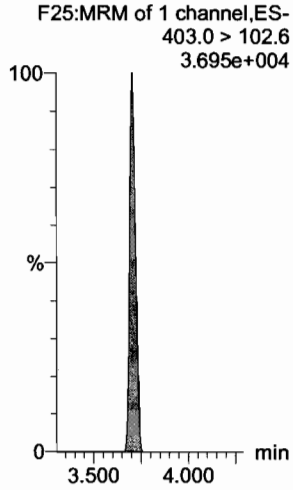
Last Altered: Sunday, July 14, 2019 14:16:09 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:16:40 Pacific Daylight Time

Name: 190712M2_50, Date: 13-Jul-2019, Time: 02:10:27, ID: ST190712M2-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

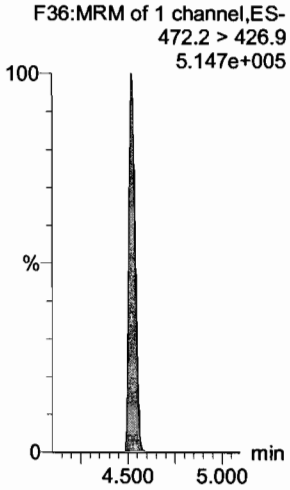
13C8-PFOA



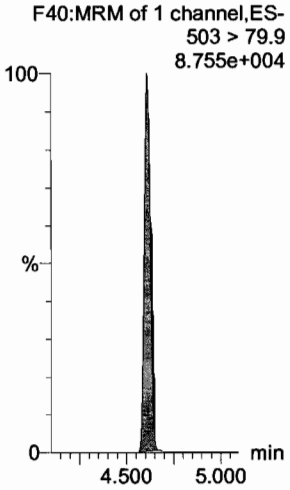
18O2-PFHxS



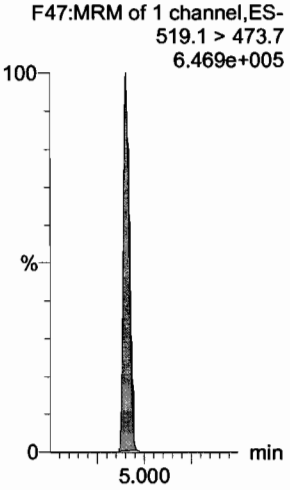
13C9-PFNA



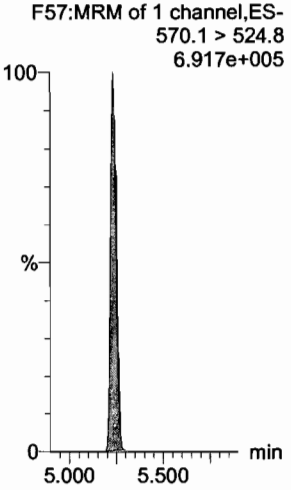
13C4-PFOS



13C6-PFDA



13C7-PFUdA



INITIAL CALIBRATION (ICAL)

INCLUDING ASSOCIATED

INITIAL CALIBRATION VERIFICATION (ICV) AND INSTRUMENT BLANK (IB)

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:56:26 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:11:11 Pacific Daylight Time

high pt
5:3FTCA = 50
all other compounds = 100

low pt
PFHpS = 0.5
PFDS ↓

scanned
tP 07/11/19

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

7:3FTCA & 11Cl-PF3OUdS not used.
AM 7/11/19
7/11/19

Compound name: PFBA
Correlation coefficient: r = 0.999710, r^2 = 0.999420
Calibration curve: 1.42744 * x + -0.0673711
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	1.22	55.051	1930.395	0.356	0.3	18.8	NO	0.999	NO	MM
2	2	190710M2_7	Standard	0.500	1.21	97.891	2093.751	0.584	0.5	-8.7	NO	0.999	NO	MM
3	3	190710M2_8	Standard	1.000	1.21	198.526	1877.004	1.322	1.0	-2.7	NO	0.999	NO	MM
4	4	190710M2_9	Standard	2.000	1.21	444.612	1948.465	2.852	2.0	2.3	NO	0.999	NO	MM
5	5	190710M2_10	Standard	5.000	1.21	1384.449	2587.624	6.688	4.7	-5.4	NO	0.999	NO	MM
6	6	190710M2_11	Standard	10.000	1.21	2122.117	1944.651	13.641	9.6	-4.0	NO	0.999	NO	bb
7	7	190710M2_12	Standard	50.000	1.22	17596.623	3149.437	69.840	49.0	-2.1	NO	0.999	NO	bb
8	8	190710M2_13	Standard	100.000	1.21	20709.215	1784.566	145.058	101.7	1.7	NO	0.999	NO	bb

Compound name: PFPrS
Coefficient of Determination: R^2 = 0.997891
Calibration curve: 0.000772076 * x^2 + 1.04403 * x + 0.0148423
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	1.57	8.922	545.502	0.204	0.2	-27.4	NO	0.998	NO	bb
2	2	190710M2_7	Standard	0.500	1.57	25.938	500.786	0.647	0.6	21.1	NO	0.998	NO	bb
3	3	190710M2_8	Standard	1.000	1.57	43.402	517.896	1.048	1.0	-1.2	NO	0.998	NO	MM
4	4	190710M2_9	Standard	2.000	1.57	98.335	589.041	2.087	2.0	-0.9	NO	0.998	NO	MM
5	5	190710M2_10	Standard	5.000	1.57	301.372	676.534	5.568	5.3	6.0	NO	0.998	NO	bb
6	6	190710M2_11	Standard	10.000	1.57	488.523	516.663	11.819	11.2	12.1	NO	0.998	NO	bb
7	7	190710M2_12	Standard	50.000	1.57	3726.911	909.570	51.218	47.4	-5.2	NO	0.998	NO	bb
8	8	190710M2_13	Standard	100.000	1.57	4578.077	504.378	113.458	101.1	1.1	NO	0.998	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:29:54 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.997073
Calibration curve: -1.28403e-005 * x^2 + 0.0420476 * x + -0.00551054
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	2.06	1.490	3451.527	0.005	0.3	3.8	NO	0.997	NO	MM
2	2	190710M2_7	Standard	0.500	2.03	5.305	4278.600	0.015	0.5	-0.1	NO	0.997	NO	MM
3	3	190710M2_8	Standard	1.000	2.05	7.390	3455.927	0.027	0.8	-23.3	NO	0.997	NO	bb
4	4	190710M2_9	Standard	2.000	2.05	16.319	3752.667	0.054	1.4	-28.8	NO	0.997	NO	MM
5	5	190710M2_10	Standard	5.000	2.05	76.161	4918.636	0.194	4.7	-5.2	NO	0.997	NO	MM
6	6	190710M2_11	Standard	10.000	2.04	127.957	3981.248	0.402	9.7	-2.9	NO	0.997	NO	MM
7	7	190710M2_12	Standard	50.000	2.05	1056.409	6077.235	2.173	52.7	5.3	NO	0.997	NO	db
8	8	190710M2_13	Standard	100.000	2.04	1111.191	3455.963	4.019	98.7	-1.3	NO	0.997	NO	MM

Compound name: PFPeA
Correlation coefficient: r = 0.998647, r^2 = 0.997296
Calibration curve: 0.957887 * x + -0.0507044
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	2.19	60.373	3451.527	0.219	0.3	12.5	NO	0.997	NO	bb
2	2	190710M2_7	Standard	0.500	2.20	143.024	4278.600	0.418	0.5	-2.2	NO	0.997	NO	MM
3	3	190710M2_8	Standard	1.000	2.19	247.637	3455.927	0.896	1.0	-1.2	NO	0.997	NO	MM
4	4	190710M2_9	Standard	2.000	2.19	519.623	3752.667	1.731	1.9	-7.0	NO	0.997	NO	MM
5	5	190710M2_10	Standard	5.000	2.20	1963.789	4918.636	4.991	5.3	5.3	NO	0.997	NO	bb
6	6	190710M2_11	Standard	10.000	2.20	2908.583	3981.248	9.132	9.6	-4.1	NO	0.997	NO	bb
7	7	190710M2_12	Standard	50.000	2.20	21625.723	6077.235	44.481	46.5	-7.0	NO	0.997	NO	bb
8	8	190710M2_13	Standard	100.000	2.20	27473.760	3455.963	99.371	103.8	3.8	NO	0.997	NO	MM

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:29:54 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999402, r^2 = 0.998804
Calibration curve: 2.32197 * x + -0.263256
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	2.47	11.926	545.502	0.273	0.2	-7.6	NO	0.999	NO	bb
2	2	190710M2_7	Standard	0.500	2.49	41.057	500.786	1.025	0.6	10.9	NO	0.999	NO	MM
3	3	190710M2_8	Standard	1.000	2.49	81.716	517.896	1.972	1.0	-3.7	NO	0.999	NO	bb
4	4	190710M2_9	Standard	2.000	2.49	202.334	589.041	4.294	2.0	-1.9	NO	0.999	NO	MM
5	5	190710M2_10	Standard	5.000	2.49	599.924	676.534	11.085	4.9	-2.3	NO	0.999	NO	bb
6	6	190710M2_11	Standard	10.000	2.49	1018.812	516.663	24.649	10.7	7.3	NO	0.999	NO	bb
7	7	190710M2_12	Standard	50.000	2.49	8051.513	909.570	110.650	47.8	-4.5	NO	0.999	NO	MM
8	8	190710M2_13	Standard	100.000	2.49	9513.766	504.378	235.780	101.7	1.7	NO	0.999	NO	bb

Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999259
Calibration curve: 0.000507604 * x^2 + 2.44029 * x + -0.0250945
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	2.91	44.323	1218.422	0.455	0.2	-21.4	NO	0.999	NO	bb
2	2	190710M2_7	Standard	0.500	2.90	116.573	1263.342	1.153	0.5	-3.4	NO	0.999	NO	bb
3	3	190710M2_8	Standard	1.000	2.90	268.414	1209.812	2.773	1.1	14.6	NO	0.999	NO	bb
4	4	190710M2_9	Standard	2.000	2.90	504.618	1216.382	5.186	2.1	6.7	NO	0.999	NO	bb
5	5	190710M2_10	Standard	5.000	2.90	1429.432	1338.061	13.354	5.5	9.5	NO	0.999	NO	bb
6	6	190710M2_11	Standard	10.000	2.91	2241.920	1216.987	23.027	9.4	-5.7	NO	0.999	NO	bb
7	7	190710M2_12	Standard	50.000	2.90	16650.355	1698.185	122.560	49.7	-0.6	NO	0.999	NO	bb
8	8	190710M2_13	Standard	100.000	2.90	19554.461	979.676	249.502	100.2	0.2	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: PFHxA
Correlation coefficient: r = 0.999958, r^2 = 0.999917
Calibration curve: 1.1618 * x + 0.000973487
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	2.98	190.647	3008.368	0.317	0.3	8.8	NO	1.000	NO	bb
2	2	190710M2_7	Standard	0.500	2.99	337.259	3012.537	0.560	0.5	-3.8	NO	1.000	NO	bb
3	3	190710M2_8	Standard	1.000	2.99	683.336	3100.750	1.102	0.9	-5.2	NO	1.000	NO	bb
4	4	190710M2_9	Standard	2.000	2.99	1378.962	2883.050	2.391	2.1	2.9	NO	1.000	NO	bb
5	5	190710M2_10	Standard	5.000	2.99	4209.333	3670.589	5.734	4.9	-1.3	NO	1.000	NO	bb
6	6	190710M2_11	Standard	10.000	2.99	6548.668	2838.096	11.537	9.9	-0.7	NO	1.000	NO	bb
7	7	190710M2_12	Standard	50.000	2.99	53855.410	4670.029	57.661	49.6	-0.7	NO	1.000	NO	bb
8	8	190710M2_13	Standard	100.000	2.99	63327.426	2711.879	116.759	100.5	0.5	NO	1.000	NO	bb

Compound name: PFPeS
Coefficient of Determination: R^2 = 0.998874
Calibration curve: 0.000269775 * x^2 + 2.12841 * x + 0.0156908
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	3.19	22.487	545.502	0.515	0.2	-6.1	NO	0.999	NO	bb
2	2	190710M2_7	Standard	0.500	3.19	32.419	500.786	0.809	0.4	-25.4	NO	0.999	NO	bb
3	3	190710M2_8	Standard	1.000	3.20	103.496	517.896	2.498	1.2	16.6	NO	0.999	NO	bb
4	4	190710M2_9	Standard	2.000	3.19	216.941	589.041	4.604	2.2	7.8	NO	0.999	NO	bb
5	5	190710M2_10	Standard	5.000	3.19	601.364	676.534	11.111	5.2	4.2	NO	0.999	NO	bb
6	6	190710M2_11	Standard	10.000	3.19	931.931	516.663	22.547	10.6	5.7	NO	0.999	NO	bb
7	7	190710M2_12	Standard	50.000	3.19	7518.340	909.570	103.323	48.2	-3.5	NO	0.999	NO	bb
8	8	190710M2_13	Standard	100.000	3.19	8767.941	504.378	217.296	100.8	0.8	NO	0.999	NO	bb

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Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.998150
Calibration curve: 0.000712906 * x^2 + 0.547378 * x + -0.00436396
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	3.21	23.157	1155.989	0.100	0.2	-23.6	NO	0.998	NO	bb
2	2 190710M2_7	Standard	0.500	3.20	72.494	1192.405	0.304	0.6	12.6	NO	0.998	NO	bb
3	3 190710M2_8	Standard	1.000	3.20	137.769	1184.265	0.582	1.1	6.9	NO	0.998	NO	bb
4	4 190710M2_9	Standard	2.000	3.20	237.149	1280.574	0.926	1.7	-15.2	NO	0.998	NO	bb
5	5 190710M2_10	Standard	5.000	3.20	830.339	1293.869	3.209	5.8	16.5	NO	0.998	NO	bb
6	6 190710M2_11	Standard	10.000	3.20	1336.519	1137.478	5.875	10.6	5.9	NO	0.998	NO	bb
7	7 190710M2_12	Standard	50.000	3.20	9810.055	1756.626	27.923	48.0	-4.0	NO	0.998	NO	bb
8	8 190710M2_13	Standard	100.000	3.20	12361.706	990.189	62.421	100.8	0.8	NO	0.998	NO	bb

Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.995477
Calibration curve: 0.000863776 * x^2 + 0.248802 * x + -0.0186935
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	3.54	15.177	3685.756	0.051	0.3	12.7	NO	0.995	NO	bb
2	2 190710M2_7	Standard	0.500	3.53	27.390	3854.176	0.089	0.4	-13.7	NO	0.995	NO	bb
3	3 190710M2_8	Standard	1.000	3.54	66.792	3764.723	0.222	1.0	-3.7	NO	0.995	NO	bb
4	4 190710M2_9	Standard	2.000	3.54	98.907	3733.310	0.331	1.4	-30.0	~~YES~~ NO	0.995	NO	bb
5	5 190710M2_10	Standard	5.000	3.54	405.085	4336.953	1.168	4.7	-6.2	NO	0.995	NO	bb
6	6 190710M2_11	Standard	10.000	3.54	791.510	3472.715	2.849	11.1	11.0	NO	0.995	NO	bb
7	7 190710M2_12	Standard	50.000	3.54	6523.466	5609.557	14.536	49.9	-0.3	NO	0.995	NO	bb
8	8 190710M2_13	Standard	100.000	3.54	6688.903	3411.495	24.509	77.6	-22.4	NO	0.995	NO	bbX

(A) CRITERIA IS ±30%
7/11/19

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Compound name: PFHpA
Correlation coefficient: r = 0.999078, r^2 = 0.998158
Calibration curve: 1.2318 * x + -0.044697
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	3.62	67.776	3685.756	0.230	0.2	-10.8	NO	0.998	NO	bb
2	2	190710M2_7	Standard	0.500	3.61	158.246	3854.176	0.513	0.5	-9.4	NO	0.998	NO	bb
3	3	190710M2_8	Standard	1.000	3.61	374.010	3764.723	1.242	1.0	4.4	NO	0.998	NO	bb
4	4	190710M2_9	Standard	2.000	3.61	764.547	3733.310	2.560	2.1	5.7	NO	0.998	NO	bb
5	5	190710M2_10	Standard	5.000	3.61	2275.237	4336.953	6.558	5.4	7.2	NO	0.998	NO	bb
6	6	190710M2_11	Standard	10.000	3.61	3432.809	3472.715	12.356	10.1	0.7	NO	0.998	NO	bb
7	7	190710M2_12	Standard	50.000	3.61	29128.148	5609.557	64.907	52.7	5.5	NO	0.998	NO	bb
8	8	190710M2_13	Standard	100.000	3.61	32516.168	3411.495	119.142	96.8	-3.2	NO	0.998	NO	bb

Compound name: ADONA
Correlation coefficient: r = 0.999468, r^2 = 0.998936
Calibration curve: 4.33675 * x + -0.0191729
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	3.72	364.378	3685.756	1.236	0.3	15.7	NO	0.999	NO	bb
2	2	190710M2_7	Standard	0.500	3.72	558.907	3854.176	1.813	0.4	-15.5	NO	0.999	NO	bb
3	3	190710M2_8	Standard	1.000	3.72	1242.688	3764.723	4.126	1.0	-4.4	NO	0.999	NO	bb
4	4	190710M2_9	Standard	2.000	3.72	2533.513	3733.310	8.483	2.0	-2.0	NO	0.999	NO	bb
5	5	190710M2_10	Standard	5.000	3.72	7966.099	4336.953	22.960	5.3	6.0	NO	0.999	NO	bb
6	6	190710M2_11	Standard	10.000	3.72	11814.175	3472.715	42.525	9.8	-1.9	NO	0.999	NO	bb
7	7	190710M2_12	Standard	50.000	3.72	101338.813	5609.557	225.817	52.1	4.2	NO	0.999	NO	bb
8	8	190710M2_13	Standard	100.000	3.72	115912.508	3411.495	424.713	97.9	-2.1	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999253
Calibration curve: 0.000954922 * x^2 + 0.833847 * x + -0.0703303
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	3.77	15.820	1304.722	0.152	0.3	6.4	NO	0.999	NO	bb
2	2	190710M2_7	Standard	0.500	3.76	26.272	1441.949	0.228	0.4	-28.5	NO	0.999	NO	bb
3	3	190710M2_8	Standard	1.000	3.75	70.632	1290.789	0.684	0.9	-9.6	NO	0.999	NO	MM
4	4	190710M2_9	Standard	2.000	3.77	177.127	1321.664	1.675	2.1	4.4	NO	0.999	NO	MM
5	5	190710M2_10	Standard	5.000	3.77	494.610	1652.108	3.742	4.5	-9.0	NO	0.999	NO	MM
6	6	190710M2_11	Standard	10.000	3.76	868.476	1279.918	8.482	10.1	1.4	NO	0.999	NO	MM
7	7	190710M2_12	Standard	50.000	3.76	7617.017	2127.934	44.744	50.8	1.6	NO	0.999	NO	MM
8	8	190710M2_13	Standard	100.000	3.76	9131.280	1233.913	92.503	99.6	-0.4	NO	0.999	NO	MM

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.999098
Calibration curve: -0.00219189 * x^2 + 2.96391 * x + -0.232571
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	4.08	45.440	919.066	0.618	0.3	14.8	NO	0.999	NO	bb
2	2	190710M2_7	Standard	0.500	4.07	74.459	992.943	0.937	0.4	-21.0	NO	0.999	NO	MM
3	3	190710M2_8	Standard	1.000	4.08	168.857	961.569	2.195	0.8	-18.0	NO	0.999	NO	bb
4	4	190710M2_9	Standard	2.000	4.07	394.793	971.636	5.079	1.8	-10.3	NO	0.999	NO	bb
5	5	190710M2_10	Standard	5.000	4.08	1310.712	1089.051	15.044	5.2	3.5	NO	0.999	NO	bb
6	6	190710M2_11	Standard	10.000	4.08	2127.561	927.023	28.688	9.8	-1.7	NO	0.999	NO	bb
7	7	190710M2_12	Standard	50.000	4.07	16187.466	1394.910	145.058	50.9	1.9	NO	0.999	NO	bb
8	8	190710M2_13	Standard	100.000	4.08	17673.369	809.234	272.995	99.5	-0.5	NO	0.999	NO	bb

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Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: L-PFOA
Correlation coefficient: r = 0.999875, r^2 = 0.999749
Calibration curve: 1.84829 * x + 0.038532
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.13	341.491	7718.956	0.553	0.3	11.3	NO	1.000	NO	bb
2	2 190710M2_7	Standard	0.500	4.13	527.657	7963.359	0.828	0.4	-14.5	NO	1.000	NO	bb
3	3 190710M2_8	Standard	1.000	4.13	1188.006	7400.191	2.007	1.1	6.5	NO	1.000	NO	bb
4	4 190710M2_9	Standard	2.000	4.13	2263.133	7808.747	3.623	1.9	-3.0	NO	1.000	NO	bb
5	5 190710M2_10	Standard	5.000	4.13	7076.688	9244.864	9.568	5.2	3.1	NO	1.000	NO	bb
6	6 190710M2_11	Standard	10.000	4.13	10718.578	7521.740	17.813	9.6	-3.8	NO	1.000	NO	bb
7	7 190710M2_12	Standard	50.000	4.13	84902.875	11432.653	92.829	50.2	0.4	NO	1.000	NO	bb
8	8 190710M2_13	Standard	100.000	4.13	96793.156	6540.568	184.986	100.1	0.1	NO	1.000	NO	bb

Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999465
Calibration curve: 0.000151504 * x^2 + 0.280359 * x + -0.022501
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.14	27.214	7718.956	0.044	0.2	-5.0	NO	0.999	NO	bb
2	2 190710M2_7	Standard	0.500	4.16	66.812	7963.359	0.105	0.5	-9.2	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	4.16	192.885	7400.191	0.326	1.2	24.2	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	4.15	322.429	7808.747	0.516	1.9	-4.0	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	4.15	952.309	9244.864	1.288	4.7	-6.8	NO	0.999	NO	bb
6	6 190710M2_11	Standard	10.000	4.15	1686.971	7521.740	2.803	10.0	0.3	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	4.15	13248.463	11432.653	14.485	50.4	0.8	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	4.15	15423.572	6540.568	29.477	99.8	-0.2	NO	0.999	NO	bb

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Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999024
Calibration curve: 0.00125826 * x^2 + 0.86234 * x + -0.0187748
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.26	10.447	1347.552	0.097	0.1	-46.4	YES	0.999	NO	bbX
2	2 190710M2_7	Standard	0.500	4.25	61.205	1416.736	0.540	0.6	29.5	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	4.25	88.460	1422.413	0.777	0.9	-7.8	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	4.25	160.360	1341.699	1.494	1.7	-12.5	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	4.25	492.234	1597.348	3.852	4.5	-10.8	NO	0.999	NO	bb
6	6 190710M2_11	Standard	10.000	4.25	915.017	1315.408	8.695	10.0	-0.4	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	4.25	7844.108	2063.788	47.510	51.3	2.6	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	4.25	8916.717	1135.065	98.196	99.5	-0.5	NO	0.999	NO	bb

Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.995389
Calibration curve: 5.99689e-005 * x^2 + 0.135121 * x + -0.0173495
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

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	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250			7600.508				NO	0.995	NO	
2	2 190710M2_7	Standard	0.500	4.56	46.620	7970.221	0.073	0.7	33.9	YES	0.995	NO	bb
3	3 190710M2_8	Standard	1.000	4.56	46.549	7932.063	0.073	0.7	-32.9	YES	0.995	NO	bb
4	4 190710M2_9	Standard	2.000	4.55	137.996	7851.595	0.220	1.8	-12.4	NO	0.995	NO	bb
5	5 190710M2_10	Standard	5.000	4.56	461.092	9320.955	0.618	4.7	-6.1	NO	0.995	NO	bb
6	6 190710M2_11	Standard	10.000	4.56	696.622	7587.184	1.148	8.6	-14.1	NO	0.995	NO	bb
7	7 190710M2_12	Standard	50.000	4.56	7057.876	11887.996	7.421	53.8	7.5	NO	0.995	NO	bb
8	8 190710M2_13	Standard	100.000	4.56	7559.312	6822.277	13.850	98.3	-1.7	NO	0.995	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: PFNA
Correlation coefficient: r = 0.999712, r^2 = 0.999423
Calibration curve: 1.09616 * x + 0.0302511
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.57	209.476	7600.508	0.345	0.3	14.7	NO	0.999	NO	bb
2	2 190710M2_7	Standard	0.500	4.57	370.645	7970.221	0.581	0.5	0.5	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	4.58	684.983	7932.063	1.079	1.0	-4.3	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	4.57	1332.024	7851.595	2.121	1.9	-4.7	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	4.57	4077.807	9320.955	5.469	5.0	-0.8	NO	0.999	NO	bd
6	6 190710M2_11	Standard	10.000	4.57	6336.875	7587.184	10.440	9.5	-5.0	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	4.57	50993.352	11887.996	53.619	48.9	-2.2	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	4.57	60890.855	6822.277	111.566	101.8	1.8	NO	0.999	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.999643, r^2 = 0.999286
Calibration curve: 1.27955 * x + -0.0326972
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.63	31.020	1618.611	0.240	0.2	-14.9	NO	0.999	NO	bb
2	2 190710M2_7	Standard	0.500	4.64	81.781	1627.413	0.628	0.5	3.3	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	4.64	172.320	1531.073	1.407	1.1	12.5	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	4.64	316.272	1466.991	2.695	2.1	6.6	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	4.63	904.992	1856.207	6.094	4.8	-4.2	NO	0.999	NO	bb
6	6 190710M2_11	Standard	10.000	4.63	1429.461	1427.893	12.514	9.8	-1.9	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	4.63	11812.409	2379.869	62.043	48.5	-3.0	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	4.63	13928.197	1338.825	130.041	101.7	1.7	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: L-PFOS
Correlation coefficient: r = 0.997967, r^2 = 0.995937
Calibration curve: 1.26946 * x + -0.175183
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.67	11.018	1347.552	0.102	0.2	-12.6	NO	0.996	NO	bb
2	2 190710M2_7	Standard	0.500	4.66	46.686	1416.736	0.412	0.5	-7.5	NO	0.996	NO	MM
3	3 190710M2_8	Standard	1.000	4.66	145.239	1422.413	1.276	1.1	14.3	NO	0.996	NO	MM
4	4 190710M2_9	Standard	2.000	4.66	192.269	1341.699	1.791	1.5	-22.5	NO	0.996	NO	MM
5	5 190710M2_10	Standard	5.000	4.66	690.094	1597.348	5.400	4.4	-12.2	NO	0.996	NO	MM
6	6 190710M2_11	Standard	10.000	4.66	1089.682	1315.408	10.355	8.3	-17.1	NO	0.996	NO	MM
7	7 190710M2_12	Standard	50.000	4.66	10372.741	2063.788	62.826	49.6	-0.7	NO	0.996	NO	MM
8	8 190710M2_13	Standard	100.000	4.66	11864.368	1135.065	130.657	103.1	3.1	NO	0.996	NO	MM

Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999653
Calibration curve: 0.0017864 * x^2 + 3.15352 * x + -0.22686
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.88	57.131	1347.552	0.530	0.2	-4.0	NO	1.000	NO	bb
2	2 190710M2_7	Standard	0.500	4.88	176.989	1416.736	1.562	0.6	13.4	NO	1.000	NO	bb
3	3 190710M2_8	Standard	1.000	4.88	273.179	1422.413	2.401	0.8	-16.7	NO	1.000	NO	bb
4	4 190710M2_9	Standard	2.000	4.88	666.084	1341.699	6.206	2.0	1.9	NO	1.000	NO	bb
5	5 190710M2_10	Standard	5.000	4.88	2112.807	1597.348	16.534	5.3	6.0	NO	1.000	NO	bb
6	6 190710M2_11	Standard	10.000	4.88	3319.091	1315.408	31.541	10.0	0.2	NO	1.000	NO	bb
7	7 190710M2_12	Standard	50.000	4.88	26494.578	2063.788	160.473	49.6	-0.9	NO	1.000	NO	bb
8	8 190710M2_13	Standard	100.000	4.88	30298.004	1135.065	333.659	100.2	0.2	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: PFDA
Correlation coefficient: r = 0.998522, r^2 = 0.997046
Calibration curve: 1.67351 * x + -0.11586
Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.95	210.010	6483.450	0.405	0.3	24.5	NO	0.997	NO	bb
2	2 190710M2_7	Standard	0.500	4.95	377.184	6513.090	0.724	0.5	0.4	NO	0.997	NO	bb
3	3 190710M2_8	Standard	1.000	4.95	701.882	6815.267	1.287	0.8	-16.2	NO	0.997	NO	bb
4	4 190710M2_9	Standard	2.000	4.95	1730.184	6311.901	3.426	2.1	5.8	NO	0.997	NO	bb
5	5 190710M2_10	Standard	5.000	4.95	4940.079	7586.322	8.140	4.9	-1.3	NO	0.997	NO	bb
6	6 190710M2_11	Standard	10.000	4.95	7248.603	6184.109	14.652	8.8	-11.8	NO	0.997	NO	bb
7	7 190710M2_12	Standard	50.000	4.95	62152.000	9816.599	79.141	47.4	-5.3	NO	0.997	NO	bb
8	8 190710M2_13	Standard	100.000	4.95	73095.445	5260.100	173.703	103.9	3.9	NO	0.997	NO	bb

Compound name: 8:2 FTS
Correlation coefficient: r = 0.997198, r^2 = 0.994405
Calibration curve: 2.24647 * x + 0.0322693
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	4.92	35.266	888.285	0.496	0.2	-17.4	NO	0.994	NO	bb
2	2 190710M2_7	Standard	0.500	4.93	78.589	921.949	1.066	0.5	-8.0	NO	0.994	NO	bb
3	3 190710M2_8	Standard	1.000	4.93	136.249	954.638	1.784	0.8	-22.0	NO	0.994	NO	bb
4	4 190710M2_9	Standard	2.000	4.92	386.257	900.043	5.364	2.4	18.7	NO	0.994	NO	bb
5	5 190710M2_10	Standard	5.000	4.92	1103.913	944.165	14.615	6.5	29.8	NO	0.994	NO	bb
6	6 190710M2_11	Standard	10.000	4.92	1688.582	901.200	23.421	10.4	4.1	NO	0.994	NO	bb
7	7 190710M2_12	Standard	50.000	4.92	11984.012	1269.481	118.001	52.5	5.0	NO	0.994	NO	bb
8	8 190710M2_13	Standard	100.000	4.92	13640.808	794.537	214.603	95.5	-4.5	NO	0.994	NO	bb

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Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:56:26 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:06:48 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFNS
Coefficient of Determination: R^2 = 0.998948
Calibration curve: 0.0012104 * x^2 + 0.869148 * x + -0.063694
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	5.01	19.637	1347.552	0.182	0.3	13.1	NO	0.999	NO	bb
2	2 190710M2_7	Standard	0.500	5.01	42.411	1416.736	0.374	0.5	0.7	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	5.02	66.216	1422.413	0.582	0.7	-25.8	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	5.02	145.714	1341.699	1.358	1.6	-18.4	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	5.02	557.274	1597.348	4.361	5.1	1.1	NO	0.999	NO	bb
6	6 190710M2_11	Standard	10.000	5.01	902.201	1315.408	8.573	9.8	-2.0	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	5.01	7868.190	2063.788	47.656	51.2	2.5	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	5.02	8931.655	1135.065	98.361	99.5	-0.5	NO	0.999	NO	bb

Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.998887
Calibration curve: 0.003255 * x^2 + 2.95538 * x + -0.018678
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	5.10	110.489	1483.081	0.931	0.3	28.5	NO	0.999	NO	MM
2	2 190710M2_7	Standard	0.500	5.10	127.066	1539.354	1.032	0.4	-28.9	NO	0.999	NO	MM
3	3 190710M2_8	Standard	1.000	5.11	397.646	1534.459	3.239	1.1	10.1	NO	0.999	NO	MM
4	4 190710M2_9	Standard	2.000	5.11	672.372	1568.547	5.358	1.8	-9.2	NO	0.999	NO	MM
5	5 190710M2_10	Standard	5.000	5.10	2246.927	1786.803	15.719	5.3	5.9	NO	0.999	NO	MM
6	6 190710M2_11	Standard	10.000	5.10	3245.832	1481.031	27.395	9.2	-8.2	NO	0.999	NO	MM
7	7 190710M2_12	Standard	50.000	5.11	29639.494	2321.898	159.565	51.1	2.2	NO	0.999	NO	MM
8	8 190710M2_13	Standard	100.000	5.10	35897.949	1374.590	326.442	99.5	-0.5	NO	0.999	NO	MM

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Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:22:28

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.999414
Calibration curve: 0.000968179 * x^2 + 1.99529 * x + -0.24728
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	5.26	52.427	1930.980	0.339	0.3	17.6	NO	0.999	NO	MM
2	2	190710M2_7	Standard	0.500	5.26	66.737	1750.672	0.477	0.4	-27.5	NO	0.999	NO	MM
3	3	190710M2_8	Standard	1.000	5.27	275.709	1820.030	1.894	1.1	7.2	NO	0.999	NO	MM
4	4	190710M2_9	Standard	2.000	5.27	487.290	1715.865	3.550	1.9	-4.9	NO	0.999	NO	MM
5	5	190710M2_10	Standard	5.000	5.27	1730.527	2099.478	10.303	5.3	5.5	NO	0.999	NO	MM
6	6	190710M2_11	Standard	10.000	5.27	2630.015	1603.905	20.497	10.3	3.4	NO	0.999	NO	MM
7	7	190710M2_12	Standard	50.000	5.26	20822.275	2599.831	100.114	49.1	-1.7	NO	0.999	NO	MM
8	8	190710M2_13	Standard	100.000	5.27	24331.580	1449.809	209.783	100.4	0.4	NO	0.999	NO	MM

Compound name: PFUdA
Correlation coefficient: r = 0.999664, r^2 = 0.999328
Calibration curve: 0.930582 * x + 0.0128571
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	5.27	209.962	10308.564	0.255	0.3	3.9	NO	0.999	NO	bb
2	2	190710M2_7	Standard	0.500	5.27	365.858	9874.773	0.463	0.5	-3.2	NO	0.999	NO	bb
3	3	190710M2_8	Standard	1.000	5.28	844.203	10153.241	1.039	1.1	10.3	NO	0.999	NO	bb
4	4	190710M2_9	Standard	2.000	5.28	1478.163	10535.049	1.754	1.9	-6.5	NO	0.999	NO	bb
5	5	190710M2_10	Standard	5.000	5.27	4474.803	12195.073	4.587	4.9	-1.7	NO	0.999	NO	bb
6	6	190710M2_11	Standard	10.000	5.28	7063.031	9619.693	9.178	9.8	-1.5	NO	0.999	NO	bb
7	7	190710M2_12	Standard	50.000	5.28	56901.484	15781.931	45.069	48.4	-3.2	NO	0.999	NO	bb
8	8	190710M2_13	Standard	100.000	5.28	66131.688	8720.392	94.795	101.9	1.9	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: PFDS
Correlation coefficient: r = 0.997649, r^2 = 0.995303
Calibration curve: 2.06378 * x + -0.389745
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	5.33	35.202	888.285	0.495	0.4	71.6	YES	0.995	NO	bbX
2	2	190710M2_7	Standard	0.500	5.34	48.052	921.949	0.652	0.5	0.9	NO	0.995	NO	bb
3	3	190710M2_8	Standard	1.000	5.33	136.112	954.638	1.782	1.1	5.2	NO	0.995	NO	bb
4	4	190710M2_9	Standard	2.000	5.33	210.343	900.043	2.921	1.6	-19.8	NO	0.995	NO	bb
5	5	190710M2_10	Standard	5.000	5.33	913.603	944.165	12.095	6.0	21.0	NO	0.995	NO	bb
6	6	190710M2_11	Standard	10.000	5.33	1294.616	901.200	17.957	8.9	-11.1	NO	0.995	NO	bb
7	7	190710M2_12	Standard	50.000	5.33	11140.859	1269.481	109.699	53.3	6.7	NO	0.995	NO	bb
8	8	190710M2_13	Standard	100.000	5.33	12707.069	794.537	199.913	97.1	-2.9	NO	0.995	NO	bb

Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.990993
Calibration curve: 5.10585e-005 * x^2 + 0.0636606 * x + 0.00127315
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

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	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	5.50	15.036	11849.361	0.016	0.2	-8.4	NO	0.991	NO	bb
2	2	190710M2_7	Standard	0.500	5.50	51.761	11696.822	0.055	0.8	69.7	YES	0.991	NO	bb
3	3	190710M2_8	Standard	1.000	5.50	30.014	12098.984	0.031	0.5	-53.3	YES	0.991	NO	bb
4	4	190710M2_9	Standard	2.000	5.50	135.930	12100.947	0.140	2.2	9.1	NO	0.991	NO	bb
5	5	190710M2_10	Standard	5.000	5.49	368.903	14176.774	0.325	5.1	1.4	NO	0.991	NO	bb
6	6	190710M2_11	Standard	10.000	5.49	437.921	11395.914	0.480	7.5	-25.2	NO	0.991	NO	bb
7	7	190710M2_12	Standard	50.000	5.50	5206.060	18080.182	3.599	54.2	8.3	NO	0.991	NO	bb
8	8	190710M2_13	Standard	100.000	5.50	5656.417	10474.394	6.750	98.3	-1.7	NO	0.991	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.998698
Calibration curve: -0.00397372 * x^2 + 2.69789 * x + -0.0745551
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	5.55	45.291	888.285	0.637	0.3	5.6	NO	0.999	NO	bb
2	2 190710M2_7	Standard	0.500	5.55	89.307	921.949	1.211	0.5	-4.6	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	5.55	176.181	954.638	2.307	0.9	-11.6	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	5.55	404.641	900.043	5.620	2.1	5.9	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	5.55	1131.636	944.165	14.982	5.6	12.5	NO	0.999	NO	bb
6	6 190710M2_11	Standard	10.000	5.55	1754.811	901.200	24.340	9.2	-8.3	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	5.55	12763.050	1269.481	125.672	50.3	0.7	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	5.55	14601.342	794.537	229.715	99.9	-0.1	NO	0.999	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999847
Calibration curve: -0.000390936 * x^2 + 0.961264 * x + -0.0303905
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	5.57	227.053	11849.361	0.240	0.3	12.3	NO	1.000	NO	bb
2	2 190710M2_7	Standard	0.500	5.56	412.587	11696.822	0.441	0.5	-1.9	NO	1.000	NO	bb
3	3 190710M2_8	Standard	1.000	5.57	843.887	12098.984	0.872	0.9	-6.1	NO	1.000	NO	bb
4	4 190710M2_9	Standard	2.000	5.56	1814.495	12100.947	1.874	2.0	-0.8	NO	1.000	NO	bb
5	5 190710M2_10	Standard	5.000	5.56	5220.757	14176.774	4.603	4.8	-3.4	NO	1.000	NO	bb
6	6 190710M2_11	Standard	10.000	5.56	8611.083	11395.914	9.445	9.9	-1.0	NO	1.000	NO	bb
7	7 190710M2_12	Standard	50.000	5.57	68919.000	18080.182	47.648	50.6	1.3	NO	1.000	NO	bb
8	8 190710M2_13	Standard	100.000	5.56	77015.367	10474.394	91.909	99.7	-0.3	NO	1.000	NO	bb

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Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999075
Calibration curve: -0.000216151 * x^2 + 1.29923 * x + -0.534727
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	1.250	5.70	21.123	3054.399	1.037	1.2	-3.2	NO	0.999	NO	bb
2	2 190710M2_7	Standard	2.500	5.71	60.346	3277.438	2.762	2.5	1.5	NO	0.999	NO	bb
3	3 190710M2_8	Standard	5.000	5.71	101.673	3115.206	4.896	4.2	-16.3	NO	0.999	NO	bb
4	4 190710M2_9	Standard	10.000	5.71	208.321	3084.938	10.129	8.2	-17.8	NO	0.999	NO	bb
5	5 190710M2_10	Standard	25.000	5.70	794.928	3716.070	32.087	25.2	0.9	NO	0.999	NO	bb
6	6 190710M2_11	Standard	50.000	5.70	1250.184	2913.632	64.362	50.4	0.7	NO	0.999	NO	bb
7	7 190710M2_12	Standard	250.000	5.70	10117.369	4802.480	316.005	254.4	1.8	NO	0.999	NO	bb
8	8 190710M2_13	Standard	500.000	5.71	11808.107	2989.823	592.415	497.6	-0.5	NO	0.999	NO	bb

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999791
Calibration curve: -0.000400083 * x^2 + 1.06843 * x + -0.0442094
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	5.81	212.303	11849.361	0.224	0.3	0.4	NO	1.000	NO	bb
2	2 190710M2_7	Standard	0.500	5.81	404.091	11696.822	0.432	0.4	-10.9	NO	1.000	NO	bb
3	3 190710M2_8	Standard	1.000	5.81	1110.509	12098.984	1.147	1.1	11.6	NO	1.000	NO	bb
4	4 190710M2_9	Standard	2.000	5.81	1960.829	12100.947	2.025	1.9	-3.1	NO	1.000	NO	bb
5	5 190710M2_10	Standard	5.000	5.81	6228.645	14176.774	5.492	5.2	3.8	NO	1.000	NO	bb
6	6 190710M2_11	Standard	10.000	5.81	9489.233	11395.914	10.409	9.8	-1.8	NO	1.000	NO	bb
7	7 190710M2_12	Standard	50.000	5.82	75692.906	18080.182	52.331	50.0	-0.1	NO	1.000	NO	bb
8	8 190710M2_13	Standard	100.000	5.81	86166.516	10474.394	102.830	100.0	0.0	NO	1.000	NO	bb

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Compound name: PFDoS
Coefficient of Determination: R^2 = 0.998596
Calibration curve: -6.19262e-005 * x^2 + 0.244112 * x + -0.0199214
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	5.85	20.075	5988.523	0.042	0.3	1.3	NO	0.999	NO	bb
2	2 190710M2_7	Standard	0.500	5.83	42.984	6370.549	0.084	0.4	-14.6	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	5.84	130.564	6280.262	0.260	1.1	14.6	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	5.84	196.343	6033.232	0.407	1.7	-12.6	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	5.84	763.588	6836.236	1.396	5.8	16.2	NO	0.999	NO	bb
6	6 190710M2_11	Standard	10.000	5.84	1055.269	5715.887	2.308	9.6	-4.4	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	5.84	8982.088	9409.312	11.932	49.6	-0.8	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	5.84	10102.171	5300.635	23.823	100.2	0.2	NO	0.999	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999560
Calibration curve: 0.000924303 * x^2 + 1.48528 * x + 0.0369753
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	6.03	187.955	5988.523	0.392	0.2	-4.3	NO	1.000	NO	bb
2	2 190710M2_7	Standard	0.500	6.04	432.303	6370.549	0.848	0.5	9.2	NO	1.000	NO	bb
3	3 190710M2_8	Standard	1.000	6.04	641.228	6280.262	1.276	0.8	-16.6	NO	1.000	NO	bb
4	4 190710M2_9	Standard	2.000	6.03	1538.406	6033.232	3.187	2.1	5.9	NO	1.000	NO	bb
5	5 190710M2_10	Standard	5.000	6.04	4416.243	6836.236	8.075	5.4	7.9	NO	1.000	NO	bb
6	6 190710M2_11	Standard	10.000	6.04	6755.284	5715.887	14.773	9.9	-1.4	NO	1.000	NO	bb
7	7 190710M2_12	Standard	50.000	6.04	57140.523	9409.312	75.910	49.6	-0.9	NO	1.000	NO	bb
8	8 190710M2_13	Standard	100.000	6.04	67063.367	5300.635	158.149	100.2	0.2	NO	1.000	NO	bb

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Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999705
Calibration curve: 4.67147e-005 * x^2 + 0.924219 * x + -0.422102
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

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	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	1.250	6.12	23.128	4439.246	0.781	1.3	4.2	NO	1.000	NO	bb
2	2	190710M2_7	Standard	2.500	6.13	55.711	4462.217	1.873	2.5	-0.7	NO	1.000	NO	bb
3	3	190710M2_8	Standard	5.000	6.13	128.995	4330.604	4.468	5.3	5.8	NO	1.000	NO	bb
4	4	190710M2_9	Standard	10.000	6.12	224.014	4383.917	7.665	8.7	-12.5	NO	1.000	NO	bb
5	5	190710M2_10	Standard	25.000	6.13	838.738	5295.154	23.760	26.1	4.5	NO	1.000	NO	bb
6	6	190710M2_11	Standard	50.000	6.13	1279.052	4247.957	45.165	49.2	-1.6	NO	1.000	NO	bb
7	7	190710M2_12	Standard	250.000	6.13	10501.848	6715.452	234.575	251.1	0.4	NO	1.000	NO	bb
8	8	190710M2_13	Standard	500.000	6.13	12798.550	4059.624	472.897	499.5	-0.1	NO	1.000	NO	bb

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999745
Calibration curve: -0.000493807 * x^2 + 0.756486 * x + 0.0537783
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	0.250	6.39	181.705	3440.496	0.264	0.3	11.2	NO	1.000	NO	bb
2	2	190710M2_7	Standard	0.500	6.39	311.225	3551.527	0.438	0.5	1.7	NO	1.000	NO	bb
3	3	190710M2_8	Standard	1.000	6.39	547.227	3591.524	0.762	0.9	-6.3	NO	1.000	NO	bb
4	4	190710M2_9	Standard	2.000	6.39	1046.898	3403.188	1.538	2.0	-1.8	NO	1.000	NO	bb
5	5	190710M2_10	Standard	5.000	6.39	2985.637	4071.111	3.667	4.8	-4.2	NO	1.000	NO	bb
6	6	190710M2_11	Standard	10.000	6.39	4843.048	3262.578	7.422	9.8	-2.0	NO	1.000	NO	bb
7	7	190710M2_12	Standard	50.000	6.39	40627.480	5446.172	37.299	50.9	1.9	NO	1.000	NO	bb
8	8	190710M2_13	Standard	100.000	6.39	43788.574	3107.337	70.460	99.5	-0.5	NO	1.000	NO	bb

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Compound name: PFODA
Correlation coefficient: r = 0.999748, r^2 = 0.999496
Calibration curve: 0.835341 * x + 0.00579687
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	0.250	6.63	144.032	3440.496	0.209	0.2	-2.5	NO	0.999	NO	bb
2	2 190710M2_7	Standard	0.500	6.63	312.756	3551.527	0.440	0.5	4.0	NO	0.999	NO	bb
3	3 190710M2_8	Standard	1.000	6.63	594.852	3591.524	0.828	1.0	-1.6	NO	0.999	NO	bb
4	4 190710M2_9	Standard	2.000	6.63	1122.281	3403.188	1.649	2.0	-1.7	NO	0.999	NO	bb
5	5 190710M2_10	Standard	5.000	6.63	3537.889	4071.111	4.345	5.2	3.9	NO	0.999	NO	bb
6	6 190710M2_11	Standard	10.000	6.63	5598.238	3262.578	8.579	10.3	2.6	NO	0.999	NO	bb
7	7 190710M2_12	Standard	50.000	6.63	44035.457	5446.172	40.428	48.4	-3.2	NO	0.999	NO	bb
8	8 190710M2_13	Standard	100.000	6.63	52533.277	3107.337	84.531	101.2	1.2	NO	0.999	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999631, r^2 = 0.999263
Calibration curve: 1.11841 * x + 0.165536
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	1.250	6.31	37.031	4007.611	1.386	1.1	-12.7	NO	0.999	NO	bb
2	2 190710M2_7	Standard	2.500	6.30	85.698	3785.716	3.396	2.9	15.5	NO	0.999	NO	bb
3	3 190710M2_8	Standard	5.000	6.31	167.209	3922.123	6.395	5.6	11.4	NO	0.999	NO	bb
4	4 190710M2_9	Standard	10.000	6.30	259.229	3727.673	10.431	9.2	-8.2	NO	0.999	NO	bb
5	5 190710M2_10	Standard	25.000	6.31	836.294	4820.834	26.021	23.1	-7.5	NO	0.999	NO	bb
6	6 190710M2_11	Standard	50.000	6.31	1404.172	3765.545	55.935	49.9	-0.3	NO	0.999	NO	bb
7	7 190710M2_12	Standard	250.000	6.30	11978.623	6250.164	287.479	256.9	2.8	NO	0.999	NO	bb
8	8 190710M2_13	Standard	500.000	6.30	14010.419	3793.865	553.937	495.1	-1.0	NO	0.999	NO	bb

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Compound name: N-EtFOSE
Correlation coefficient: r = 0.999930, r^2 = 0.999860
Calibration curve: 1.41132 * x + -0.260677
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	1.250	6.46	37.607	3845.157	1.467	1.2	-2.1	NO	1.000	NO	bb
2	2	190710M2_7	Standard	2.500	6.46	83.843	3839.792	3.275	2.5	0.2	NO	1.000	NO	bb
3	3	190710M2_8	Standard	5.000	6.46	173.873	3944.296	6.612	4.9	-2.6	NO	1.000	NO	bb
4	4	190710M2_9	Standard	10.000	6.46	371.200	3790.164	14.691	10.6	5.9	NO	1.000	NO	bb
5	5	190710M2_10	Standard	25.000	6.46	1033.909	4610.654	33.637	24.0	-3.9	NO	1.000	NO	bb
6	6	190710M2_11	Standard	50.000	6.46	1783.965	3714.178	72.047	51.2	2.5	NO	1.000	NO	bd
7	7	190710M2_12	Standard	250.000	6.46	14491.547	6151.757	353.351	250.6	0.2	NO	1.000	NO	bb
8	8	190710M2_13	Standard	500.000	6.46	17047.996	3634.249	703.639	498.8	-0.2	NO	1.000	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.650021
RRF SD: 0.0190623, Relative SD: 2.93256
Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	1.21	1930.395	2921.156	8.260	12.7	1.7	NO		NO	MM
2	2	190710M2_7	Standard	12.500	1.21	2093.751	3200.857	8.177	12.6	0.6	NO		NO	bb
3	3	190710M2_8	Standard	12.500	1.21	1877.004	3042.829	7.711	11.9	-5.1	NO		NO	bb
4	4	190710M2_9	Standard	12.500	1.21	1948.465	3054.028	7.975	12.3	-1.8	NO		NO	bb
5	5	190710M2_10	Standard	12.500	1.21	2587.624	3825.142	8.456	13.0	4.1	NO		NO	bb
6	6	190710M2_11	Standard	12.500	1.21	1944.651	2935.893	8.280	12.7	1.9	NO		NO	bb
7	7	190710M2_12	Standard	12.500	1.22	3149.437	4789.874	8.219	12.6	1.2	NO		NO	bb
8	8	190710M2_13	Standard	12.500	1.21	1784.566	2814.827	7.925	12.2	-2.5	NO		NO	bb

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Compound name: 13C3-PFPeA
Response Factor: 0.407627
RRF SD: 0.0308474, Relative SD: 7.56756
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	2.19	3451.527	9214.552	4.682	11.5	-8.1	NO		NO	bb
2	2 190710M2_7	Standard	12.500	2.19	4278.600	9744.537	5.488	13.5	7.7	NO		NO	MM
3	3 190710M2_8	Standard	12.500	2.20	3455.927	9533.288	4.531	11.1	-11.1	NO		NO	bb
4	4 190710M2_9	Standard	12.500	2.20	3752.667	9794.559	4.789	11.7	-6.0	NO		NO	MM
5	5 190710M2_10	Standard	12.500	2.20	4918.636	11219.285	5.480	13.4	7.6	NO		NO	bb
6	6 190710M2_11	Standard	12.500	2.20	3981.248	9088.471	5.476	13.4	7.5	NO		NO	db
7	7 190710M2_12	Standard	12.500	2.20	6077.235	14844.347	5.117	12.6	0.4	NO		NO	db
8	8 190710M2_13	Standard	12.500	2.20	3455.963	8310.527	5.198	12.8	2.0	NO		NO	MM

Compound name: 13C3-PFBS
Response Factor: 1.03514
RRF SD: 0.0705751, Relative SD: 6.81793
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	2.49	545.502	506.480	13.463	13.0	4.0	NO		NO	MM
2	2 190710M2_7	Standard	12.500	2.49	500.786	530.060	11.810	11.4	-8.7	NO		NO	bb
3	3 190710M2_8	Standard	12.500	2.49	517.896	516.799	12.527	12.1	-3.2	NO		NO	MM
4	4 190710M2_9	Standard	12.500	2.49	589.041	567.821	12.967	12.5	0.2	NO		NO	MM
5	5 190710M2_10	Standard	12.500	2.49	676.534	643.362	13.145	12.7	1.6	NO		NO	bb
6	6 190710M2_11	Standard	12.500	2.49	516.663	448.826	14.389	13.9	11.2	NO		NO	bb
7	7 190710M2_12	Standard	12.500	2.49	909.570	964.996	11.782	11.4	-8.9	NO		NO	MM
8	8 190710M2_13	Standard	12.500	2.49	504.378	469.394	13.432	13.0	3.8	NO		NO	bb

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Compound name: 13C3-HFPO-DA
Response Factor: 0.306485
RRF SD: 0.0121995, Relative SD: 3.98045
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	5.000	3.20	1155.989	9214.552	1.568	5.1	2.3	NO		NO	bb
2	2 190710M2_7	Standard	5.000	3.20	1192.405	9744.537	1.530	5.0	-0.2	NO		NO	bb
3	3 190710M2_8	Standard	5.000	3.20	1184.265	9533.288	1.553	5.1	1.3	NO		NO	bb
4	4 190710M2_9	Standard	5.000	3.20	1280.574	9794.559	1.634	5.3	6.6	NO		NO	bb
5	5 190710M2_10	Standard	5.000	3.20	1293.869	11219.285	1.442	4.7	-5.9	NO		NO	bb
6	6 190710M2_11	Standard	5.000	3.20	1137.478	9088.471	1.564	5.1	2.1	NO		NO	bb
7	7 190710M2_12	Standard	5.000	3.20	1756.626	14844.347	1.479	4.8	-3.5	NO		NO	bb
8	8 190710M2_13	Standard	5.000	3.20	990.189	8310.527	1.489	4.9	-2.8	NO		NO	bb

Compound name: 13C2-4:2 FTS
Response Factor: 2.2388
RRF SD: 0.285284, Relative SD: 12.7427
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	2.90	1218.422	506.480	30.071	13.4	7.5	NO		NO	bb
2	2 190710M2_7	Standard	12.500	2.90	1263.342	530.060	29.792	13.3	6.5	NO		NO	bb
3	3 190710M2_8	Standard	12.500	2.90	1209.812	516.799	29.262	13.1	4.6	NO		NO	bb
4	4 190710M2_9	Standard	12.500	2.90	1216.382	567.821	26.777	12.0	-4.3	NO		NO	bb
5	5 190710M2_10	Standard	12.500	2.90	1338.061	643.362	25.997	11.6	-7.1	NO		NO	bb
6	6 190710M2_11	Standard	12.500	2.90	1216.987	448.826	33.894	15.1	21.1	NO		NO	bb
7	7 190710M2_12	Standard	12.500	2.90	1698.185	964.996	21.997	9.8	-21.4	NO		NO	bb
8	8 190710M2_13	Standard	12.500	2.90	979.676	469.394	26.089	11.7	-6.8	NO		NO	bb

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Compound name: 13C2-PFHxA
Response Factor: 0.792375
RRF SD: 0.0291369, Relative SD: 3.67716
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	5.000	2.99	3008.368	9214.552	4.081	5.2	3.0	NO		NO	bb
2	2 190710M2_7	Standard	5.000	2.99	3012.537	9744.537	3.864	4.9	-2.5	NO		NO	bb
3	3 190710M2_8	Standard	5.000	2.99	3100.750	9533.288	4.066	5.1	2.6	NO		NO	bb
4	4 190710M2_9	Standard	5.000	2.99	2883.050	9794.559	3.679	4.6	-7.1	NO		NO	bb
5	5 190710M2_10	Standard	5.000	2.99	3670.589	11219.285	4.090	5.2	3.2	NO		NO	bb
6	6 190710M2_11	Standard	5.000	2.99	2838.096	9088.471	3.903	4.9	-1.5	NO		NO	bb
7	7 190710M2_12	Standard	5.000	2.99	4670.029	14844.347	3.932	5.0	-0.7	NO		NO	bb
8	8 190710M2_13	Standard	5.000	2.99	2711.879	8310.527	4.079	5.1	3.0	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.39108
RRF SD: 0.0111122, Relative SD: 2.84141
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	3.61	3685.756	9214.552	5.000	12.8	2.3	NO		NO	bb
2	2 190710M2_7	Standard	12.500	3.61	3854.176	9744.537	4.944	12.6	1.1	NO		NO	bb
3	3 190710M2_8	Standard	12.500	3.61	3764.723	9533.288	4.936	12.6	1.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	3.61	3733.310	9794.559	4.765	12.2	-2.5	NO		NO	bb
5	5 190710M2_10	Standard	12.500	3.61	4336.953	11219.285	4.832	12.4	-1.2	NO		NO	bb
6	6 190710M2_11	Standard	12.500	3.61	3472.715	9088.471	4.776	12.2	-2.3	NO		NO	bb
7	7 190710M2_12	Standard	12.500	3.61	5609.557	14844.347	4.724	12.1	-3.4	NO		NO	bd
8	8 190710M2_13	Standard	12.500	3.61	3411.495	8310.527	5.131	13.1	5.0	NO		NO	bb

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Compound name: 13C3-PFHxS
Response Factor: 2.5469
RRF SD: 0.206434, Relative SD: 8.10532
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	3.76	1304.722	506.480	32.201	12.6	1.1	NO		NO	bb
2	2 190710M2_7	Standard	12.500	3.76	1441.949	530.060	34.004	13.4	6.8	NO		NO	bb
3	3 190710M2_8	Standard	12.500	3.77	1290.789	516.799	31.221	12.3	-1.9	NO		NO	bb
4	4 190710M2_9	Standard	12.500	3.76	1321.664	567.821	29.095	11.4	-8.6	NO		NO	bb
5	5 190710M2_10	Standard	12.500	3.76	1652.108	643.362	32.099	12.6	0.8	NO		NO	bb
6	6 190710M2_11	Standard	12.500	3.76	1279.918	448.826	35.646	14.0	12.0	NO		NO	bb
7	7 190710M2_12	Standard	12.500	3.76	2127.934	964.996	27.564	10.8	-13.4	NO		NO	bb
8	8 190710M2_13	Standard	12.500	3.77	1233.913	469.394	32.859	12.9	3.2	NO		NO	bb

Compound name: 13C2-6:2 FTS
Response Factor: 0.736156
RRF SD: 0.0571117, Relative SD: 7.7581
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.07	919.066	1327.903	8.651	11.8	-6.0	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.07	992.943	1384.299	8.966	12.2	-2.6	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.08	961.569	1176.867	10.213	13.9	11.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.07	971.636	1368.032	8.878	12.1	-3.5	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.07	1089.051	1460.771	9.319	12.7	1.3	NO		NO	bb
6	6 190710M2_11	Standard	12.500	4.07	927.023	1148.475	10.090	13.7	9.6	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.08	1394.910	2155.362	8.090	11.0	-12.1	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.07	809.234	1075.188	9.408	12.8	2.2	NO		NO	bb

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Compound name: 13C5-PFNA
Response Factor: 0.982718
RRF SD: 0.042308, Relative SD: 4.30521
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	4.57	7600.508	7993.476	11.885	12.1	-3.2	NO		NO	bb
2	2	190710M2_7	Standard	12.500	4.57	7970.221	7664.316	12.999	13.2	5.8	NO		NO	bb
3	3	190710M2_8	Standard	12.500	4.57	7932.063	8436.873	11.752	12.0	-4.3	NO		NO	bb
4	4	190710M2_9	Standard	12.500	4.57	7851.595	8295.519	11.831	12.0	-3.7	NO		NO	bb
5	5	190710M2_10	Standard	12.500	4.57	9320.955	9350.003	12.461	12.7	1.4	NO		NO	bb
6	6	190710M2_11	Standard	12.500	4.57	7587.184	7605.623	12.470	12.7	1.5	NO		NO	bb
7	7	190710M2_12	Standard	12.500	4.57	11887.996	12539.574	11.850	12.1	-3.5	NO		NO	bb
8	8	190710M2_13	Standard	12.500	4.57	6822.277	6548.345	13.023	13.3	6.0	NO		NO	bb

Compound name: 13C8-PFOSA
Response Factor: 0.130277
RRF SD: 0.00591568, Relative SD: 4.54086
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	4.63	1618.611	11912.648	1.698	13.0	4.3	NO		NO	bb
2	2	190710M2_7	Standard	12.500	4.63	1627.413	12146.531	1.675	12.9	2.8	NO		NO	bb
3	3	190710M2_8	Standard	12.500	4.64	1531.073	11943.670	1.602	12.3	-1.6	NO		NO	bb
4	4	190710M2_9	Standard	12.500	4.63	1466.991	11915.969	1.539	11.8	-5.5	NO		NO	bb
5	5	190710M2_10	Standard	12.500	4.63	1856.207	14305.879	1.622	12.4	-0.4	NO		NO	bb
6	6	190710M2_11	Standard	12.500	4.63	1427.893	11831.388	1.509	11.6	-7.4	NO		NO	bb
7	7	190710M2_12	Standard	12.500	4.63	2379.869	17696.068	1.681	12.9	3.2	NO		NO	bb
8	8	190710M2_13	Standard	12.500	4.64	1338.825	9834.856	1.702	13.1	4.5	NO		NO	bb

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Compound name: 13C2-PFOA
Response Factor: 0.564255
RRF SD: 0.0209217, Relative SD: 3.70784
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.13	7718.956	13388.436	7.207	12.8	2.2	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.13	7963.359	14093.044	7.063	12.5	0.1	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.13	7400.191	13963.202	6.625	11.7	-6.1	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.13	7808.747	14249.977	6.850	12.1	-2.9	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.13	9244.864	16413.971	7.040	12.5	-0.2	NO		NO	bb
6	6 190710M2_11	Standard	12.500	4.13	7521.740	12992.551	7.237	12.8	2.6	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.13	11432.653	20632.490	6.926	12.3	-1.8	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.13	6540.568	10933.404	7.478	13.3	6.0	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 1.05996
RRF SD: 0.0850923, Relative SD: 8.02788
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.66	1347.552	1327.903	12.685	12.0	-4.3	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.66	1416.736	1384.299	12.793	12.1	-3.4	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.66	1422.413	1176.867	15.108	14.3	14.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.66	1341.699	1368.032	12.259	11.6	-7.5	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.66	1597.348	1460.771	13.669	12.9	3.2	NO		NO	bb
6	6 190710M2_11	Standard	12.500	4.66	1315.408	1148.475	14.317	13.5	8.1	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.66	2063.788	2155.362	11.969	11.3	-9.7	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.66	1135.065	1075.188	13.196	12.4	-0.4	NO		NO	bb

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Compound name: 13C2-PFDA
Response Factor: 0.662196
RRF SD: 0.016931, Relative SD: 2.55679
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.95	6483.450	9534.204	8.500	12.8	2.7	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.95	6513.090	9602.725	8.478	12.8	2.4	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.95	6815.267	10121.342	8.417	12.7	1.7	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.95	6311.901	9866.013	7.997	12.1	-3.4	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.95	7586.322	11475.027	8.264	12.5	-0.2	NO		NO	bb
6	6 190710M2_11	Standard	12.500	4.95	6184.109	9251.279	8.356	12.6	0.9	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.95	9816.599	14828.290	8.275	12.5	-0.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.95	5260.100	8289.135	7.932	12.0	-4.2	NO		NO	bb

Compound name: 13C2-8:2 FTS
Response Factor: 0.695378
RRF SD: 0.0755684, Relative SD: 10.8672
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.92	888.285	1327.903	8.362	12.0	-3.8	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.92	921.949	1384.299	8.325	12.0	-4.2	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.92	954.638	1176.867	10.140	14.6	16.7	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.92	900.043	1368.032	8.224	11.8	-5.4	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.92	944.165	1460.771	8.079	11.6	-7.1	NO		NO	MM
6	6 190710M2_11	Standard	12.500	4.92	901.200	1148.475	9.809	14.1	12.8	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.92	1269.481	2155.362	7.362	10.6	-15.3	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.92	794.537	1075.188	9.237	13.3	6.3	NO		NO	bb

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Compound name: d3-N-MeFOSAA
Response Factor: 0.129049
RRF SD: 0.00513885, Relative SD: 3.98209
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	5.10	1483.081	11912.648	1.556	12.1	-3.5	NO		NO	bb
2	2	190710M2_7	Standard	12.500	5.10	1539.354	12146.531	1.584	12.3	-1.8	NO		NO	bb
3	3	190710M2_8	Standard	12.500	5.10	1534.459	11943.670	1.606	12.4	-0.4	NO		NO	bb
4	4	190710M2_9	Standard	12.500	5.10	1568.547	11915.969	1.645	12.8	2.0	NO		NO	bb
5	5	190710M2_10	Standard	12.500	5.10	1786.803	14305.879	1.561	12.1	-3.2	NO		NO	bb
6	6	190710M2_11	Standard	12.500	5.10	1481.031	11831.388	1.565	12.1	-3.0	NO		NO	bb
7	7	190710M2_12	Standard	12.500	5.10	2321.898	17696.068	1.640	12.7	1.7	NO		NO	bb
8	8	190710M2_13	Standard	12.500	5.10	1374.590	9834.856	1.747	13.5	8.3	NO		NO	bb

Compound name: 13C2-PFUdA
Response Factor: 0.857069
RRF SD: 0.0312507, Relative SD: 3.64622
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	5.28	10308.564	11912.648	10.817	12.6	1.0	NO		NO	bb
2	2	190710M2_7	Standard	12.500	5.28	9874.773	12146.531	10.162	11.9	-5.1	NO		NO	bb
3	3	190710M2_8	Standard	12.500	5.28	10153.241	11943.670	10.626	12.4	-0.8	NO		NO	bb
4	4	190710M2_9	Standard	12.500	5.28	10535.049	11915.969	11.051	12.9	3.2	NO		NO	bb
5	5	190710M2_10	Standard	12.500	5.27	12195.073	14305.879	10.656	12.4	-0.5	NO		NO	bb
6	6	190710M2_11	Standard	12.500	5.28	9619.693	11831.388	10.163	11.9	-5.1	NO		NO	bb
7	7	190710M2_12	Standard	12.500	5.28	15781.931	17696.068	11.148	13.0	4.1	NO		NO	bb
8	8	190710M2_13	Standard	12.500	5.27	8720.392	9834.856	11.084	12.9	3.5	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

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Compound name: d5-N-EtFOSAA
Response Factor: 0.147407
RRF SD: 0.00759524, Relative SD: 5.15256
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	5.26	1930.980	11912.648	2.026	13.7	10.0	NO		NO	bb
2	2	190710M2_7	Standard	12.500	5.26	1750.672	12146.531	1.802	12.2	-2.2	NO		NO	bd
3	3	190710M2_8	Standard	12.500	5.26	1820.030	11943.670	1.905	12.9	3.4	NO		NO	bb
4	4	190710M2_9	Standard	12.500	5.26	1715.865	11915.969	1.800	12.2	-2.3	NO		NO	bb
5	5	190710M2_10	Standard	12.500	5.26	2099.478	14305.879	1.834	12.4	-0.4	NO		NO	bb
6	6	190710M2_11	Standard	12.500	5.26	1603.905	11831.388	1.695	11.5	-8.0	NO		NO	bb
7	7	190710M2_12	Standard	12.500	5.26	2599.831	17696.068	1.836	12.5	-0.3	NO		NO	bb
8	8	190710M2_13	Standard	12.500	5.26	1449.809	9834.856	1.843	12.5	0.0	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 1.22913
RRF SD: 0.0199595, Relative SD: 1.62388
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	5.56	11849.361	9534.204	15.535	12.6	1.1	NO		NO	bb
2	2	190710M2_7	Standard	12.500	5.56	11696.822	9602.725	15.226	12.4	-0.9	NO		NO	bb
3	3	190710M2_8	Standard	12.500	5.56	12098.984	10121.342	14.942	12.2	-2.7	NO		NO	bb
4	4	190710M2_9	Standard	12.500	5.56	12100.947	9866.013	15.332	12.5	-0.2	NO		NO	bb
5	5	190710M2_10	Standard	12.500	5.56	14176.774	11475.027	15.443	12.6	0.5	NO		NO	bb
6	6	190710M2_11	Standard	12.500	5.56	11395.914	9251.279	15.398	12.5	0.2	NO		NO	bb
7	7	190710M2_12	Standard	12.500	5.57	18080.182	14828.290	15.241	12.4	-0.8	NO		NO	bb
8	8	190710M2_13	Standard	12.500	5.56	10474.394	8289.135	15.795	12.9	2.8	NO		NO	bb

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Compound name: d3-N-MeFOSA
Response Factor: 0.0221599
RRF SD: 0.00143849, Relative SD: 6.4914
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	150.000	5.73	3054.399	11912.648	3.205	144.6	-3.6	NO		NO	bd
2	2 190710M2_7	Standard	150.000	5.73	3277.438	12146.531	3.373	152.2	1.5	NO		NO	bb
3	3 190710M2_8	Standard	150.000	5.74	3115.206	11943.670	3.260	147.1	-1.9	NO		NO	bb
4	4 190710M2_9	Standard	150.000	5.73	3084.938	11915.969	3.236	146.0	-2.6	NO		NO	bb
5	5 190710M2_10	Standard	150.000	5.73	3716.070	14305.879	3.247	146.5	-2.3	NO		NO	bb
6	6 190710M2_11	Standard	150.000	5.73	2913.632	11831.388	3.078	138.9	-7.4	NO		NO	bb
7	7 190710M2_12	Standard	150.000	5.73	4802.480	17696.068	3.392	153.1	2.1	NO		NO	bb
8	8 190710M2_13	Standard	150.000	5.73	2989.823	9834.856	3.800	171.5	14.3	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 0.511371
RRF SD: 0.0226087, Relative SD: 4.42119
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	6.04	5988.523	11912.648	6.284	12.3	-1.7	NO		NO	bb
2	2 190710M2_7	Standard	12.500	6.04	6370.549	12146.531	6.556	12.8	2.6	NO		NO	bb
3	3 190710M2_8	Standard	12.500	6.04	6280.262	11943.670	6.573	12.9	2.8	NO		NO	bb
4	4 190710M2_9	Standard	12.500	6.04	6033.232	11915.969	6.329	12.4	-1.0	NO		NO	bb
5	5 190710M2_10	Standard	12.500	6.03	6836.236	14305.879	5.973	11.7	-6.6	NO		NO	bb
6	6 190710M2_11	Standard	12.500	6.04	5715.887	11831.388	6.039	11.8	-5.5	NO		NO	bb
7	7 190710M2_12	Standard	12.500	6.04	9409.312	17696.068	6.646	13.0	4.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	6.04	5300.635	9834.856	6.737	13.2	5.4	NO		NO	bb

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Compound name: d5-N-ETFOSA
Response Factor: 0.0311662
RRF SD: 0.00140362, Relative SD: 4.50369
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	150.000	6.15	4439.246	11912.648	4.658	149.5	-0.4	NO		NO	bb
2	2	190710M2_7	Standard	150.000	6.15	4462.217	12146.531	4.592	147.3	-1.8	NO		NO	bb
3	3	190710M2_8	Standard	150.000	6.15	4330.604	11943.670	4.532	145.4	-3.1	NO		NO	bb
4	4	190710M2_9	Standard	150.000	6.15	4383.917	11915.969	4.599	147.6	-1.6	NO		NO	bb
5	5	190710M2_10	Standard	150.000	6.15	5295.154	14305.879	4.627	148.5	-1.0	NO		NO	bb
6	6	190710M2_11	Standard	150.000	6.15	4247.957	11831.388	4.488	144.0	-4.0	NO		NO	bb
7	7	190710M2_12	Standard	150.000	6.15	6715.452	17696.068	4.744	152.2	1.5	NO		NO	bb
8	8	190710M2_13	Standard	150.000	6.15	4059.624	9834.856	5.160	165.6	10.4	NO		NO	bb

Compound name: 13C2-PFHxDA
Response Factor: 0.734859
RRF SD: 0.033246, Relative SD: 4.52414
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	5.000	6.39	3440.496	11912.648	3.610	4.9	-1.7	NO		NO	bb
2	2	190710M2_7	Standard	5.000	6.39	3551.527	12146.531	3.655	5.0	-0.5	NO		NO	bb
3	3	190710M2_8	Standard	5.000	6.39	3591.524	11943.670	3.759	5.1	2.3	NO		NO	bb
4	4	190710M2_9	Standard	5.000	6.39	3403.188	11915.969	3.570	4.9	-2.8	NO		NO	bb
5	5	190710M2_10	Standard	5.000	6.39	4071.111	14305.879	3.557	4.8	-3.2	NO		NO	bb
6	6	190710M2_11	Standard	5.000	6.39	3262.578	11831.388	3.447	4.7	-6.2	NO		NO	bb
7	7	190710M2_12	Standard	5.000	6.39	5446.172	17696.068	3.847	5.2	4.7	NO		NO	bb
8	8	190710M2_13	Standard	5.000	6.39	3107.337	9834.856	3.949	5.4	7.5	NO		NO	bb

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Compound name: d7-N-MeFOSE
Response Factor: 0.0279532
RRF SD: 0.00205848, Relative SD: 7.36404
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	150.000	6.30	4007.611	11912.648	4.205	150.4	0.3	NO		NO	bb
2	2 190710M2_7	Standard	150.000	6.30	3785.716	12146.531	3.896	139.4	-7.1	NO		NO	bb
3	3 190710M2_8	Standard	150.000	6.30	3922.123	11943.670	4.105	146.8	-2.1	NO		NO	bb
4	4 190710M2_9	Standard	150.000	6.30	3727.673	11915.969	3.910	139.9	-6.7	NO		NO	bb
5	5 190710M2_10	Standard	150.000	6.30	4820.834	14305.879	4.212	150.7	0.5	NO		NO	bb
6	6 190710M2_11	Standard	150.000	6.30	3765.545	11831.388	3.978	142.3	-5.1	NO		NO	bb
7	7 190710M2_12	Standard	150.000	6.30	6250.164	17696.068	4.415	157.9	5.3	NO		NO	bb
8	8 190710M2_13	Standard	150.000	6.30	3793.865	9834.856	4.822	172.5	15.0	NO		NO	bb

Compound name: d9-N-EtFOSE
Response Factor: 0.0275062
RRF SD: 0.00159928, Relative SD: 5.81424
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	150.000	6.45	3845.157	11912.648	4.035	146.7	-2.2	NO		NO	bb
2	2 190710M2_7	Standard	150.000	6.45	3839.792	12146.531	3.952	143.7	-4.2	NO		NO	bb
3	3 190710M2_8	Standard	150.000	6.45	3944.296	11943.670	4.128	150.1	0.1	NO		NO	bb
4	4 190710M2_9	Standard	150.000	6.45	3790.164	11915.969	3.976	144.5	-3.6	NO		NO	bb
5	5 190710M2_10	Standard	150.000	6.45	4610.654	14305.879	4.029	146.5	-2.4	NO		NO	bb
6	6 190710M2_11	Standard	150.000	6.45	3714.178	11831.388	3.924	142.7	-4.9	NO		NO	bb
7	7 190710M2_12	Standard	150.000	6.45	6151.757	17696.068	4.345	158.0	5.3	NO		NO	bb
8	8 190710M2_13	Standard	150.000	6.45	3634.249	9834.856	4.619	167.9	12.0	NO		NO	bb

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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	1.21	2921.156	2921.156	12.500	12.5	0.0	NO		NO	bb
2	2 190710M2_7	Standard	12.500	1.21	3200.857	3200.857	12.500	12.5	0.0	NO		NO	bb
3	3 190710M2_8	Standard	12.500	1.21	3042.829	3042.829	12.500	12.5	0.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	1.21	3054.028	3054.028	12.500	12.5	0.0	NO		NO	bb
5	5 190710M2_10	Standard	12.500	1.21	3825.142	3825.142	12.500	12.5	0.0	NO		NO	bb
6	6 190710M2_11	Standard	12.500	1.21	2935.893	2935.893	12.500	12.5	0.0	NO		NO	bb
7	7 190710M2_12	Standard	12.500	1.21	4789.874	4789.874	12.500	12.5	0.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	1.21	2814.827	2814.827	12.500	12.5	0.0	NO		NO	db

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	2.99	9214.552	9214.552	12.500	12.5	0.0	NO		NO	bb
2	2 190710M2_7	Standard	12.500	2.99	9744.537	9744.537	12.500	12.5	0.0	NO		NO	bb
3	3 190710M2_8	Standard	12.500	2.99	9533.288	9533.288	12.500	12.5	0.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	2.99	9794.559	9794.559	12.500	12.5	0.0	NO		NO	bb
5	5 190710M2_10	Standard	12.500	2.99	11219.285	11219.285	12.500	12.5	0.0	NO		NO	bb
6	6 190710M2_11	Standard	12.500	2.99	9088.471	9088.471	12.500	12.5	0.0	NO		NO	bb
7	7 190710M2_12	Standard	12.500	2.99	14844.347	14844.347	12.500	12.5	0.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	2.99	8310.527	8310.527	12.500	12.5	0.0	NO		NO	bb

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Compound name: 18O2-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	3.76	506.480	506.480	12.500	12.5	0.0	NO		NO	bb
2	2	190710M2_7	Standard	12.500	3.76	530.060	530.060	12.500	12.5	0.0	NO		NO	bb
3	3	190710M2_8	Standard	12.500	3.76	516.799	516.799	12.500	12.5	0.0	NO		NO	bb
4	4	190710M2_9	Standard	12.500	3.76	567.821	567.821	12.500	12.5	0.0	NO		NO	bb
5	5	190710M2_10	Standard	12.500	3.76	643.362	643.362	12.500	12.5	0.0	NO		NO	bb
6	6	190710M2_11	Standard	12.500	3.76	448.826	448.826	12.500	12.5	0.0	NO		NO	bb
7	7	190710M2_12	Standard	12.500	3.76	964.996	964.996	12.500	12.5	0.0	NO		NO	bb
8	8	190710M2_13	Standard	12.500	3.76	469.394	469.394	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190710M2_6	Standard	12.500	4.13	13388.436	13388.436	12.500	12.5	0.0	NO		NO	bb
2	2	190710M2_7	Standard	12.500	4.13	14093.044	14093.044	12.500	12.5	0.0	NO		NO	bb
3	3	190710M2_8	Standard	12.500	4.13	13963.202	13963.202	12.500	12.5	0.0	NO		NO	bb
4	4	190710M2_9	Standard	12.500	4.13	14249.977	14249.977	12.500	12.5	0.0	NO		NO	bb
5	5	190710M2_10	Standard	12.500	4.13	16413.971	16413.971	12.500	12.5	0.0	NO		NO	bb
6	6	190710M2_11	Standard	12.500	4.13	12992.551	12992.551	12.500	12.5	0.0	NO		NO	bb
7	7	190710M2_12	Standard	12.500	4.13	20632.490	20632.490	12.500	12.5	0.0	NO		NO	bb
8	8	190710M2_13	Standard	12.500	4.13	10933.404	10933.404	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.57	7993.476	7993.476	12.500	12.5	0.0	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.57	7664.316	7664.316	12.500	12.5	0.0	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.57	8436.873	8436.873	12.500	12.5	0.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.57	8295.519	8295.519	12.500	12.5	0.0	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.57	9350.003	9350.003	12.500	12.5	0.0	NO		NO	bb
6	6 190710M2_11	Standard	12.500	4.57	7605.623	7605.623	12.500	12.5	0.0	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.57	12539.574	12539.574	12.500	12.5	0.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.57	6548.345	6548.345	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.66	1327.903	1327.903	12.500	12.5	0.0	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.66	1384.299	1384.299	12.500	12.5	0.0	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.66	1176.867	1176.867	12.500	12.5	0.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.66	1368.032	1368.032	12.500	12.5	0.0	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.66	1460.771	1460.771	12.500	12.5	0.0	NO		NO	bb
6	6 190710M2_11	Standard	12.500	4.66	1148.475	1148.475	12.500	12.5	0.0	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.66	2155.362	2155.362	12.500	12.5	0.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.66	1075.188	1075.188	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	4.95	9534.204	9534.204	12.500	12.5	0.0	NO		NO	bb
2	2 190710M2_7	Standard	12.500	4.95	9602.725	9602.725	12.500	12.5	0.0	NO		NO	bb
3	3 190710M2_8	Standard	12.500	4.95	10121.342	10121.342	12.500	12.5	0.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	4.95	9866.013	9866.013	12.500	12.5	0.0	NO		NO	bb
5	5 190710M2_10	Standard	12.500	4.95	11475.027	11475.027	12.500	12.5	0.0	NO		NO	bb
6	6 190710M2_11	Standard	12.500	4.95	9251.279	9251.279	12.500	12.5	0.0	NO		NO	bb
7	7 190710M2_12	Standard	12.500	4.95	14828.290	14828.290	12.500	12.5	0.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	4.95	8289.135	8289.135	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUdA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190710M2_6	Standard	12.500	5.27	11912.648	11912.648	12.500	12.5	0.0	NO		NO	bb
2	2 190710M2_7	Standard	12.500	5.27	12146.531	12146.531	12.500	12.5	0.0	NO		NO	bb
3	3 190710M2_8	Standard	12.500	5.28	11943.670	11943.670	12.500	12.5	0.0	NO		NO	bb
4	4 190710M2_9	Standard	12.500	5.28	11915.969	11915.969	12.500	12.5	0.0	NO		NO	bb
5	5 190710M2_10	Standard	12.500	5.27	14305.879	14305.879	12.500	12.5	0.0	NO		NO	bb
6	6 190710M2_11	Standard	12.500	5.28	11831.388	11831.388	12.500	12.5	0.0	NO		NO	bb
7	7 190710M2_12	Standard	12.500	5.28	17696.068	17696.068	12.500	12.5	0.0	NO		NO	bb
8	8 190710M2_13	Standard	12.500	5.27	9834.856	9834.856	12.500	12.5	0.0	NO		NO	bb

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN945 SCN960**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, July 11, 2019 10:43:20 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:43:33 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_070719_ICV.mdb 08 Jul 2019 08:37:29
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:22:28

Compound name: PFBA

Ⓐ Not used. am 7/11/19

	#	Name	ID	Acq.Date	Acq.Time
1	1	190710M2_5	IPA	10-Jul-19	13:33:09
2	2	190710M2_6	ST190710M2-1 PFC CS-2 19G0801	10-Jul-19	13:43:47
3	3	190710M2_7	ST190710M2-2 PFC CS-1 19G0802	10-Jul-19	13:54:21
4	4	190710M2_8	ST190710M2-3 PFC CS0 19G0803	10-Jul-19	14:04:59
5	5	190710M2_9	ST190710M2-4 PFC CS1 19G0804	10-Jul-19	14:15:32
6	6	190710M2_10	ST190710M2-5 PFC CS2 19G0805	10-Jul-19	14:26:10
7	7	190710M2_11	ST190710M2-6 PFC CS3 19G0806	10-Jul-19	14:36:42
8	8	190710M2_12	ST190710M2-7 PFC CS4 19G0807	10-Jul-19	14:47:21
9	9	190710M2_13	ST190710M2-8 PFC CS5 19G0808	10-Jul-19	14:57:59
10	10	190710M2_14	ST190710M2-9 PFC CS6 19G0809	10-Jul-19	15:08:31
11	11	190710M2_15	ST190710M2-10 PFC CS7 19G0810	10-Jul-19	15:19:10
12	12	190710M2_16	IB	10-Jul-19	15:29:49
13	13	190710M2_17	ST190710M2-1 PFC ICV 19G0811	10-Jul-19	15:40:21
14	14	190710M2_18	IPA		

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:56:26 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:59:12 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBA	47	0.9994	NO	
2	2	PFPrS	49	0.9979	NO	
3	3	3:3 FTCA	48	0.9971	NO	
4	4	PFPeA	48	0.9973	NO	
5	5	PFBS	49	0.9988	NO	
6	6	4:2 FTS	51	0.9993	NO	
7	7	PFHxA	52	0.9999	NO	
8	8	PFPeS	49	0.9989	NO	
9	9	HFPO-DA	50	0.9981	NO	
10	10	5:3 FTCA	53	0.9955	NO	
11	11	PFHpA	53	0.9982	NO	
12	12	ADONA	53	0.9989	NO	
13	13	L-PFHxS	54	0.9993	NO	
14	15	6:2 FTS	55	0.9991	NO	
15	16	L-PFOA	58	0.9997	NO	
16	18	PFecHS	58	0.9995	NO	
17	19	PFHpS	59	0.9990	NO	
18	20	7:3 FTCA	56	0.9954	NO	
19	21	PFNA	56	0.9994	NO	
20	22	PFOSA	57	0.9993	NO	
21	23	L-PFOS	59	0.9959	NO	
22	25	9Cl-PF30NS	59	0.9997	NO	
23	26	PFDA	60	0.9970	NO	
24	27	8:2 FTS	61	0.9944	NO	
25	28	PFNS	59	0.9989	NO	
26	29	L-MeFOSAA	62	0.9989	NO	

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:33:50 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:22:28

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

	#	Name	IS#	CoD	CoD Flag	%RSD
1	31	L-EtFOSAA	64	0.9994	NO	
2	33	PFUdA	63	0.9993	NO	
3	34	PFDS	61	0.9953	NO	
4	35	11Cl-PF30UdS	65	0.9910	NO	
5	36	10:2 FTS	61	0.9987	NO	
6	37	PFDoA	65	0.9998	NO	
7	38	N-MeFOSA	66	0.9991	NO	
8	39	PFTrDA	65	0.9998	NO	
9	40	PFDoS	67	0.9986	NO	
10	41	PFTeDA	67	0.9996	NO	
11	42	N-EtFOSA	68	0.9997	NO	
12	43	PFHxDA	69	0.9997	NO	
13	44	PFODA	69	0.9995	NO	
14	45	N-MeFOSE	70	0.9993	NO	
15	46	N-EtFOSE	71	0.9999	NO	
16	47	13C3-PFBA	72		NO	2.933
17	48	13C3-PFPeA	73		NO	7.568
18	49	13C3-PFBS	74		NO	6.818
19	50	13C3-HFPO-DA	73		NO	3.980
20	51	13C2-4:2 FTS	74		NO	12.743
21	52	13C2-PFHxA	73		NO	3.677
22	53	13C4-PFHpA	73		NO	2.841
23	54	13C3-PFHxS	74		NO	8.105
24	55	13C2-6:2 FTS	77		NO	7.758
25	56	13C5-PFNA	76		NO	4.305
26	57	13C8-PFOSA	79		NO	4.541
27	58	13C2-PFOA	75		NO	3.708
28	59	13C8-PFOS	77		NO	8.028
29	60	13C2-PFDA	78		NO	2.557
30	61	13C2-8:2 FTS	77		NO	10.867
31	62	d3-N-MeFOSAA	79		NO	3.982
32	63	13C2-PFUdA	79		NO	3.646

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:33:50 Pacific Daylight Time

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

	#	Name	IS#	CoD	CoD Flag	%RSD
33	64	d5-N-EtFOSAA	79		NO	5.153
34	65	13C2-PFDoA	78		NO	1.624
35	66	d3-N-MeFOSA	79		NO	6.491
36	67	13C2-PFTeDA	79		NO	4.421
37	68	d5-N-ETFOSA	79		NO	4.504
38	69	13C2-PFHxDA	79		NO	4.524
39	70	d7-N-MeFOSE	79		NO	7.364
40	71	d9-N-EtFOSE	79		NO	5.814
41	72	13C4-PFBA	72		NO	0.000
42	73	13C5-PFHxA	73		NO	0.000
43	74	18O2-PFHxS	74		NO	0.000
44	75	13C8-PFOA	75		NO	0.000
45	76	13C9-PFNA	76		NO	0.000
46	77	13C4-PFOS	77		NO	0.000
47	78	13C6-PFDA	78		NO	0.000
48	79	13C7-PFUdA	79		NO	0.000

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:35:12 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:22:28

Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	PFBA	1.21	1.21			
2	PFPrS	1.57	1.57	2.705	2.705	NO
3	3:3 FTCA	2.06	2.04	2.165	2.165	NO
4	PFPeA	2.20	2.20			
5	PFBS	2.49	2.49	3.037	3.037	NO
6	4:2 FTS	2.90	2.91	1.792	1.792	NO
7	PFHxA	2.99	2.99	15.832	15.832	NO
8	PFPeS	3.19	3.19	1.560	1.560	NO
9	HFPO-DA	3.20	3.20	2.415	2.415	NO
10	5:3 FTCA	3.53	3.54	1.572	1.572	NO
11	PFHpA	3.61	3.61	5.429	5.429	NO
12	ADONA	3.72	3.72	3.002	3.002	NO
13	L-PFHxS	3.76	3.76	2.036	2.036	NO
14	6:2 FTS	4.07	4.08	2.148	2.148	NO
15	L-PFOA	4.13	4.13	3.683	3.683	NO
16	PFecHS	4.15	4.15	0.908	0.908	NO
17	PFHpS	4.25	4.25	1.746	1.746	NO
18	7:3 FTCA	4.57	4.56	1.658	1.658	NO
19	PFNA	4.57	4.57	2.983	2.983	NO
20	PFOSA	4.63	4.63	41.487	41.487	NO
21	L-PFOS	4.66	4.66	2.058	2.058	NO
22	9Cl-PF30NS	4.88	4.88	24.430	24.430	NO
23	PFDA	4.95	4.95	4.278	4.278	NO
24	8:2 FTS	4.92	4.92	1.509	1.509	NO
25	PFNS	5.01	5.01	1.715	1.715	NO
26	L-MeFOSAA	5.10	5.10	2.376	2.376	NO

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:35:32 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:22:28

Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	L-EtFOSAA	5.26	5.27	1.336	1.336	NO
2	PFUdA	5.28	5.28	6.095	6.095	NO
3	PFDS	5.33	5.33	1.629	1.629	NO
4	11Cl-PF30UdS	5.49	5.49	4.658	4.658	NO
5	10:2 FTS	5.55	5.55	1.474	1.474	NO
6	PFDoA	5.56	5.56	7.462	7.462	NO
7	N-MeFOSA	5.70	5.70	1.760	1.760	NO
8	PFTrDA	5.81	5.81	14.360	14.360	NO
9	PFDoS	5.84	5.84	1.916	1.916	NO
10	PFTeDA	6.04	6.04	14.838	14.838	NO
11	N-EtFOSA	6.13	6.13	1.854	1.854	NO
12	PFHxDA	6.39	6.39	17.070	17.070	NO
13	PFODA	6.63	6.63			
14	N-MeFOSE	6.31	6.31			
15	N-EtFOSE	6.46	6.46			

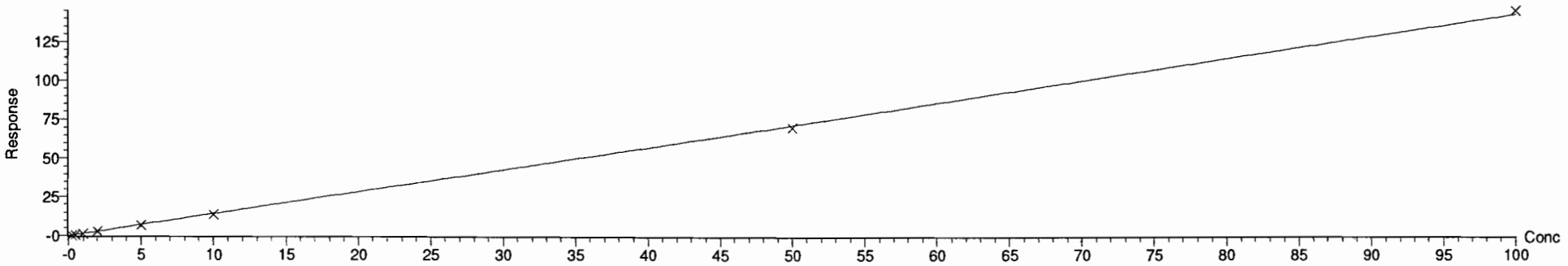
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

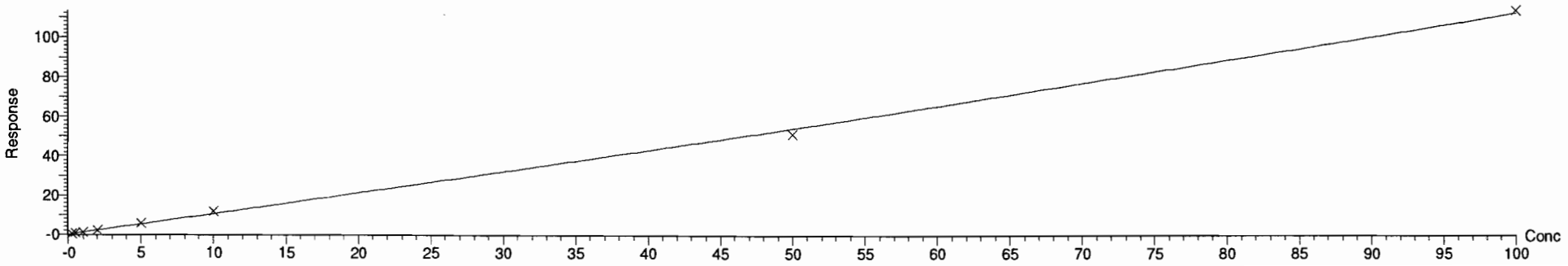
Last Altered: Thursday, July 11, 2019 10:56:26 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:09:57 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFBA
Correlation coefficient: r = 0.999710, r^2 = 0.999420
Calibration curve: 1.42744 * x + -0.0673711
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



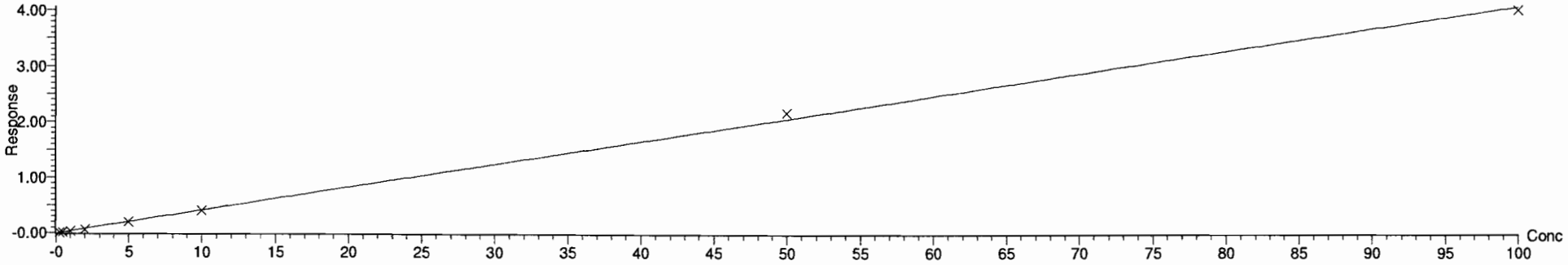
Compound name: PFPrS
Coefficient of Determination: R^2 = 0.997891
Calibration curve: 0.000772076 * x^2 + 1.04403 * x + 0.0148423
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



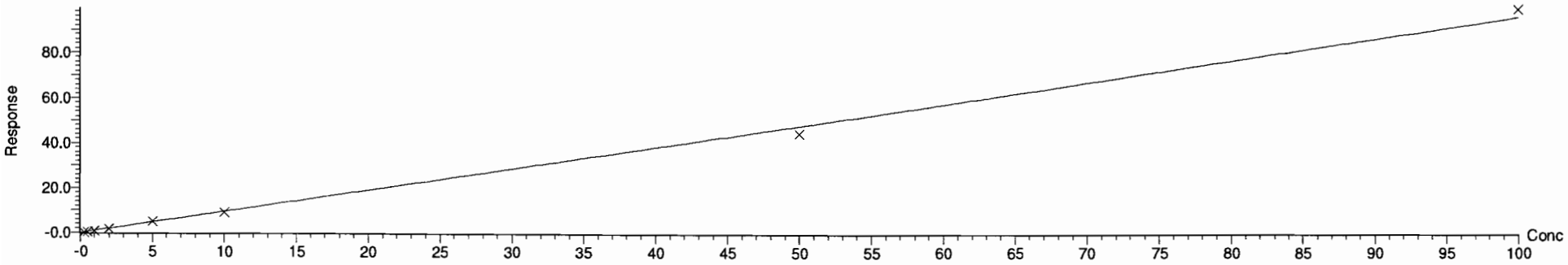
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.997073
Calibration curve: -1.28403e-005 * x^2 + 0.0420476 * x + -0.00551054
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



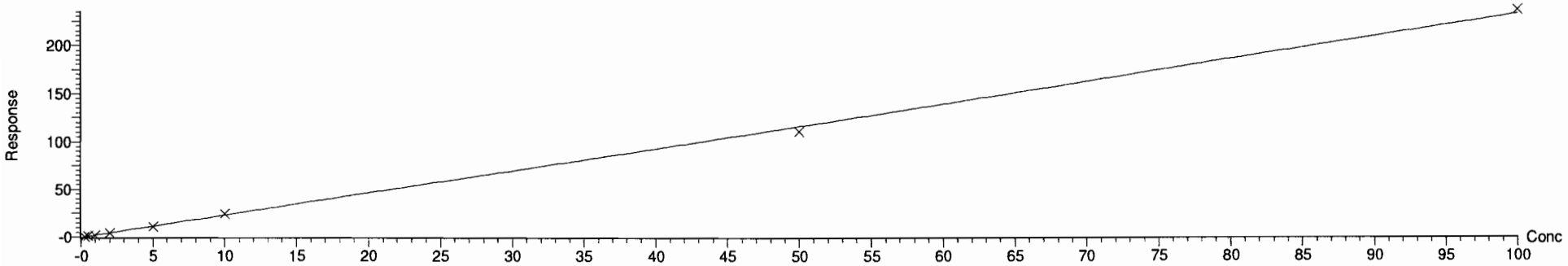
Compound name: PFPeA
Correlation coefficient: r = 0.998647, r^2 = 0.997296
Calibration curve: 0.957887 * x + -0.0507044
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



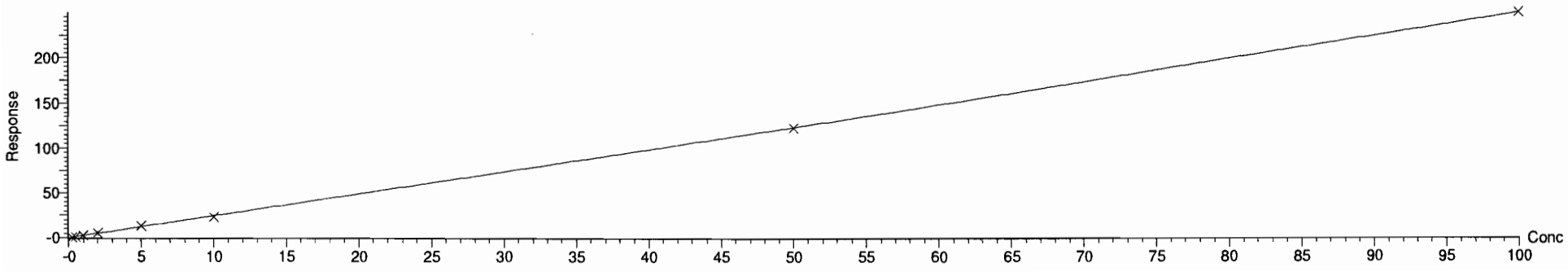
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999402, r^2 = 0.998804
Calibration curve: 2.32197 * x + -0.263256
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



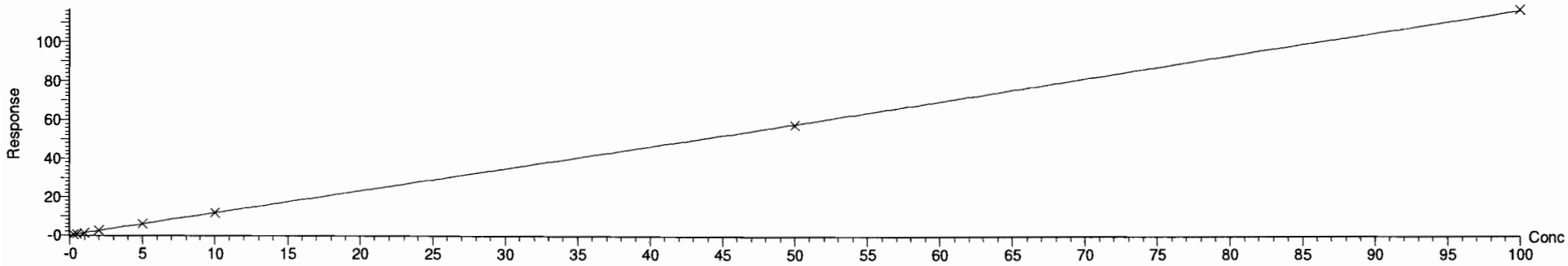
Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999259
Calibration curve: 0.000507604 * x^2 + 2.44029 * x + -0.0250945
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



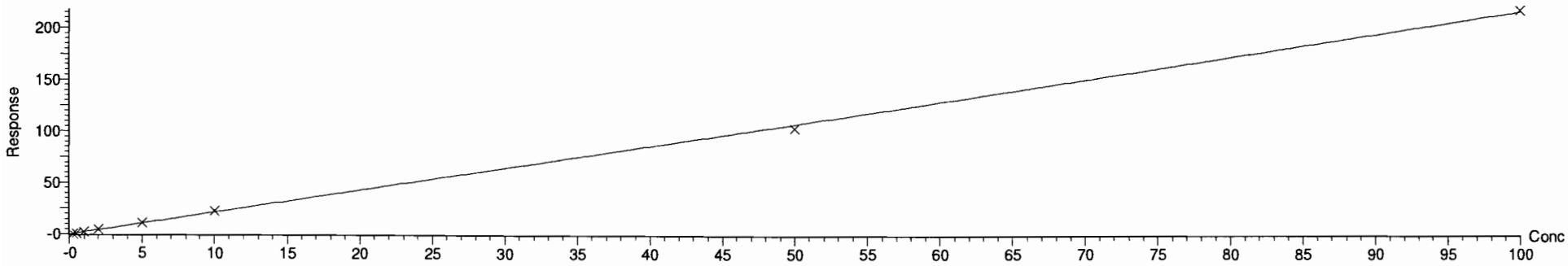
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: PFHxA
Correlation coefficient: r = 0.999958, r^2 = 0.999917
Calibration curve: 1.1618 * x + 0.000973487
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



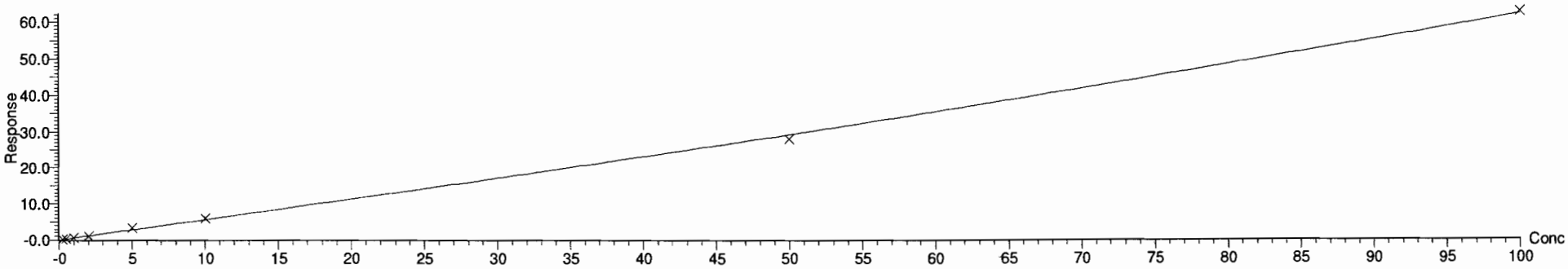
Compound name: PFPeS
Coefficient of Determination: R^2 = 0.998874
Calibration curve: 0.000269775 * x^2 + 2.12841 * x + 0.0156908
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



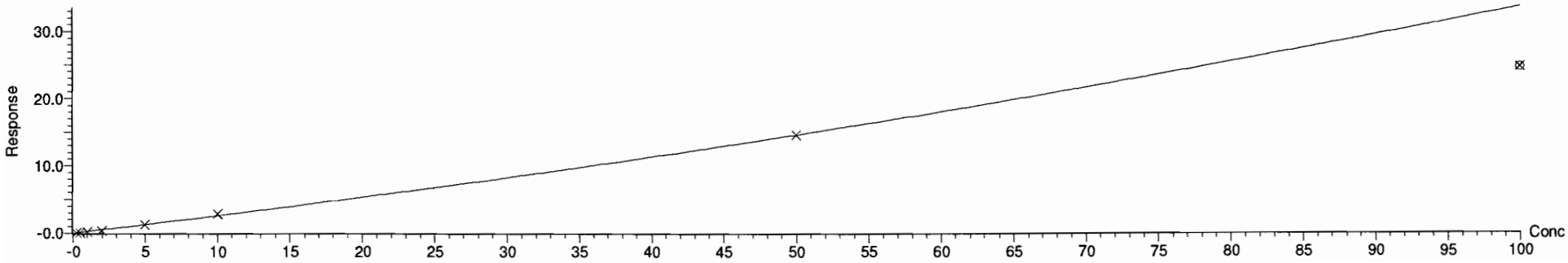
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.998150
Calibration curve: 0.000712906 * x^2 + 0.547378 * x + -0.00436396
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



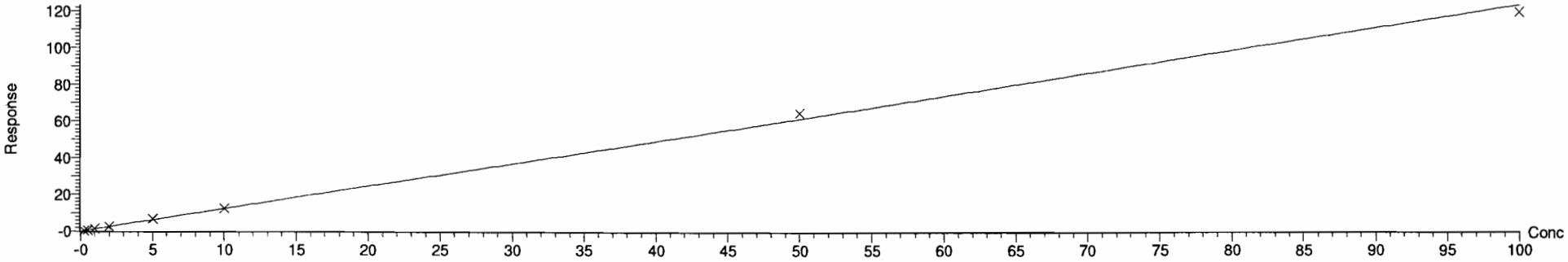
Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.995477
Calibration curve: 0.000863776 * x^2 + 0.248802 * x + -0.0186935
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



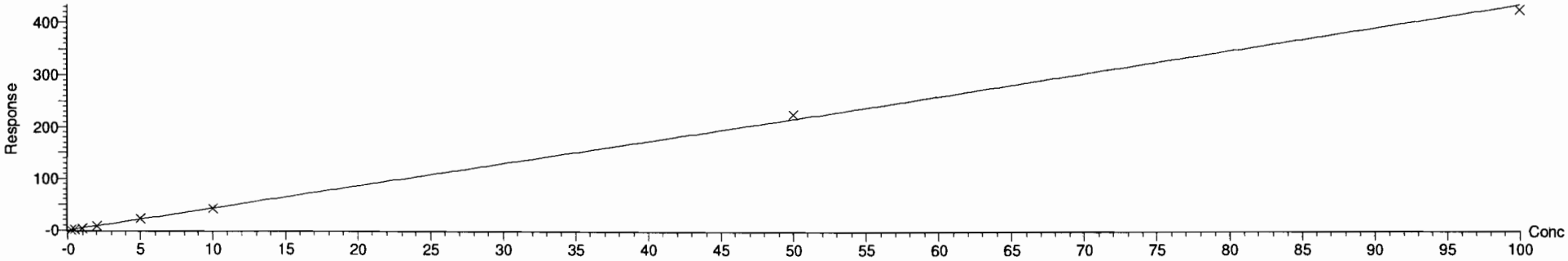
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: PFHpA
Correlation coefficient: r = 0.999078, r^2 = 0.998158
Calibration curve: 1.2318 * x + -0.044697
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



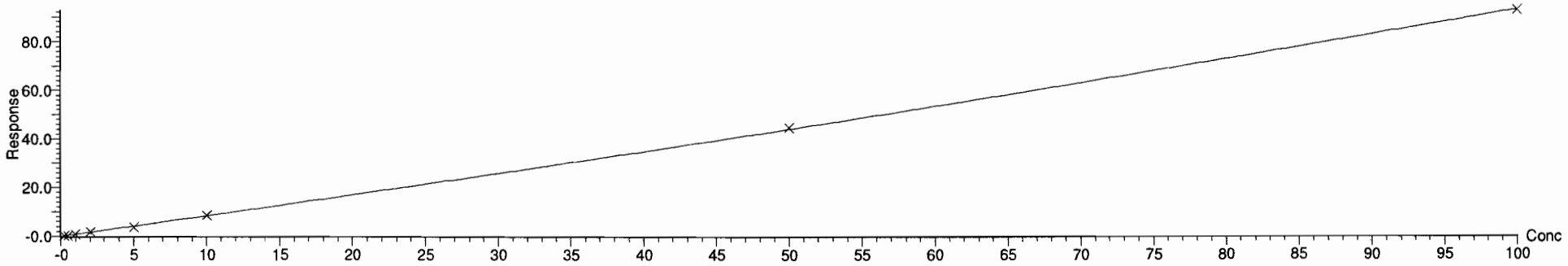
Compound name: ADONA
Correlation coefficient: r = 0.999468, r^2 = 0.998936
Calibration curve: 4.33675 * x + -0.0191729
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



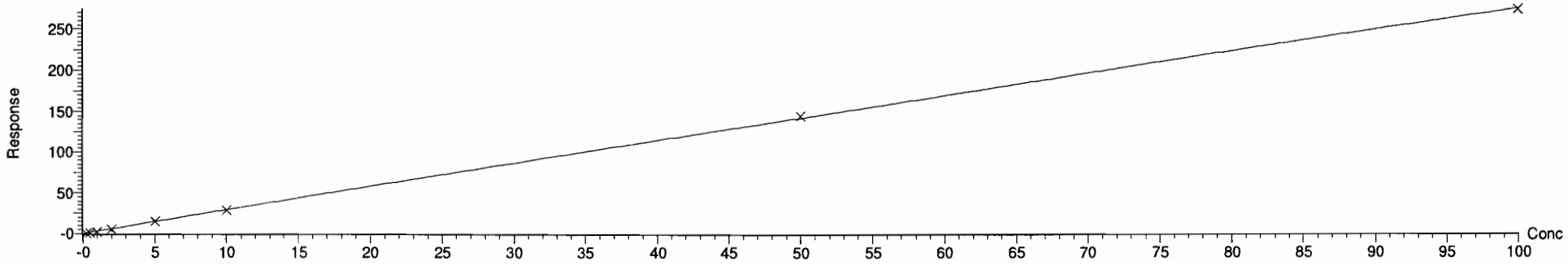
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999253
Calibration curve: 0.000954922 * x^2 + 0.833847 * x + -0.0703303
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



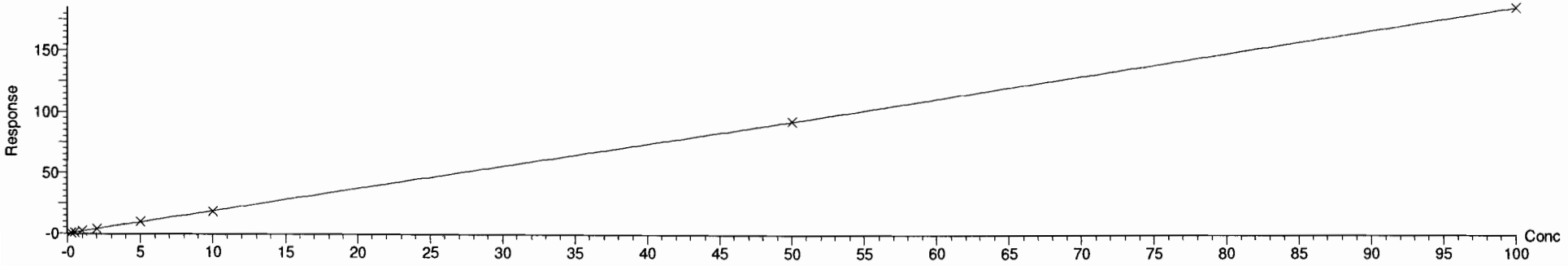
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.999098
Calibration curve: -0.00219189 * x^2 + 2.96391 * x + -0.232571
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



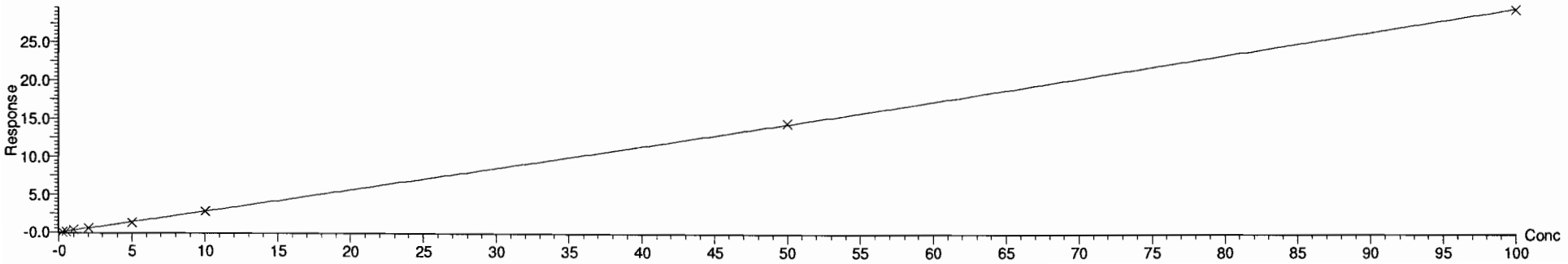
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: L-PFOA
Correlation coefficient: r = 0.999875, r^2 = 0.999749
Calibration curve: 1.84829 * x + 0.038532
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999465
Calibration curve: 0.000151504 * x^2 + 0.280359 * x + -0.022501
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



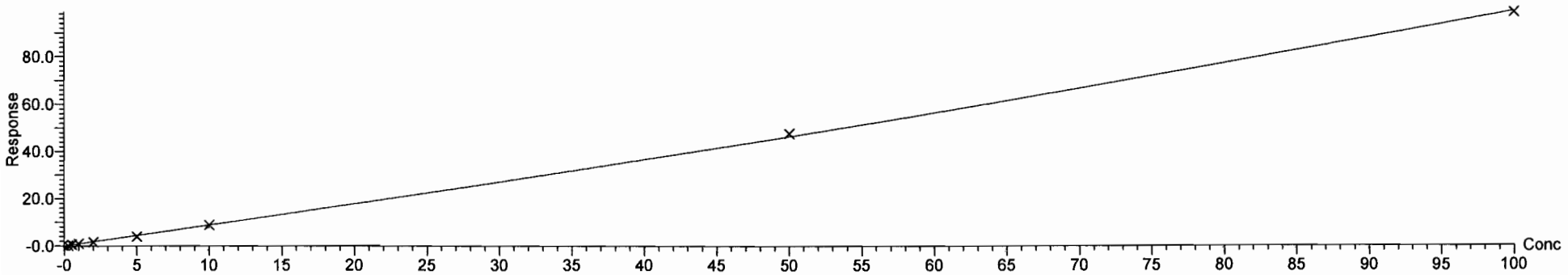
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

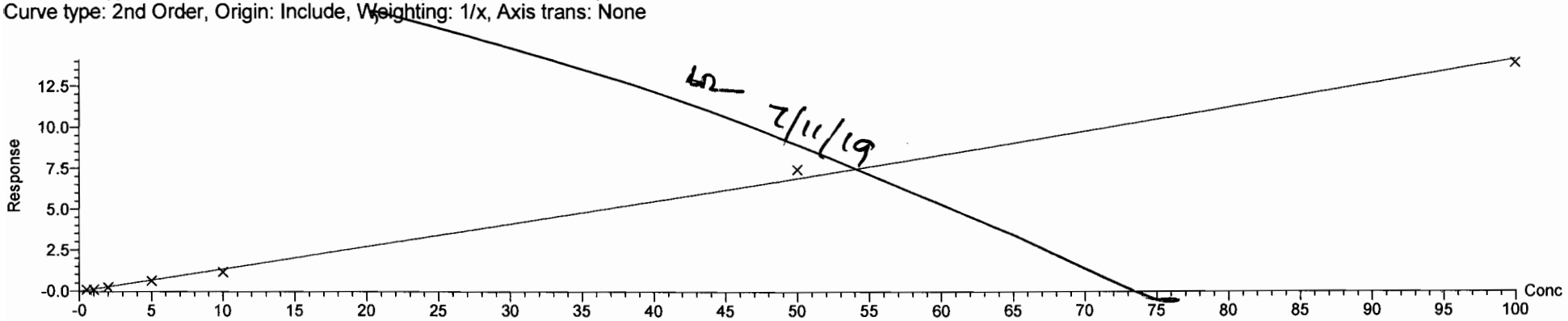
Last Altered: Thursday, July 11, 2019 10:56:26 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:57:45 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999024
Calibration curve: 0.00125826 * x^2 + 0.86234 * x + -0.0187748
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



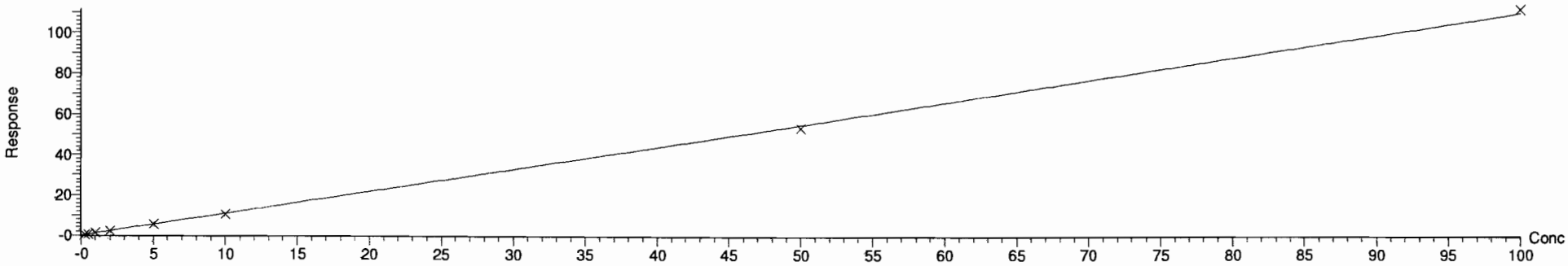
Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.995389
Calibration curve: 5.99689e-005 * x^2 + 0.135121 * x + -0.0173495
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



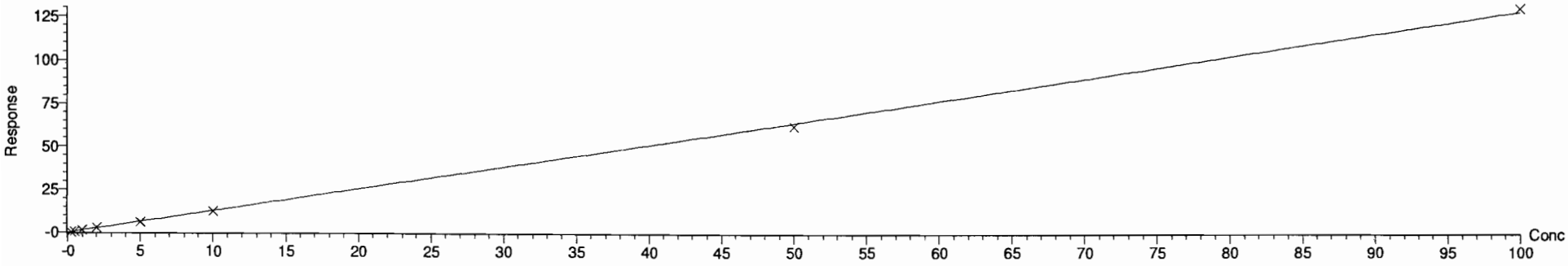
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: PFNA
Correlation coefficient: r = 0.999712, r^2 = 0.999423
Calibration curve: 1.09616 * x + 0.0302511
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



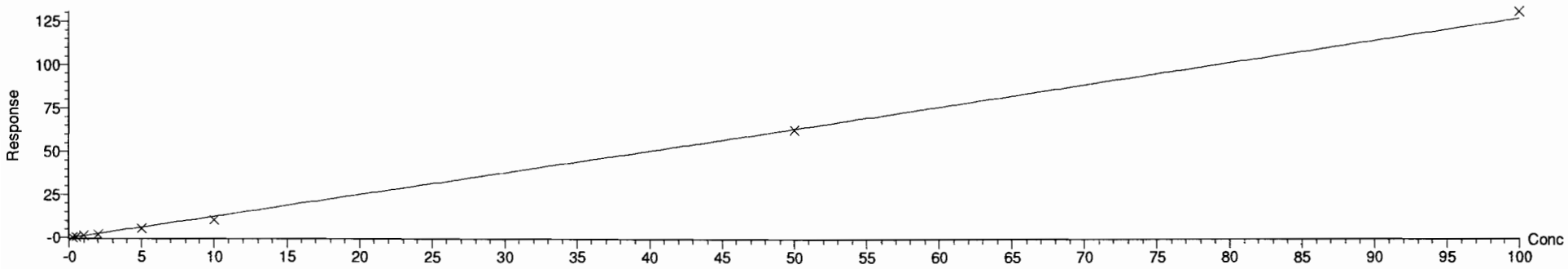
Compound name: PFOSA
Correlation coefficient: r = 0.999643, r^2 = 0.999286
Calibration curve: 1.27955 * x + -0.0326972
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



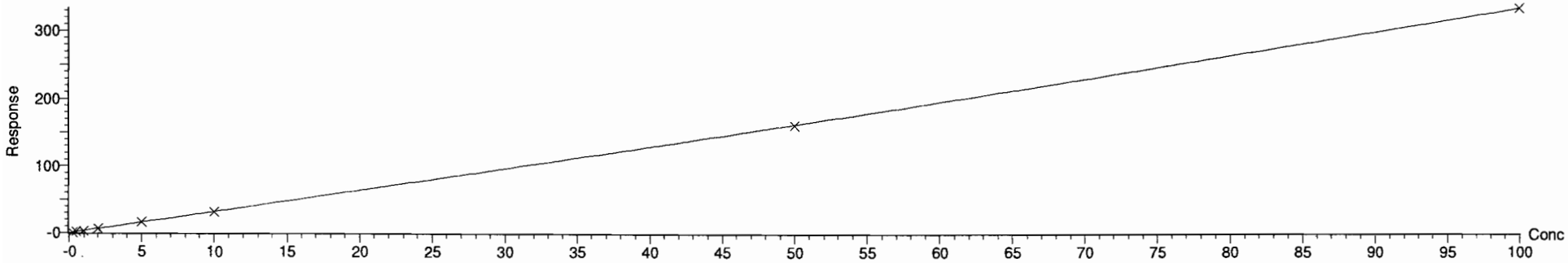
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: L-PFOS
Correlation coefficient: r = 0.997967, r^2 = 0.995937
Calibration curve: 1.26946 * x + -0.175183
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



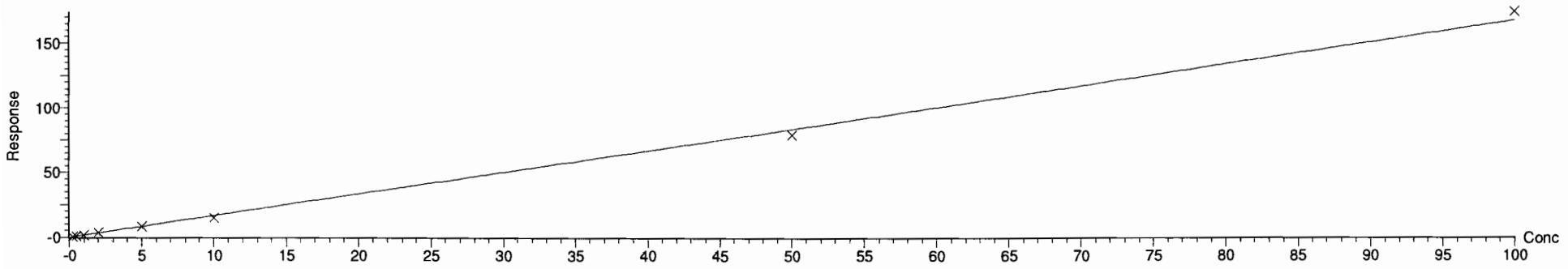
Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999653
Calibration curve: 0.0017864 * x^2 + 3.15352 * x + -0.22686
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



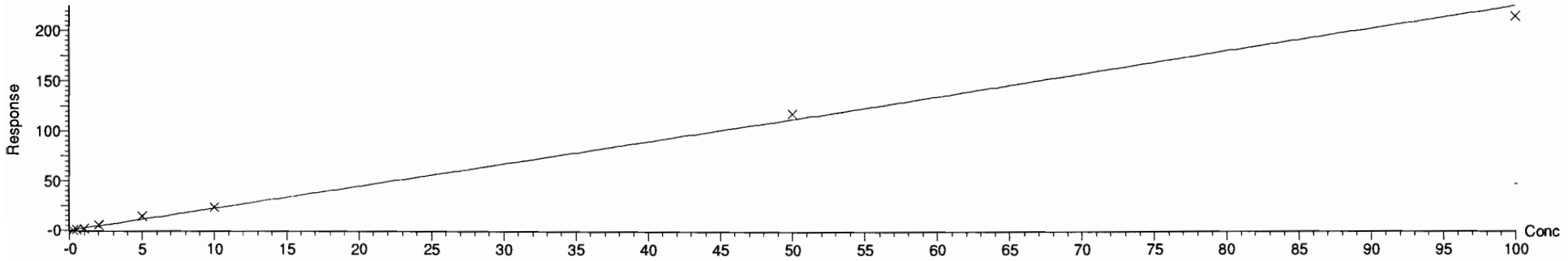
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:36:58 Pacific Daylight Time

Compound name: PFDA
Correlation coefficient: r = 0.998522, r^2 = 0.997046
Calibration curve: 1.67351 * x + -0.11586
Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: 8:2 FTS
Correlation coefficient: r = 0.997198, r^2 = 0.994405
Calibration curve: 2.24647 * x + 0.0322693
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



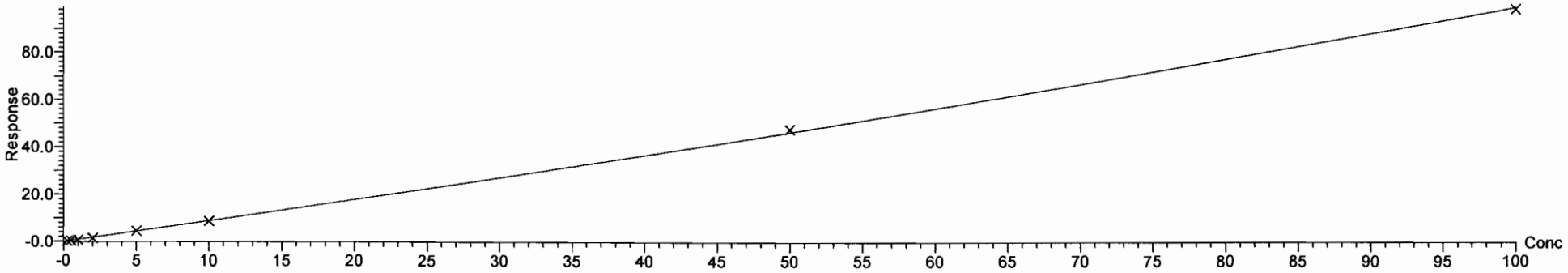
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

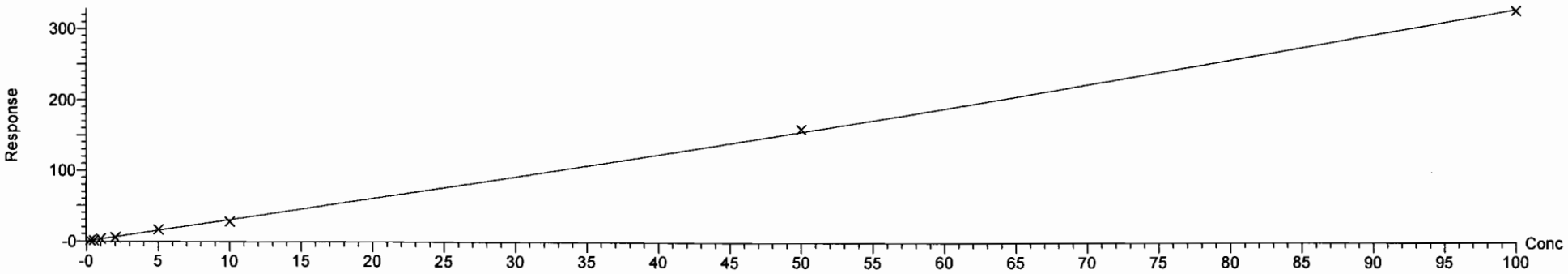
Last Altered: Thursday, July 11, 2019 10:56:26 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:05:39 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Compound name: PFNS
Coefficient of Determination: R^2 = 0.998948
Calibration curve: 0.0012104 * x^2 + 0.869148 * x + -0.063694
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.998887
Calibration curve: 0.003255 * x^2 + 2.95538 * x + -0.018678
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



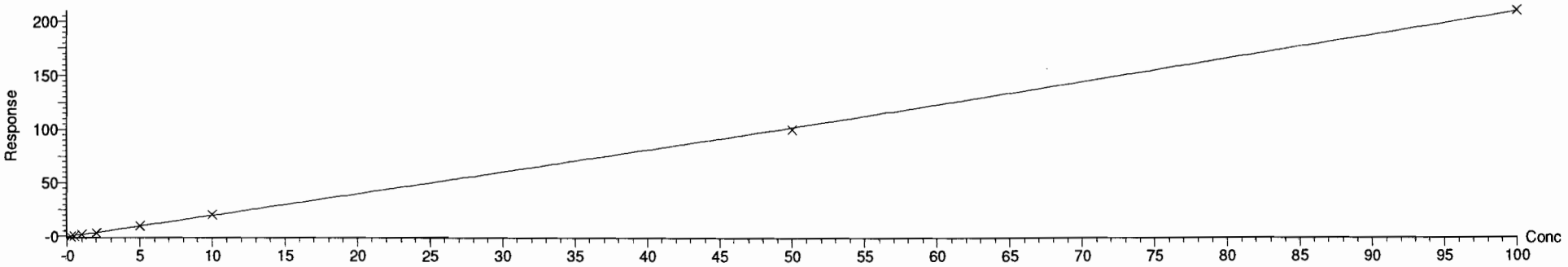
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

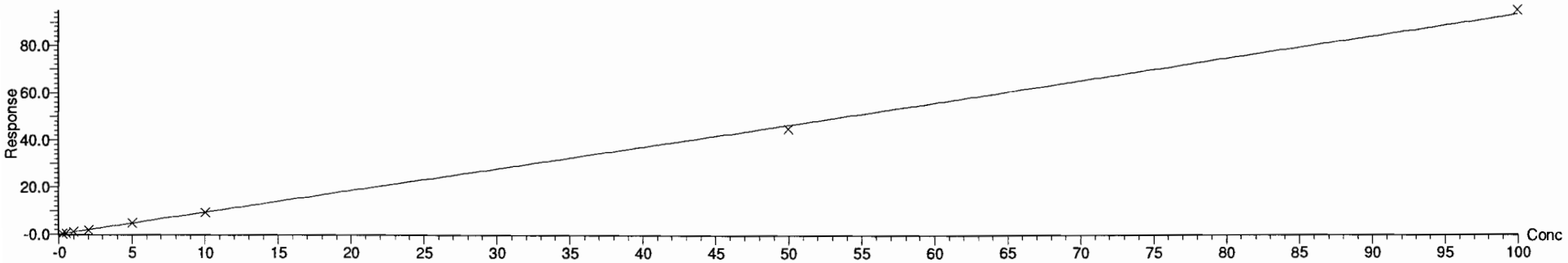
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:22:28

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.999414
Calibration curve: 0.000968179 * x^2 + 1.99529 * x + -0.24728
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



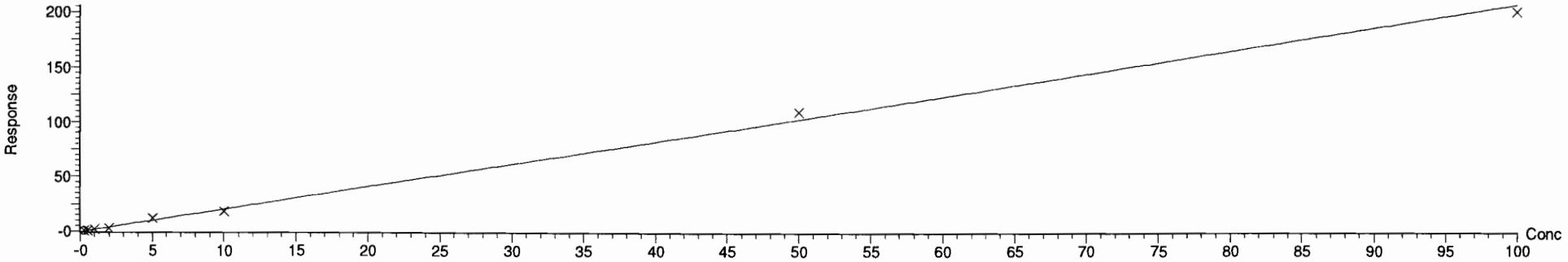
Compound name: PFUdA
Correlation coefficient: r = 0.999664, r^2 = 0.999328
Calibration curve: 0.930582 * x + 0.0128571
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



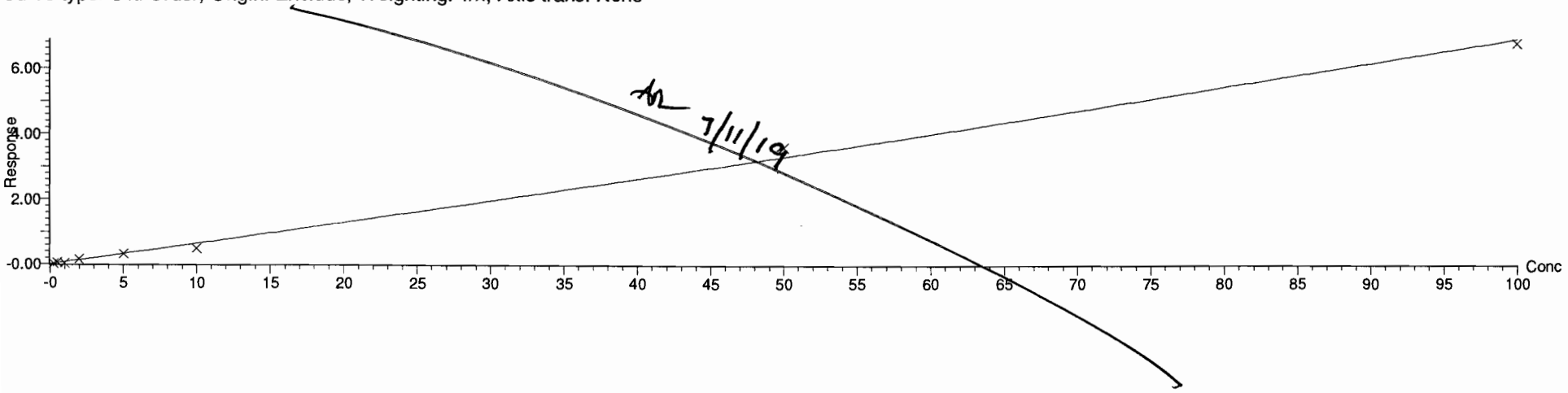
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Compound name: PFDS
Correlation coefficient: r = 0.997649, r^2 = 0.995303
Calibration curve: 2.06378 * x + -0.389745
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



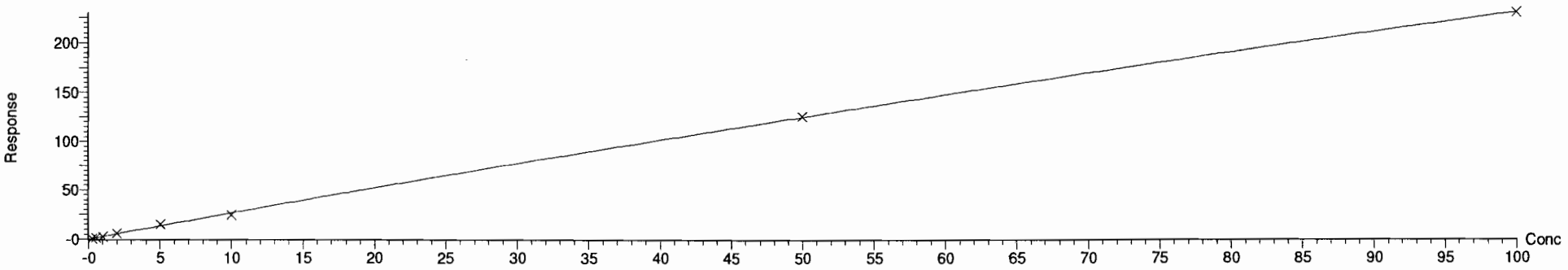
Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.990993
Calibration curve: 5.10585e-005 * x^2 + 0.0636606 * x + 0.00127315
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



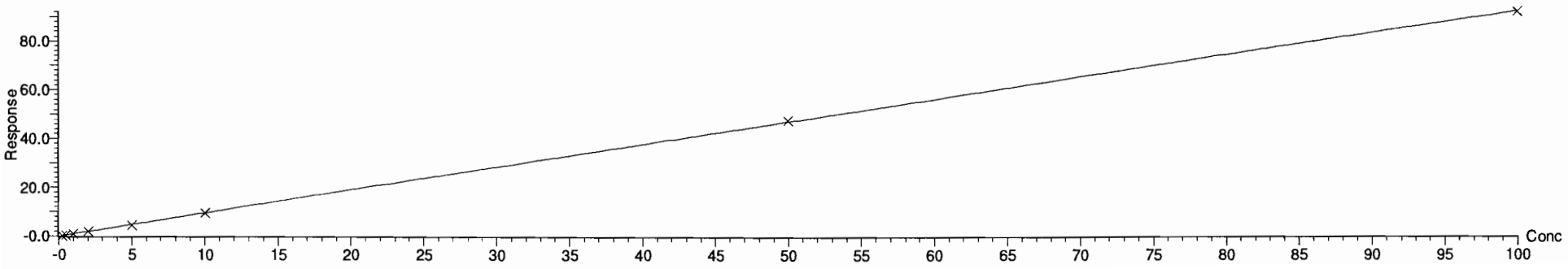
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.998698
Calibration curve: -0.00397372 * x^2 + 2.69789 * x + -0.0745551
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



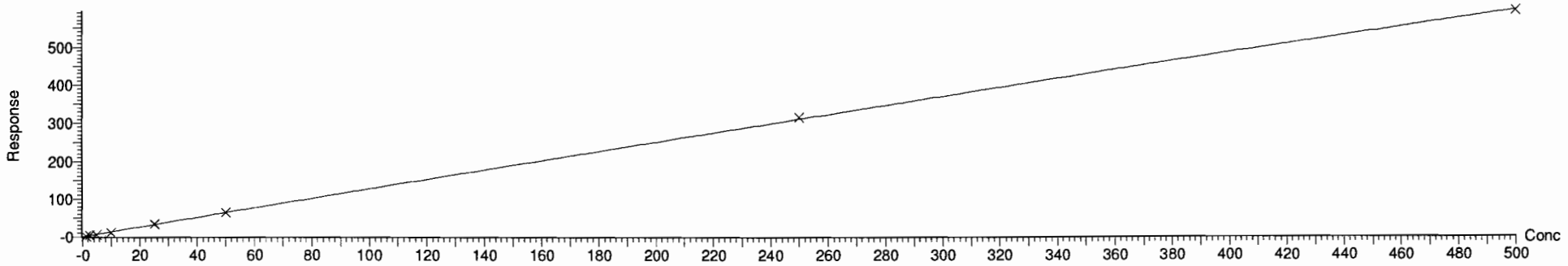
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999847
Calibration curve: -0.000390936 * x^2 + 0.961264 * x + -0.0303905
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



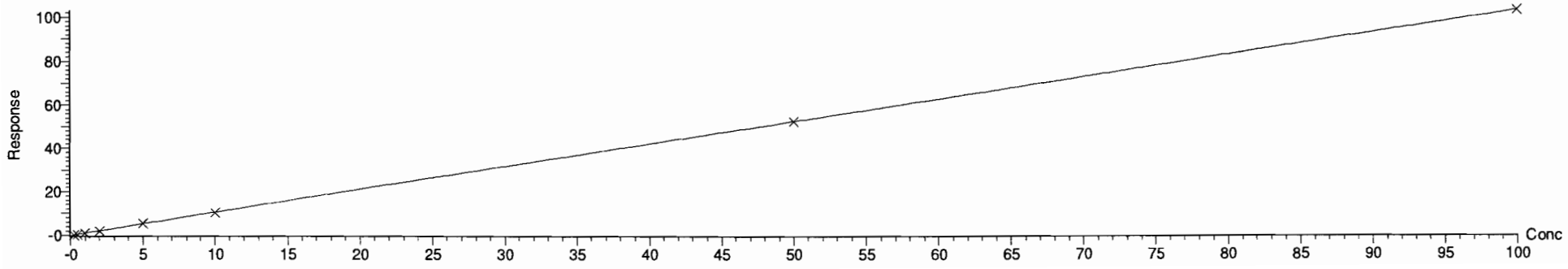
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999075
Calibration curve: -0.000216151 * x^2 + 1.29923 * x + -0.534727
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



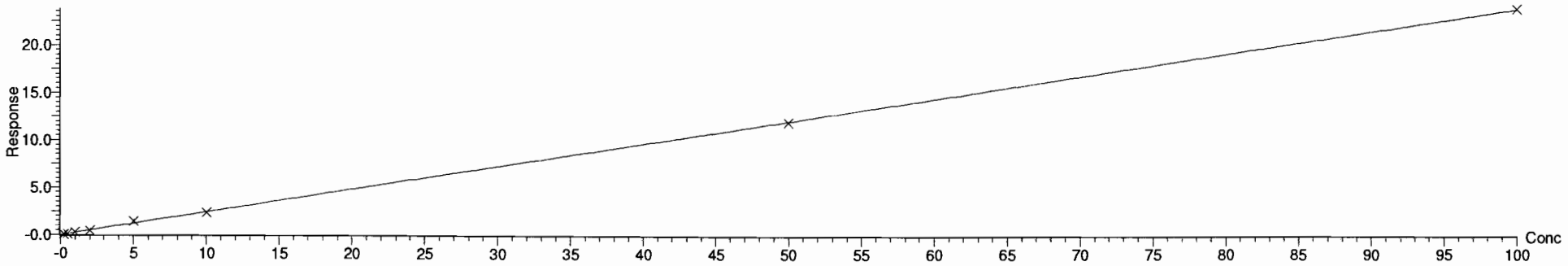
Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999791
Calibration curve: -0.000400083 * x^2 + 1.06843 * x + -0.0442094
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



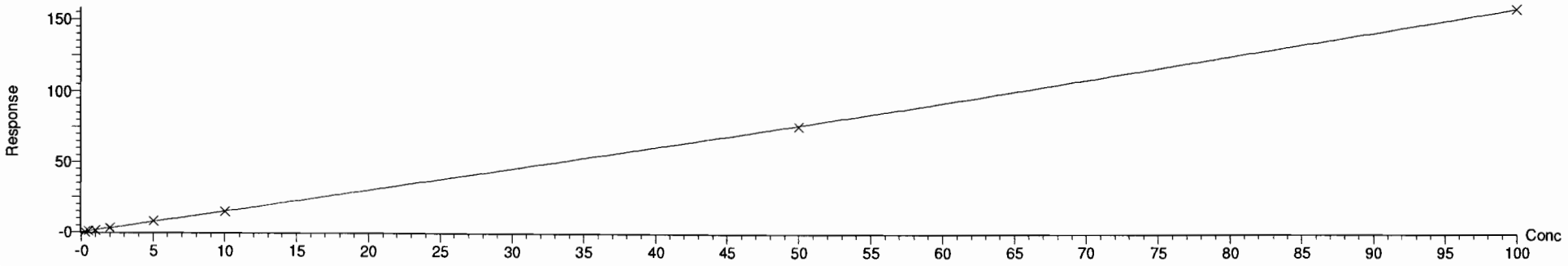
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.998596
Calibration curve: -6.19262e-005 * x^2 + 0.244112 * x + -0.0199214
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



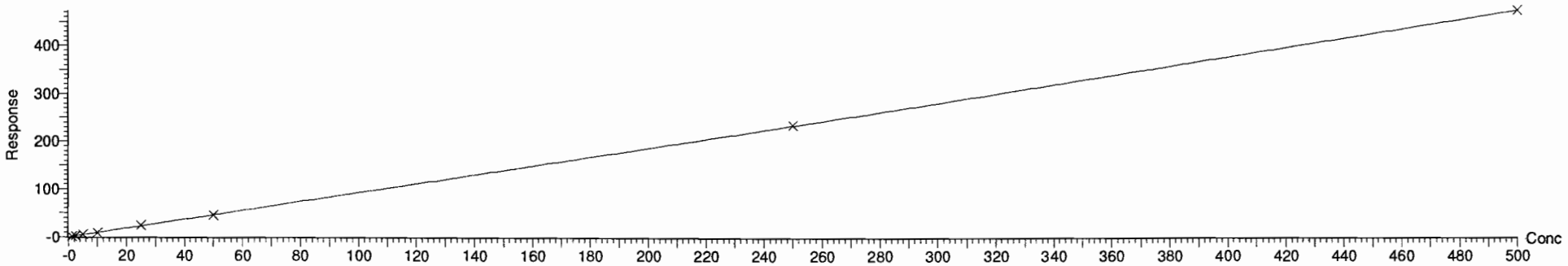
Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999560
Calibration curve: 0.000924303 * x^2 + 1.48528 * x + 0.0369753
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



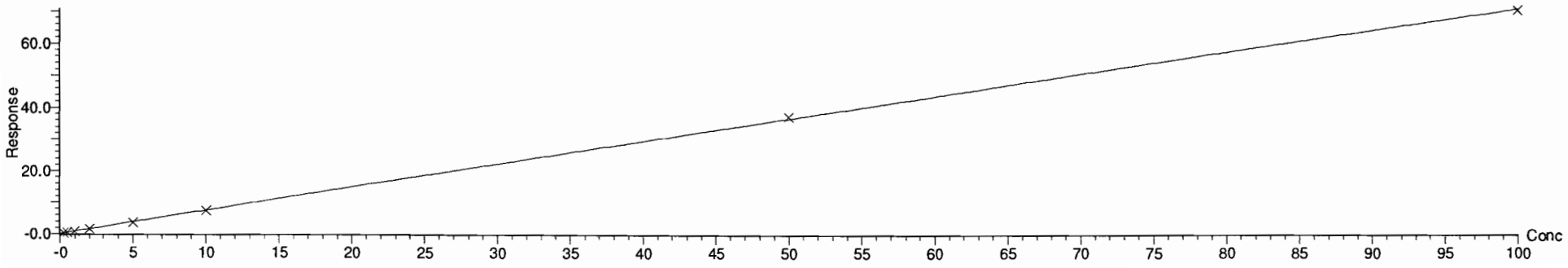
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999705
Calibration curve: 4.67147e-005 * x^2 + 0.924219 * x + -0.422102
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



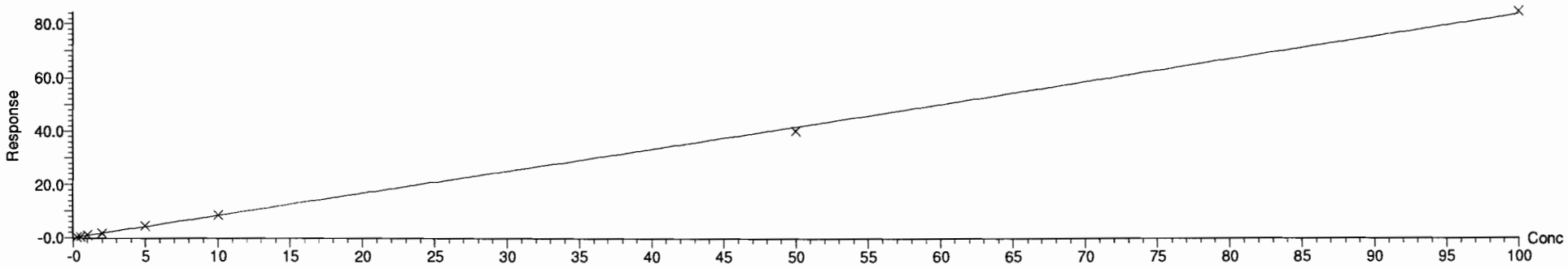
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999745
Calibration curve: -0.000493807 * x^2 + 0.756486 * x + 0.0537783
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



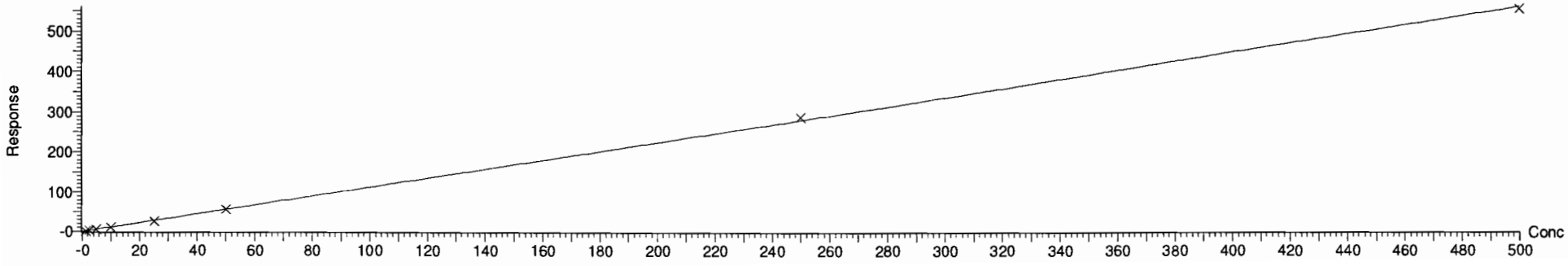
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Compound name: PFODA
Correlation coefficient: r = 0.999748, r^2 = 0.999496
Calibration curve: 0.835341 * x + 0.00579687
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



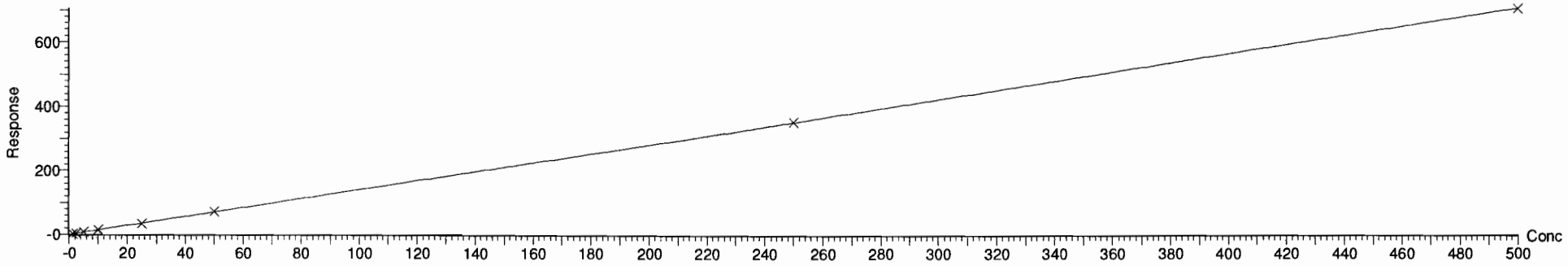
Compound name: N-MeFOSE
Correlation coefficient: r = 0.999631, r^2 = 0.999263
Calibration curve: 1.11841 * x + 0.165536
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:37:15 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999930, r^2 = 0.999860
Calibration curve: 1.41132 * x + -0.260677
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

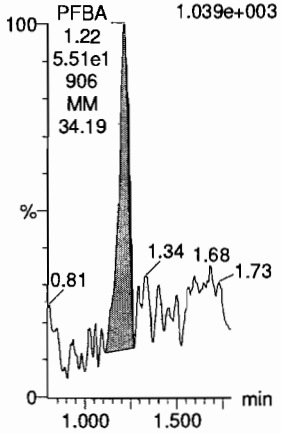
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

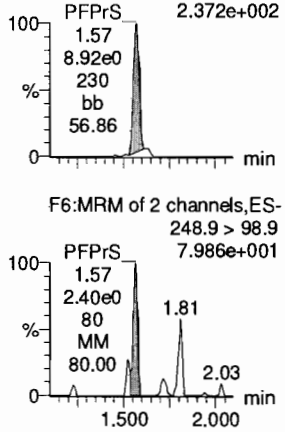
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:22:28

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

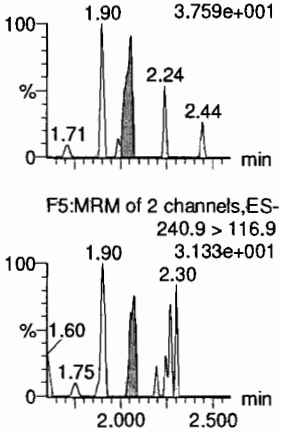
PFBA



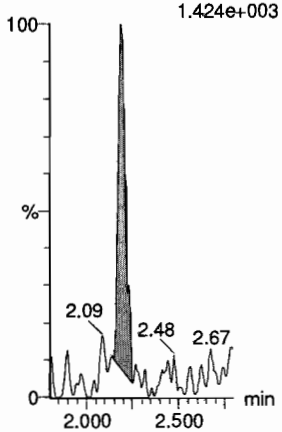
PFPrS



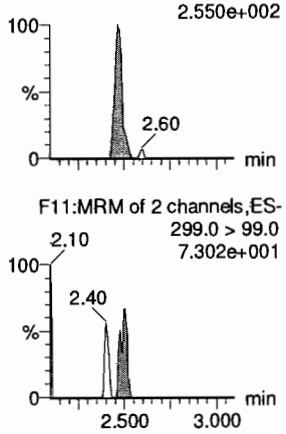
3:3 FTCA



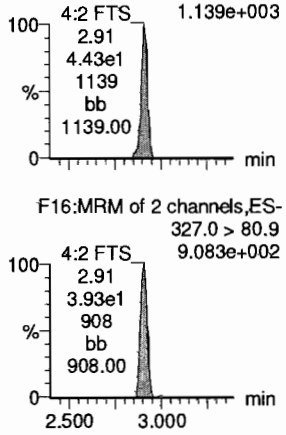
PFPeA



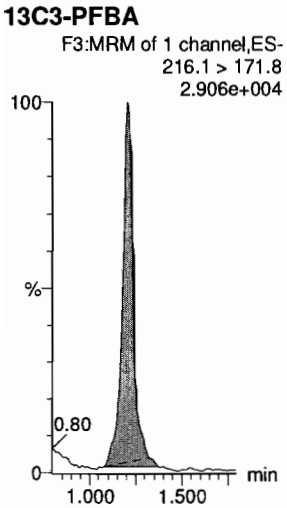
PFBS



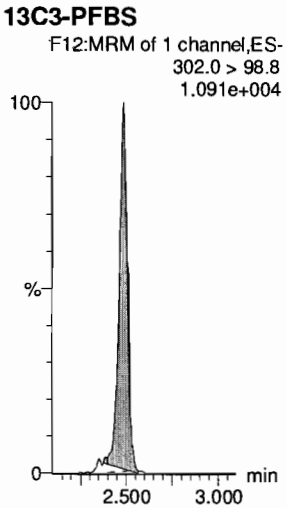
4:2 FTS



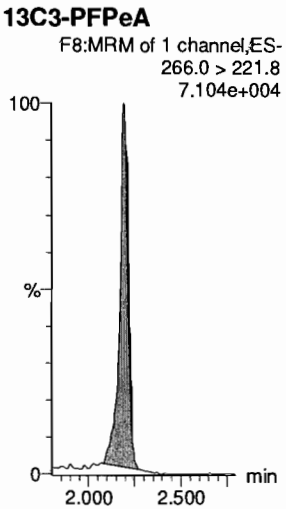
13C3-PFBA



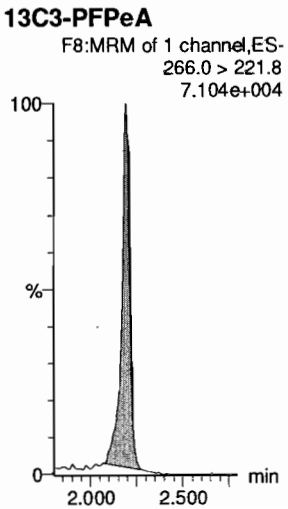
13C3-PFBS



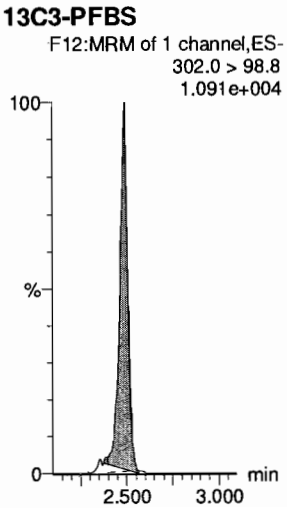
13C3-PFPeA



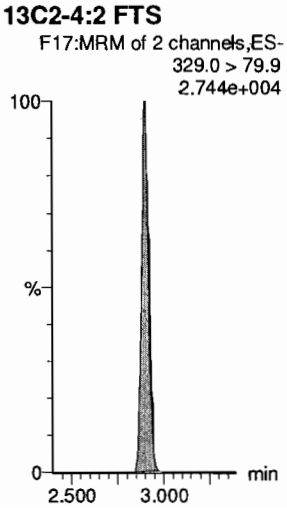
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

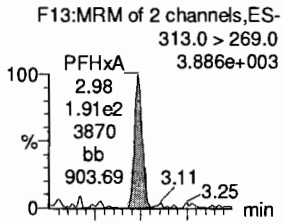


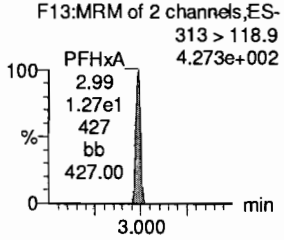
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

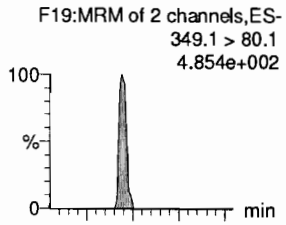
Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

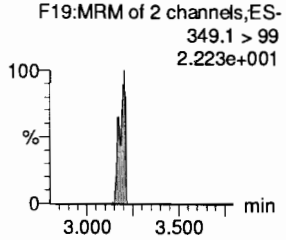
PFHxA



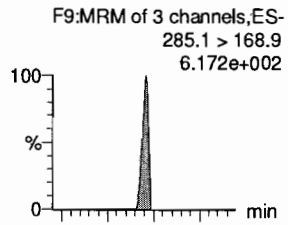


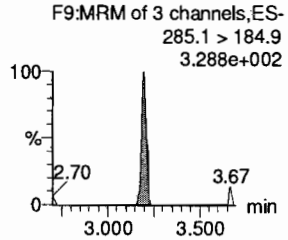
PFPeS



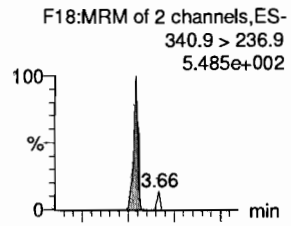


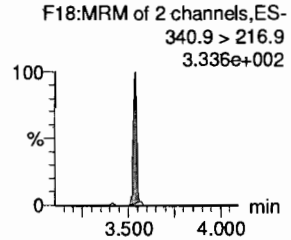
HFPO-DA



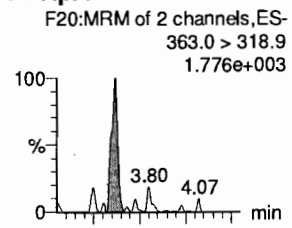


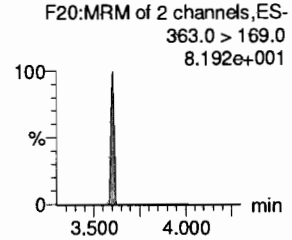
5:3 FTCA



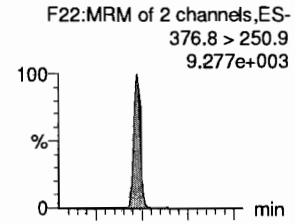


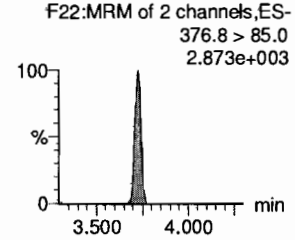
PFHpA



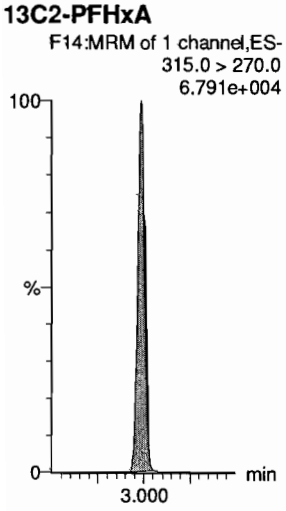


ADONA

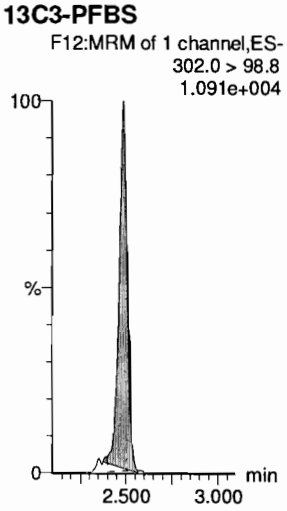




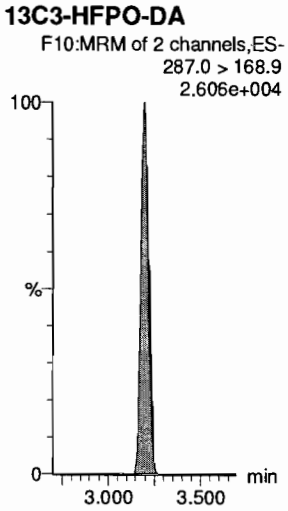
13C2-PFHxA



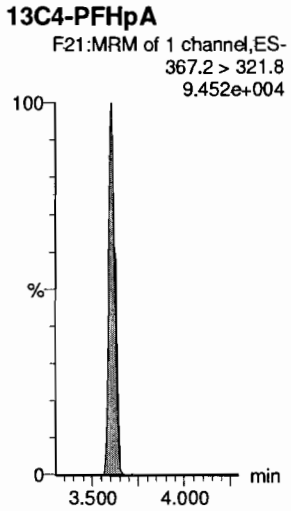
13C3-PFBS



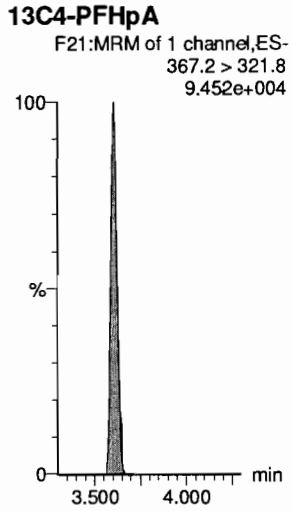
13C3-HFPO-DA



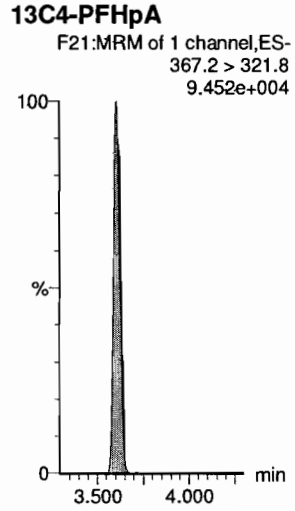
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

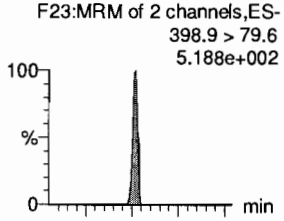


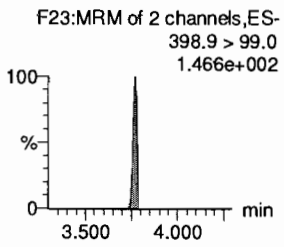
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

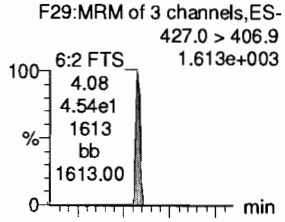
Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

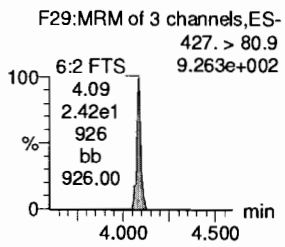
L-PFHxS



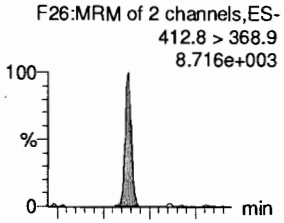


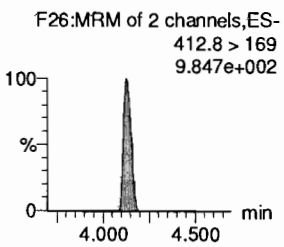
6:2 FTS



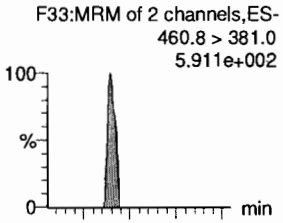


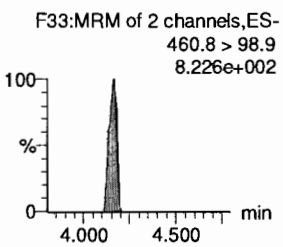
L-PFOA



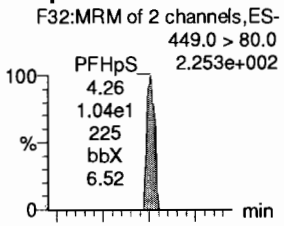


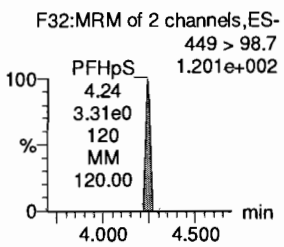
PFEChS



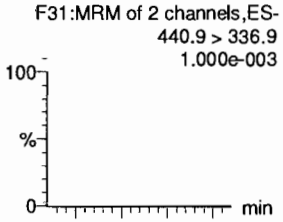


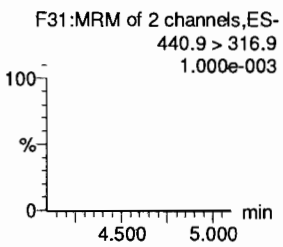
PFHpS



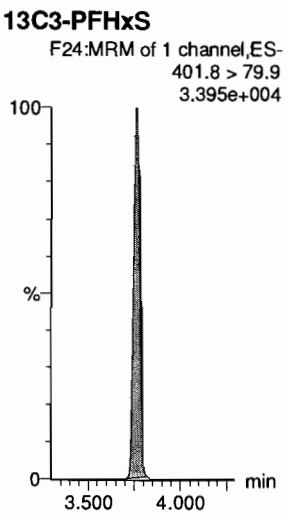


7:3 FTCA

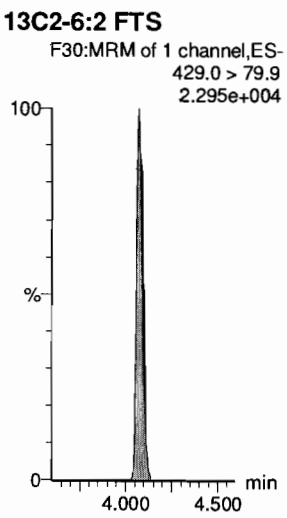




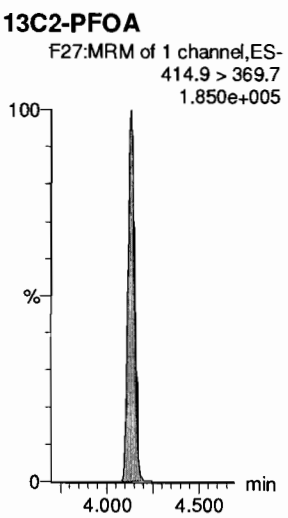
13C3-PFHxS



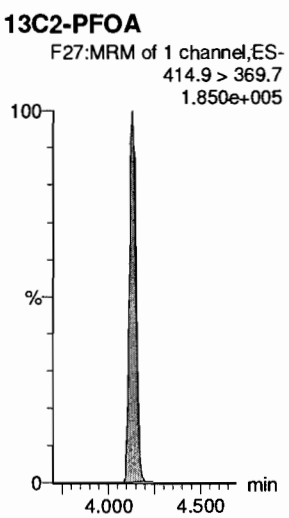
13C2-6:2 FTS



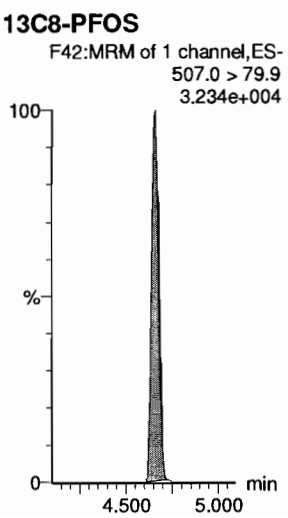
13C2-PFOA



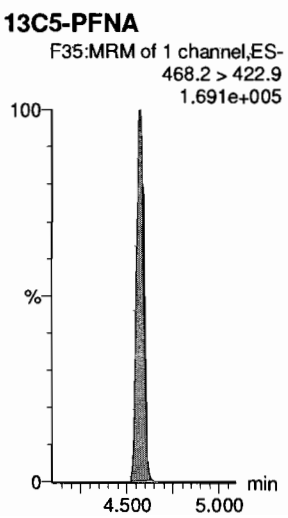
13C2-PFOA



13C8-PFOS



13C5-PFNA



Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

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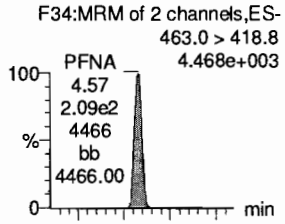
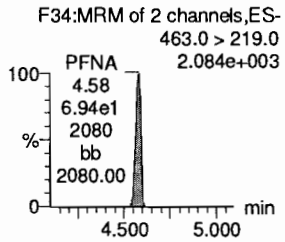
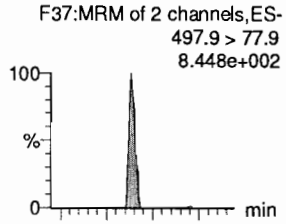
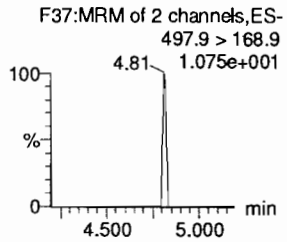


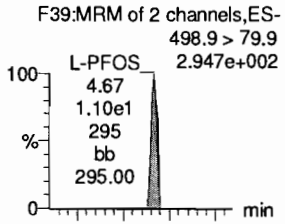


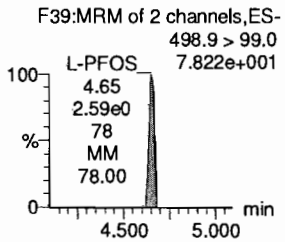
PFOSA



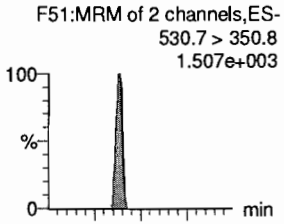


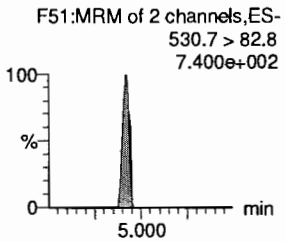
L-PFOS





9Cl-PF30NS





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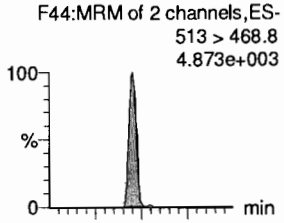
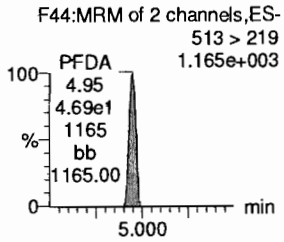
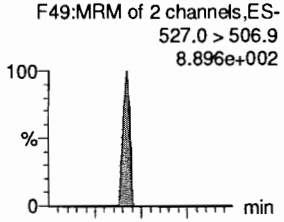
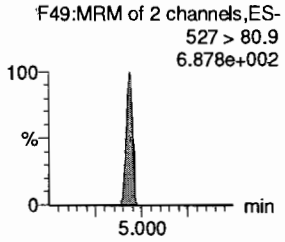


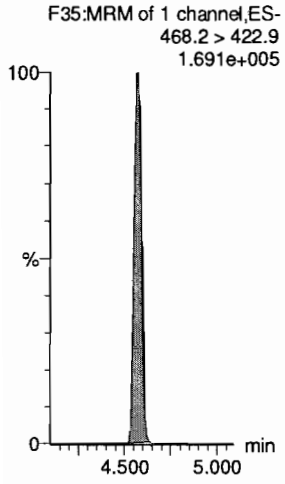


8:2 FTS

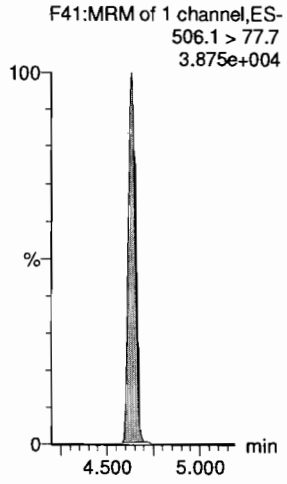




13C5-PFNA



13C8-PFOSA



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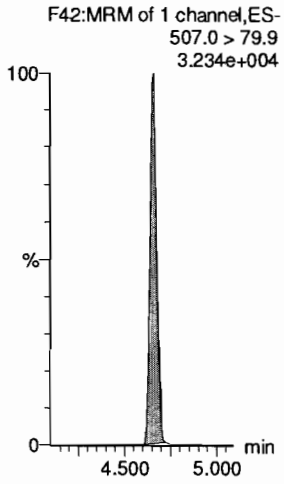

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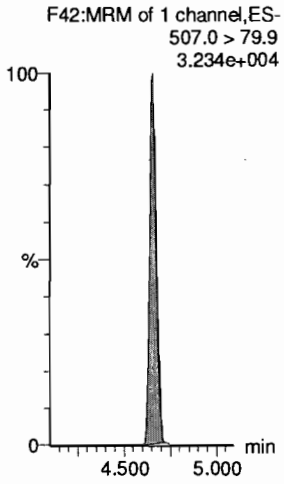
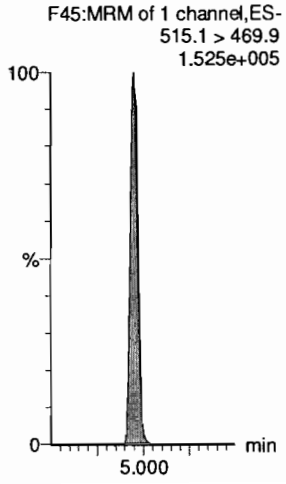
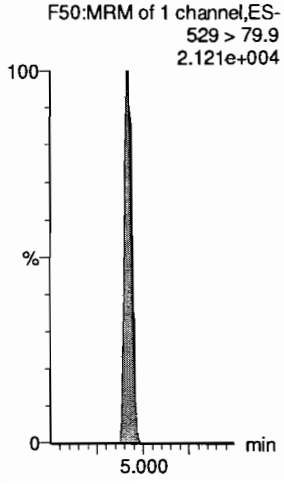


13C2-PFDA



13C2-8:2 FTS

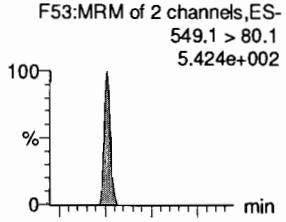


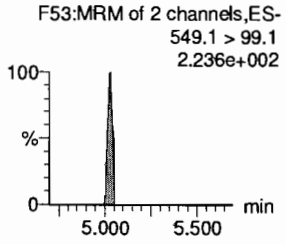
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

PFNS





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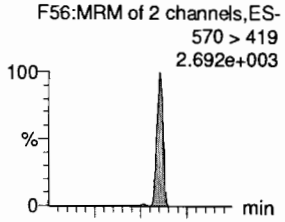

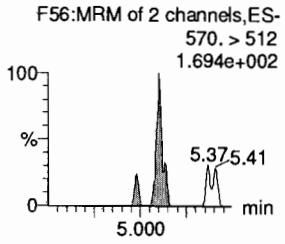

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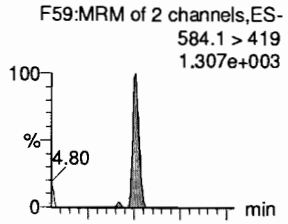

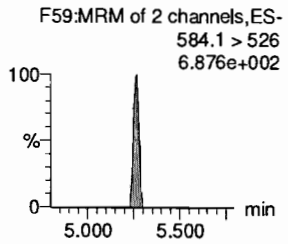

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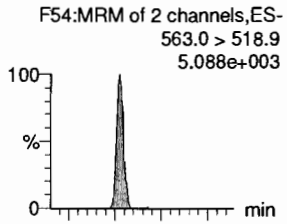

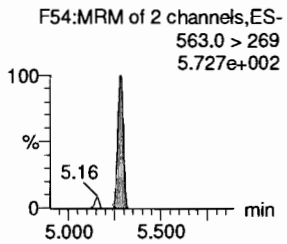

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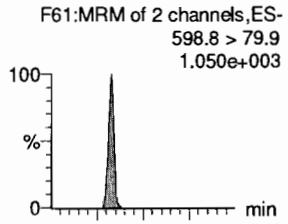

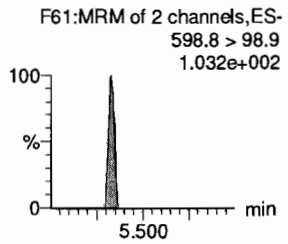

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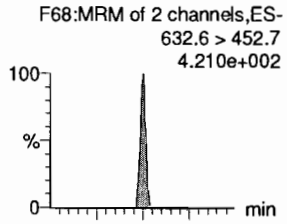
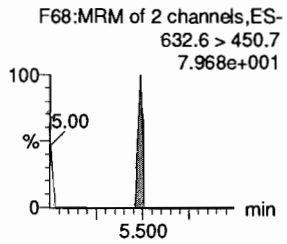
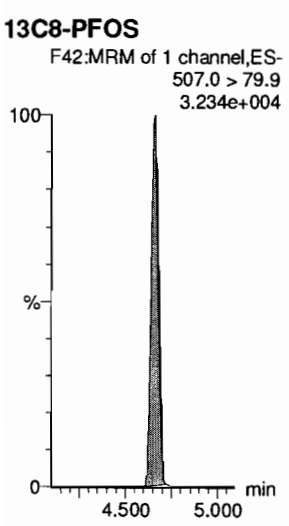
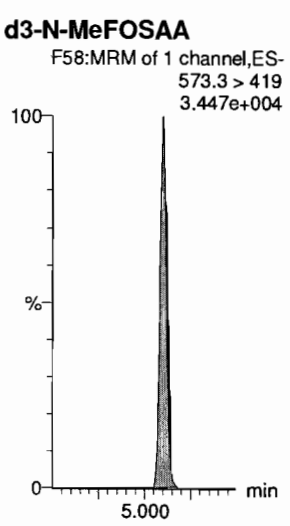




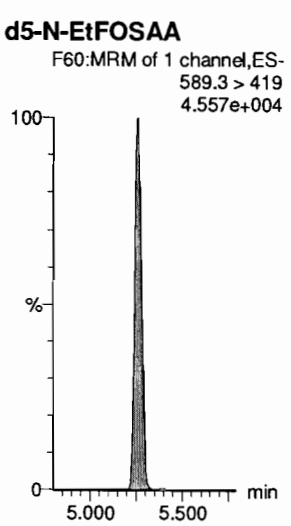
13C8-PFOS



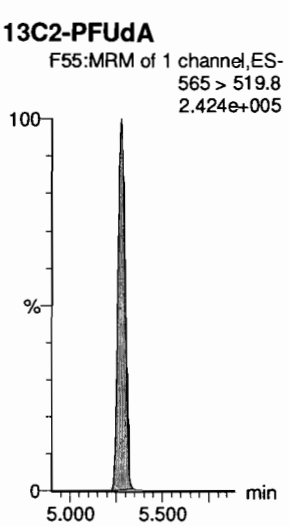
d3-N-MeFOSAA



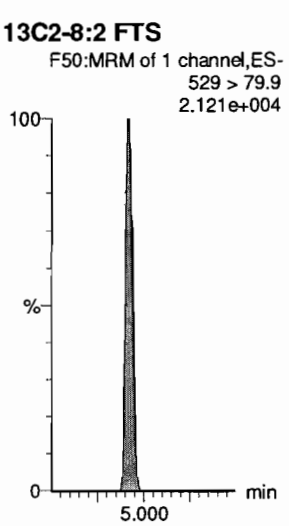
d5-N-EtFOSAA



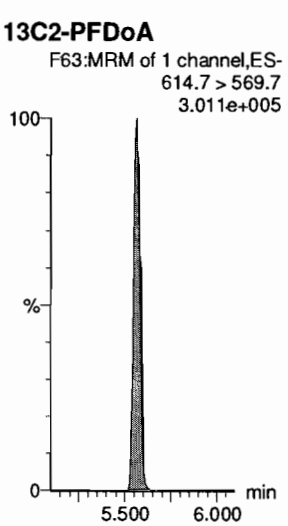
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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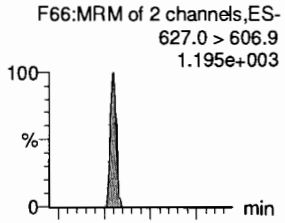
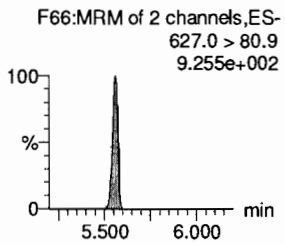
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

10:2 FTS





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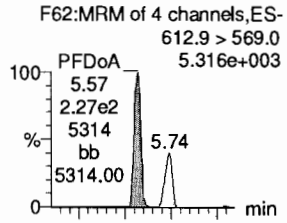
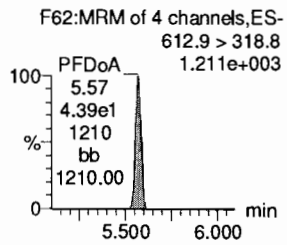
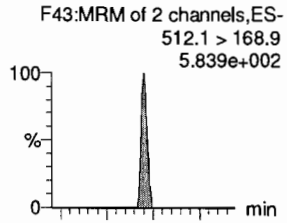
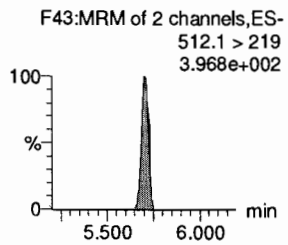




N-MeFOSA





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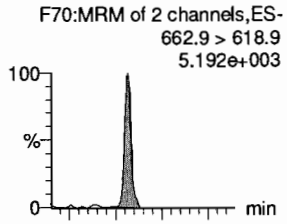
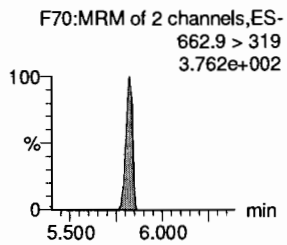
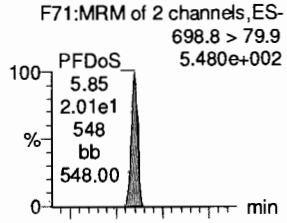
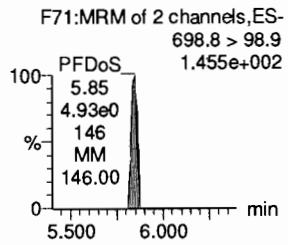


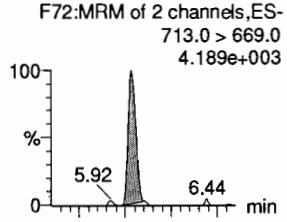


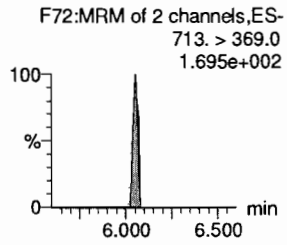
PFDoS



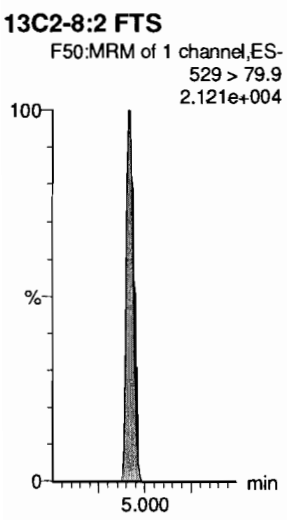


PFTeDA





13C2-8:2 FTS



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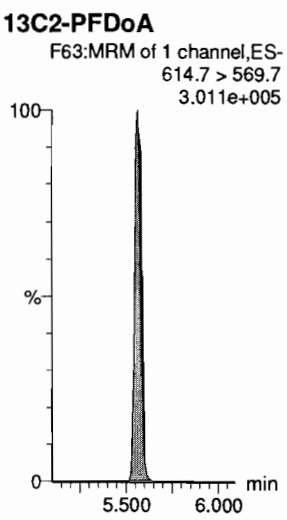
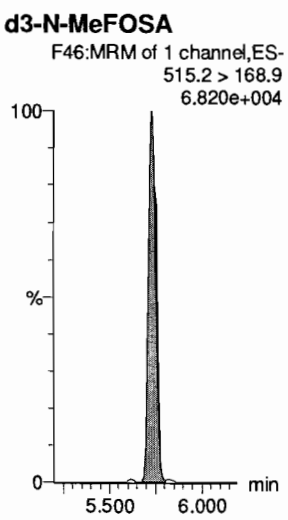
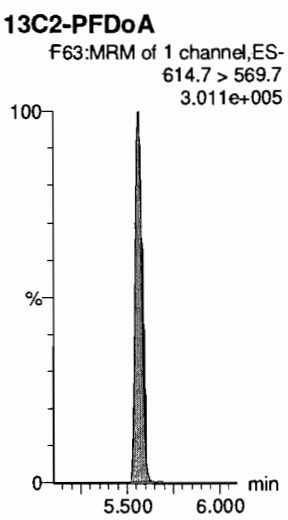


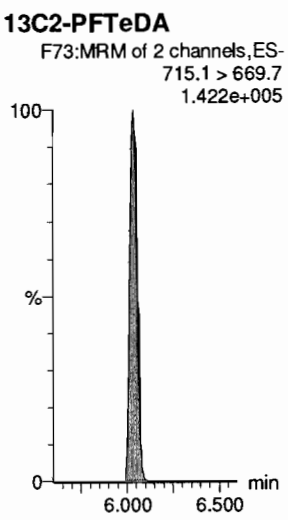
d3-N-MeFOSA



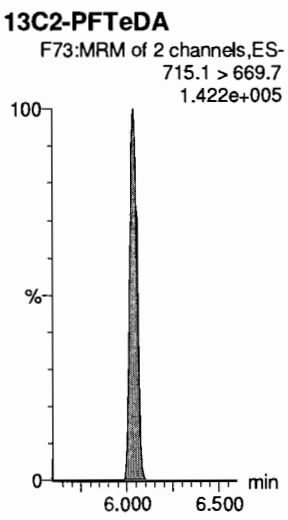
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

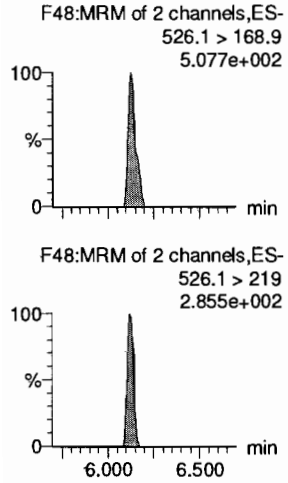


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

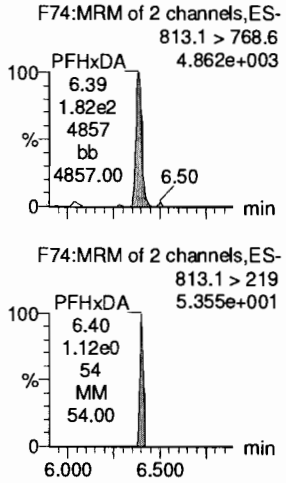
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

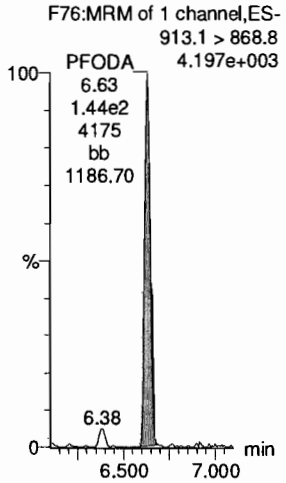
N-EtFOSA



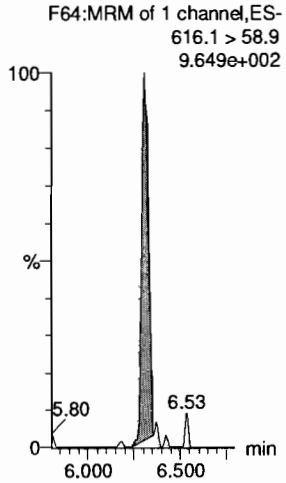
PFHxDA



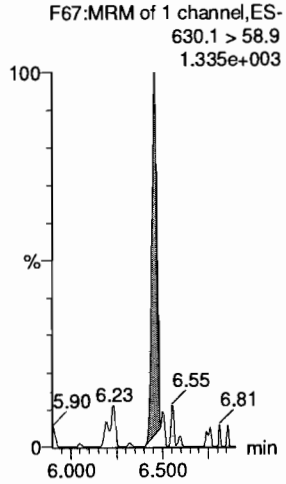
PFODA



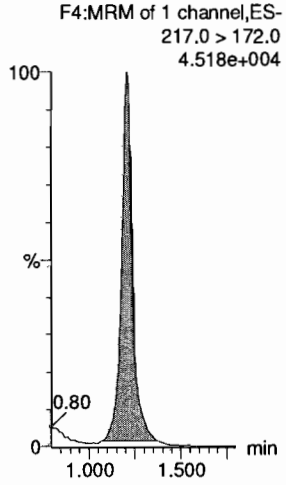
N-MeFOSE



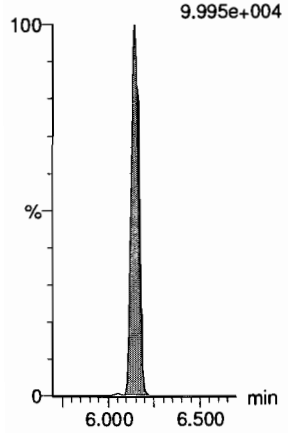
N-EtFOSE



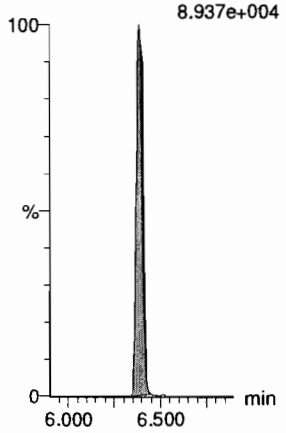
13C4-PFBA



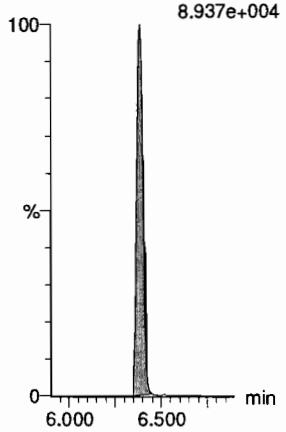
d5-N-ETFOSA



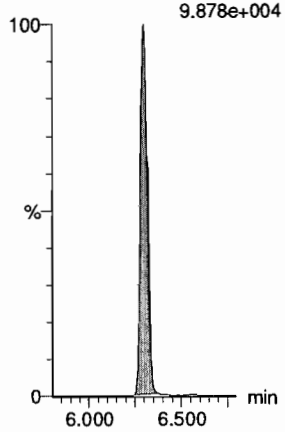
13C2-PFHxDA



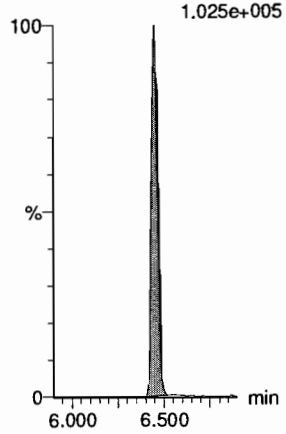
13C2-PFHxDA



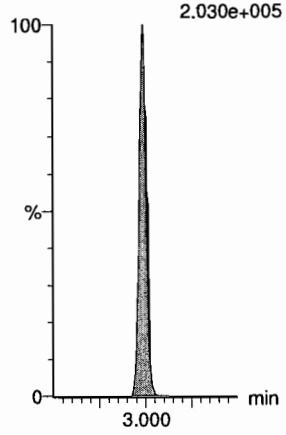
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

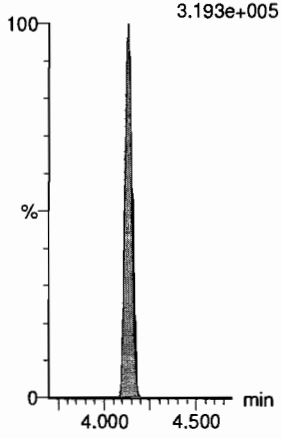


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

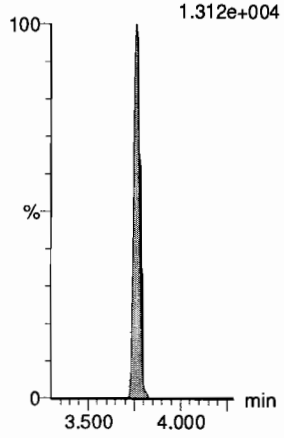
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_6, Date: 10-Jul-2019, Time: 13:43:47, ID: ST190710M2-1 PFC CS-2 19G0801, Description: PFC CS-2 19G0801

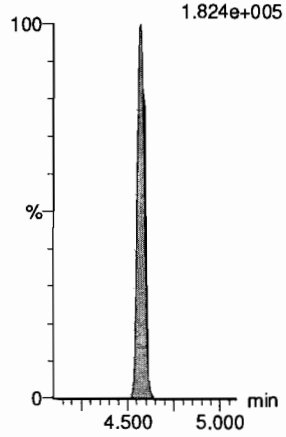
13C8-PFOA



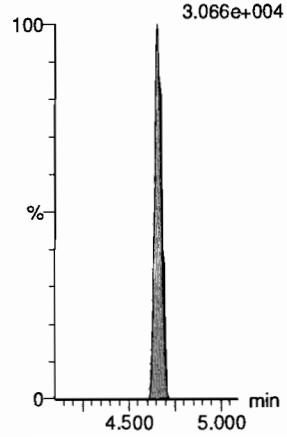
18O2-PFHxS



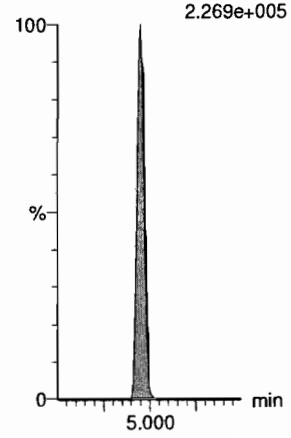
13C9-PFNA



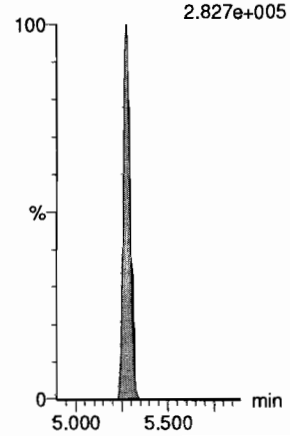
13C4-PFOS



13C6-PFDA



13C7-PFUdA

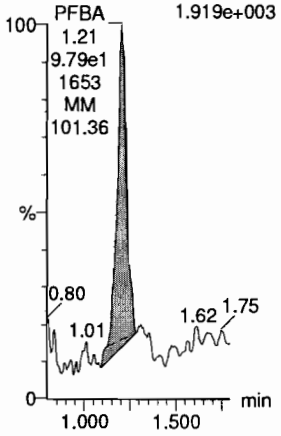


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

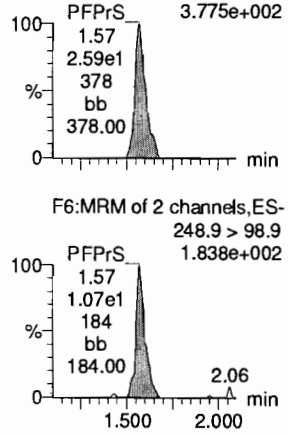
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

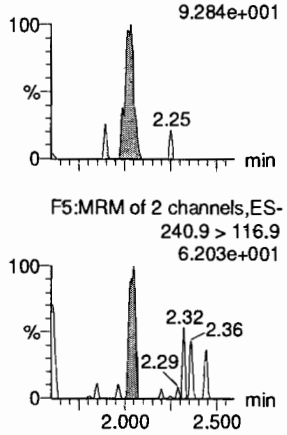
PFBA



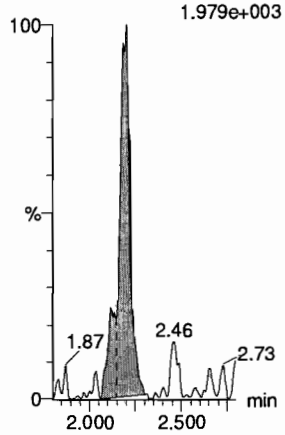
PFPrS



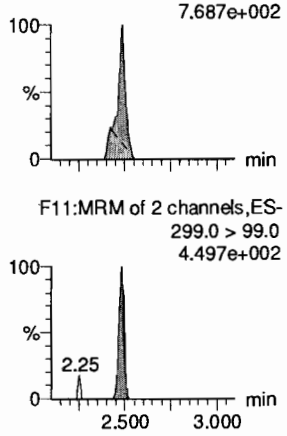
3:3 FTCA



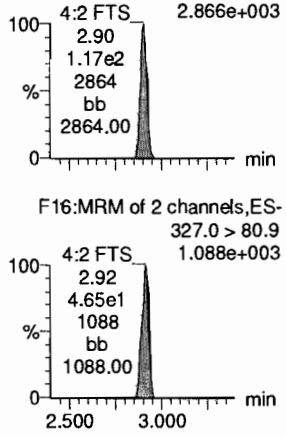
PFPeA



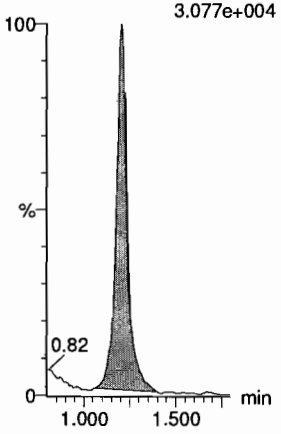
PFBS



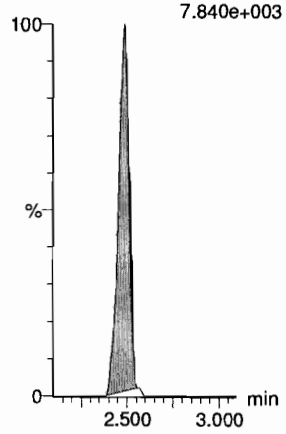
4:2 FTS



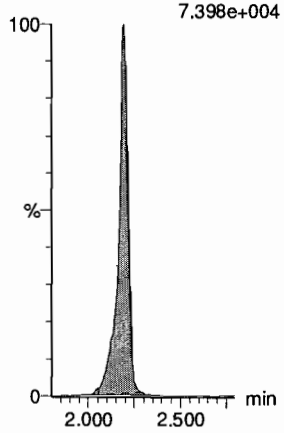
13C3-PFBA



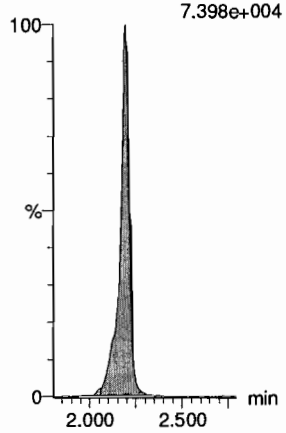
13C3-PFBS



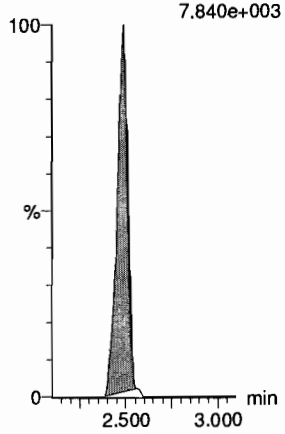
13C3-PFPeA



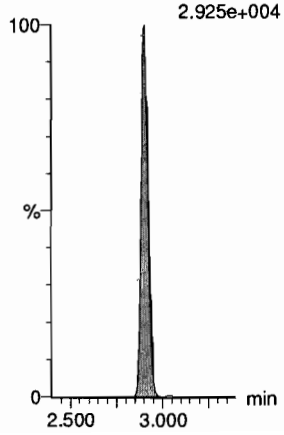
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS



Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
7.161e+003
PFHxA
2.99
3.37e2
7097
bb
466.44
3.40
min

F13:MRM of 2 channels,ES-
313 > 118.9
6.939e+002
PFHxA
2.98
2.66e1
694
bb
694.00
min

PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
7.785e+002
min

F19:MRM of 2 channels,ES-
349.1 > 99
4.120e+002
min

HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
1.559e+003
min

F9:MRM of 3 channels,ES-
285.1 > 184.9
9.701e+002
2.97
3.63
min

5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
9.857e+002
3.13
3.96
min

F18:MRM of 2 channels,ES-
340.9 > 216.9
4.562e+002
3.29
min

PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
4.256e+003
4.23
min

F20:MRM of 2 channels,ES-
363.0 > 169.0
9.131e+002
min

ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
1.478e+004
min

F22:MRM of 2 channels,ES-
376.8 > 85.0
4.416e+003
min

13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
6.757e+004
min

13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
7.840e+003
min

13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
2.842e+004
min

13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
9.668e+004
min

13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
9.668e+004
min

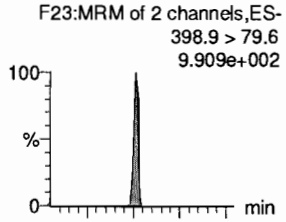
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
9.668e+004
min

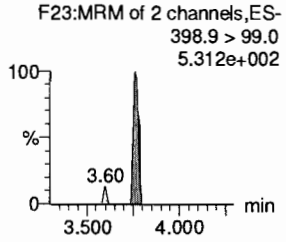
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

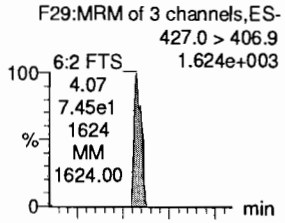
Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

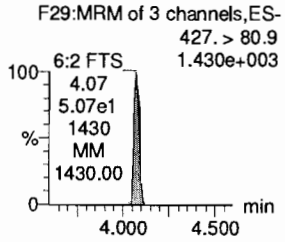
L-PFHxS



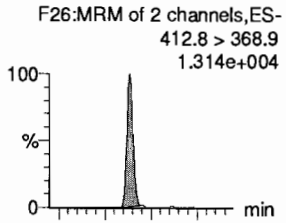


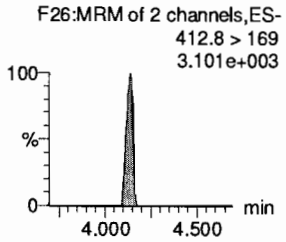
6:2 FTS



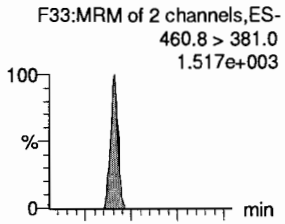


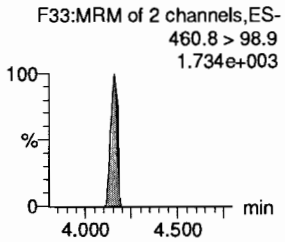
L-PFOA



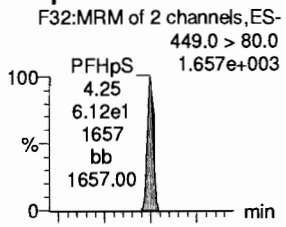


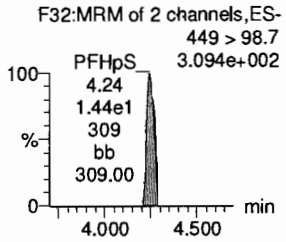
PFEChS



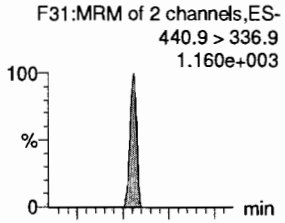


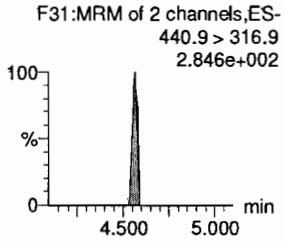
PFHpS



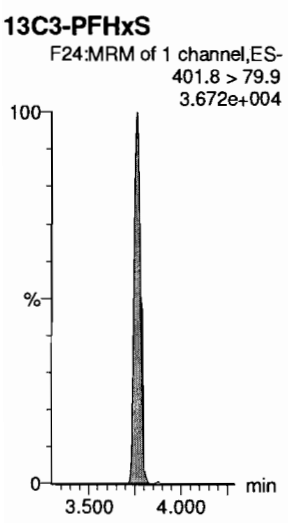


7:3 FTCA

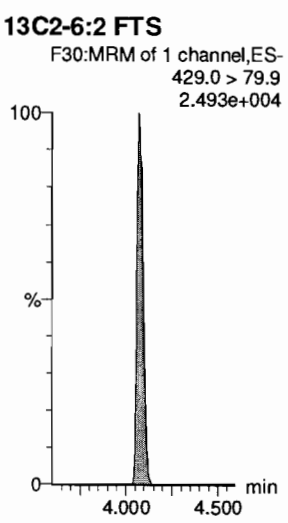




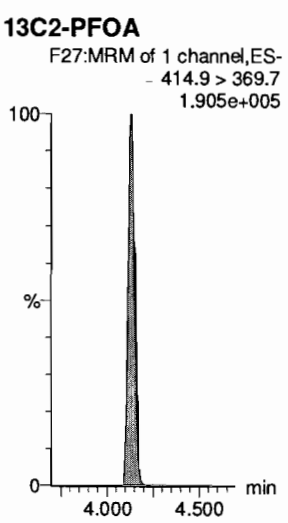
13C3-PFHxS



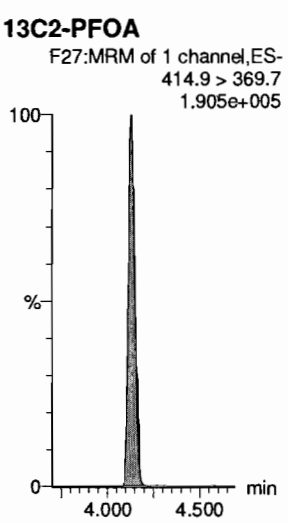
13C2-6:2 FTS



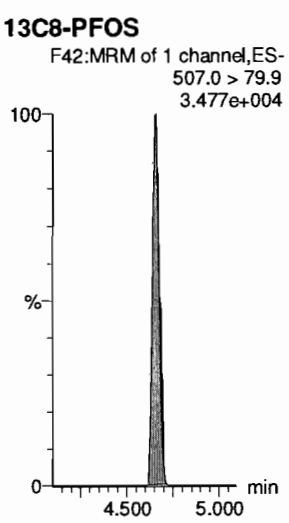
13C2-PFOA



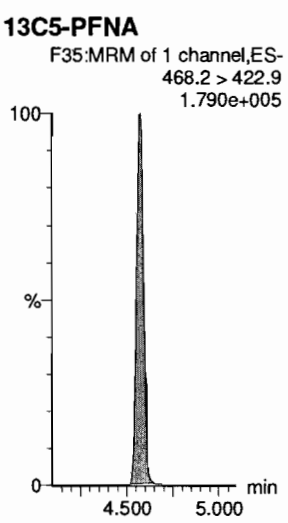
13C2-PFOA



13C8-PFOS



13C5-PFNA

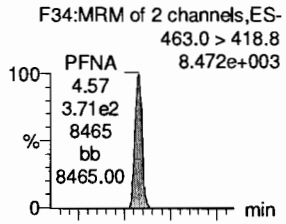


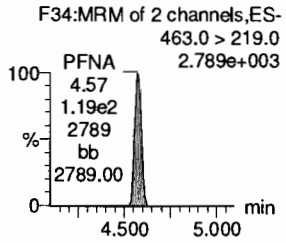
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

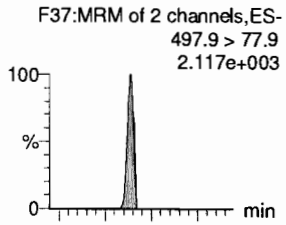
Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

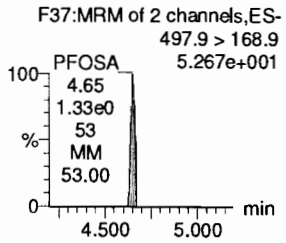
PFNA



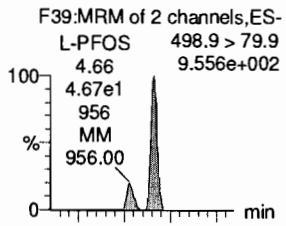


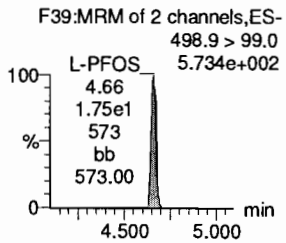
PFOSA



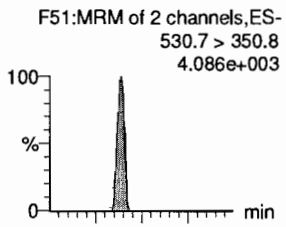


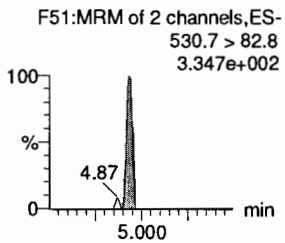
L-PFOS



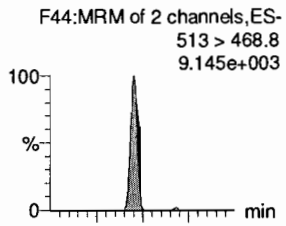


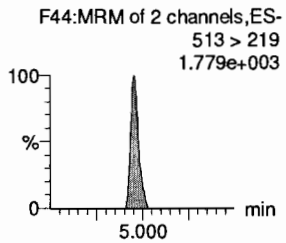
9Cl-PF30NS



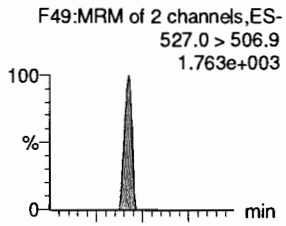


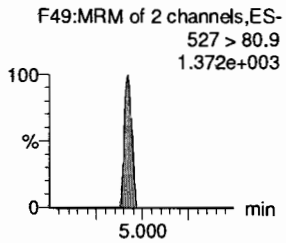
PFDA



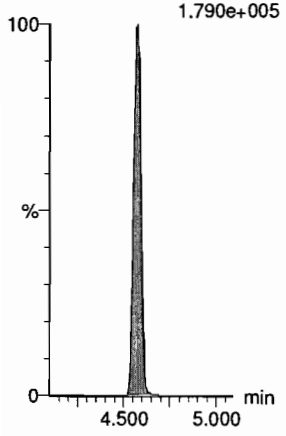


8:2 FTS

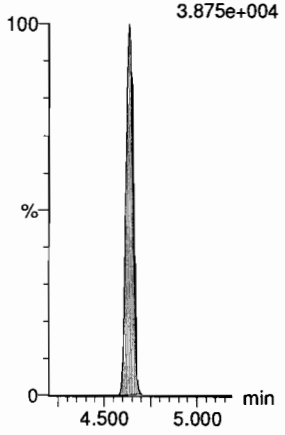




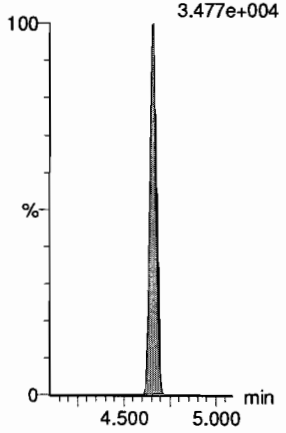
13C5-PFNA



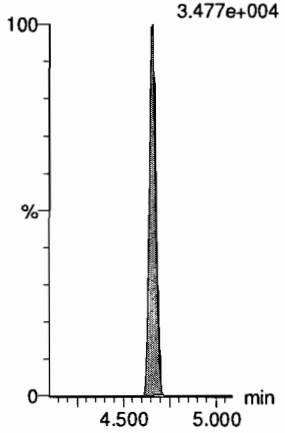
13C8-PFOSA



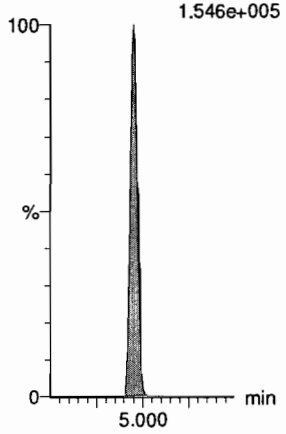
13C8-PFOS



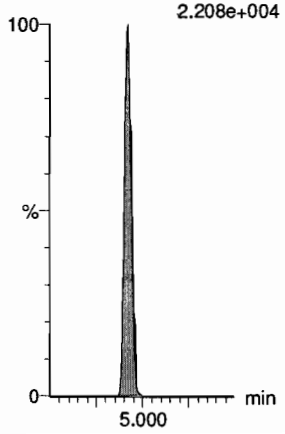
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

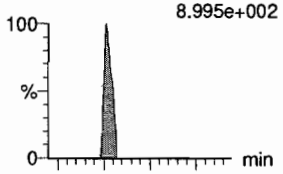


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

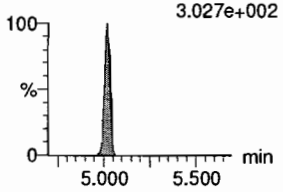
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

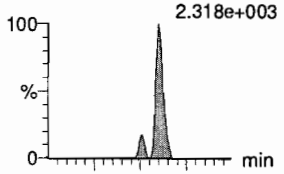
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
8.995e+002



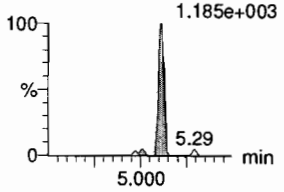
F53:MRM of 2 channels,ES-
549.1 > 99.1
3.027e+002



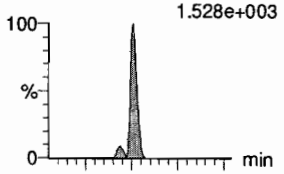
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
2.318e+003



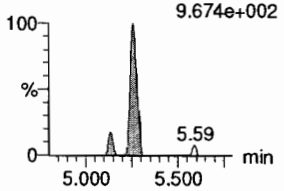
F56:MRM of 2 channels,ES-
570. > 512
1.185e+003



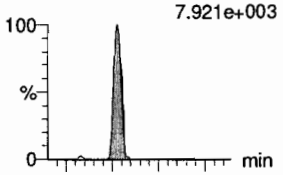
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
1.528e+003



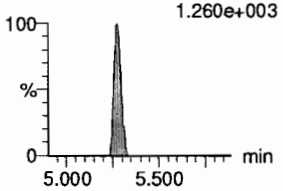
F59:MRM of 2 channels,ES-
584.1 > 526
9.674e+002



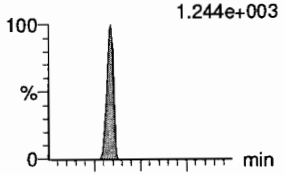
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
7.921e+003



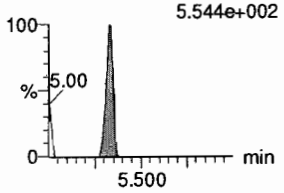
F54:MRM of 2 channels,ES-
563.0 > 269
1.260e+003



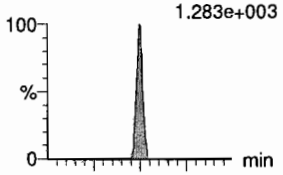
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
1.244e+003



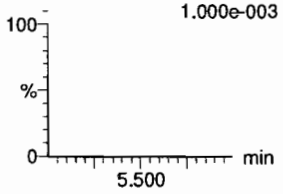
F61:MRM of 2 channels,ES-
598.8 > 98.9
5.544e+002



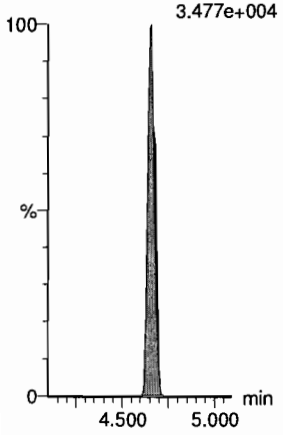
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
1.283e+003



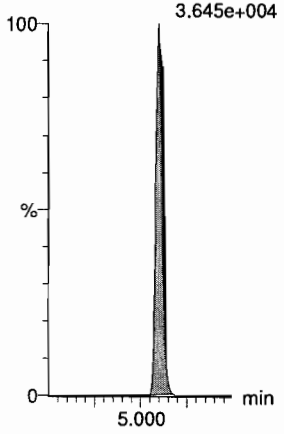
F68:MRM of 2 channels,ES-
632.6 > 450.7
1.000e-003



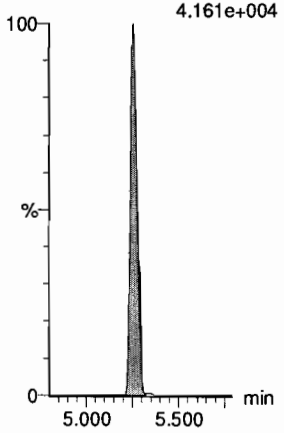
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
3.477e+004



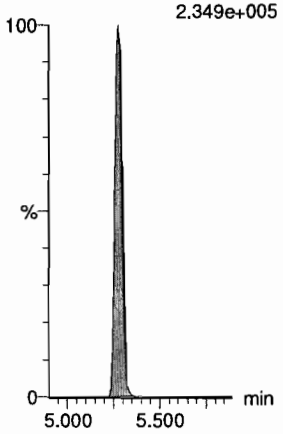
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
3.645e+004



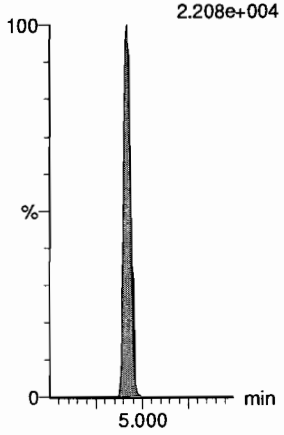
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
4.161e+004



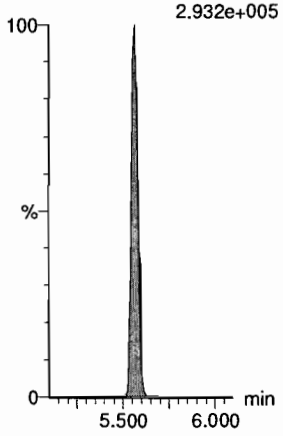
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
2.349e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
2.208e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
2.932e+005

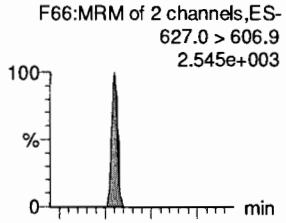


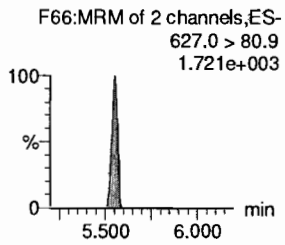
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

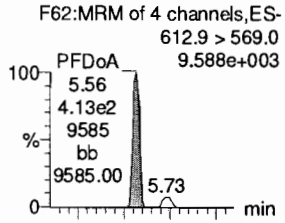
Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

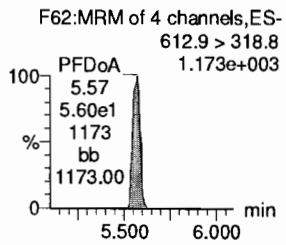
10:2 FTS



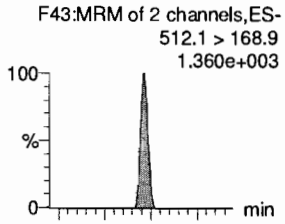


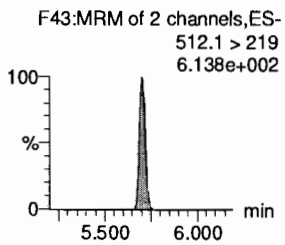
PFDoA



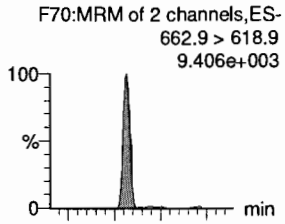


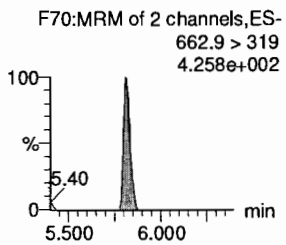
N-MeFOSA



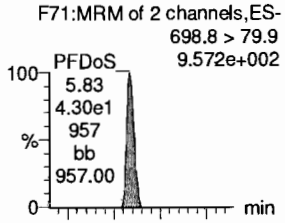


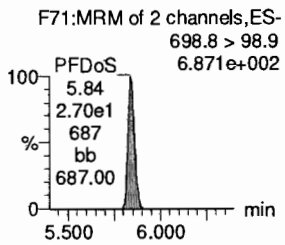
PFTrDA



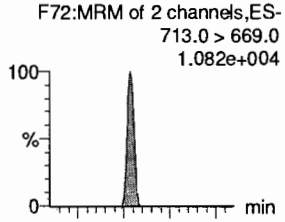


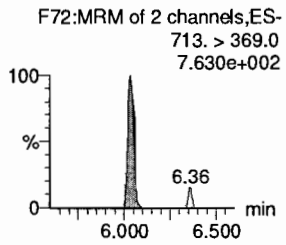
PFDoS



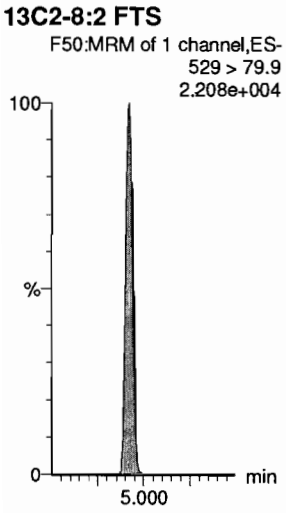


PFTeDA

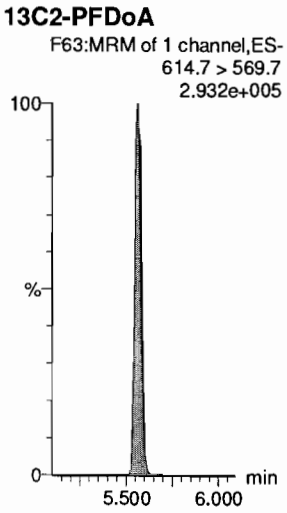




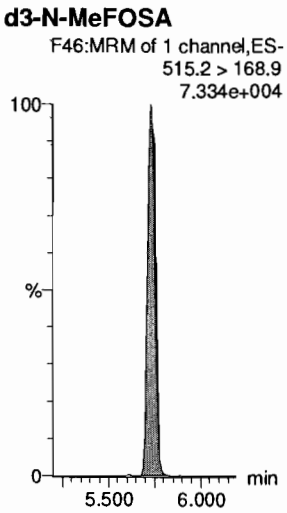
13C2-8:2 FTS



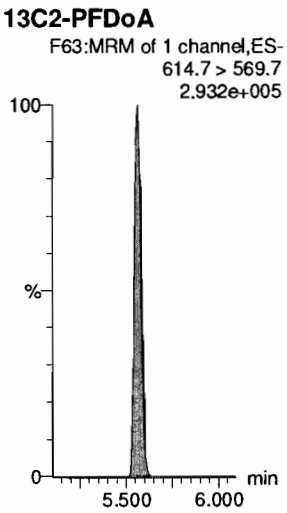
13C2-PFDoA



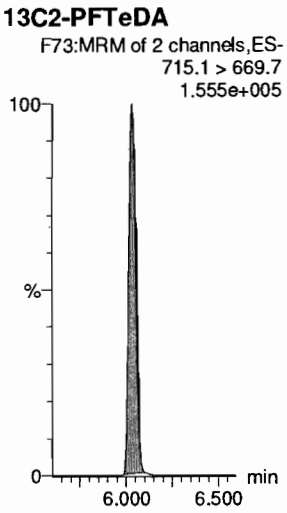
d3-N-MeFOSA



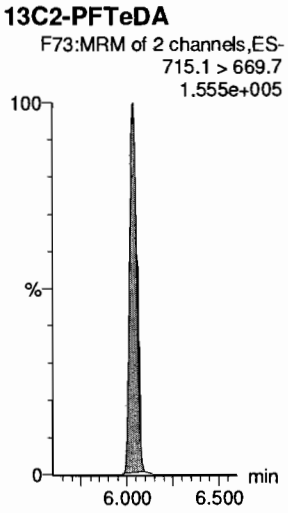
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

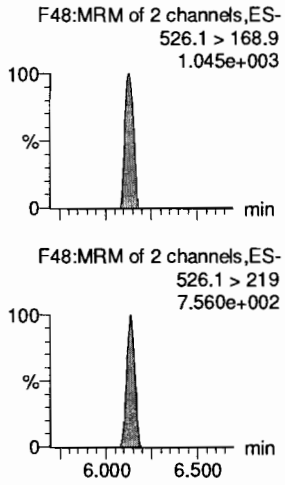


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

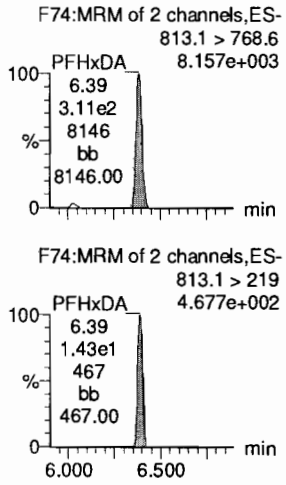
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

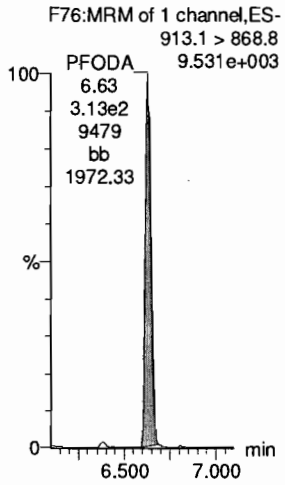
N-EtFOSA



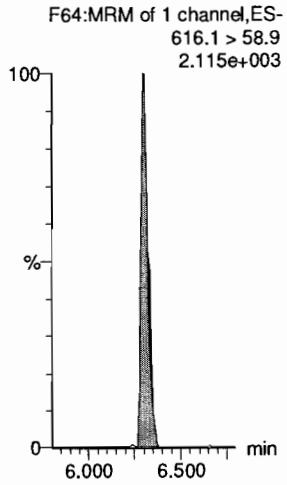
PFHxDA



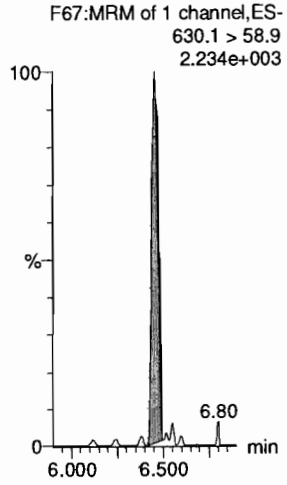
PFODA



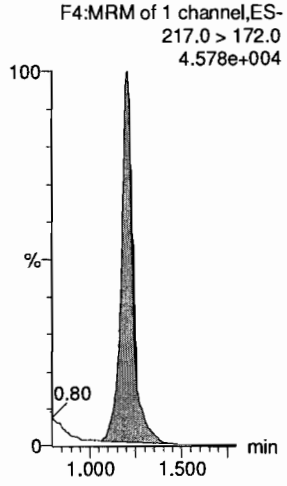
N-MeFOSE



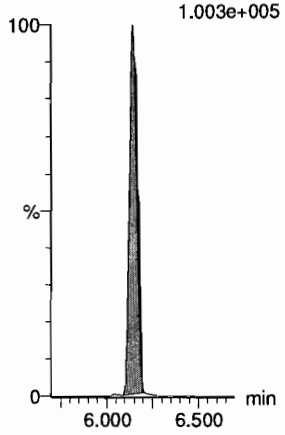
N-EtFOSE



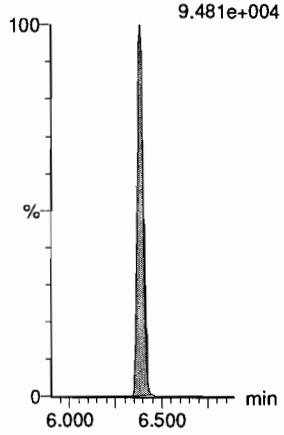
13C4-PFBA



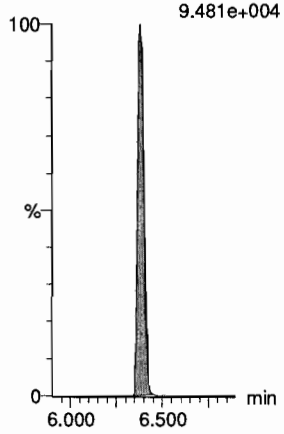
d5-N-ETFOSA



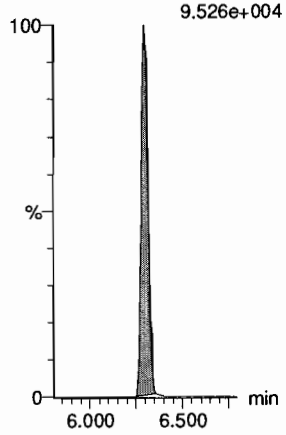
13C2-PFHxDA



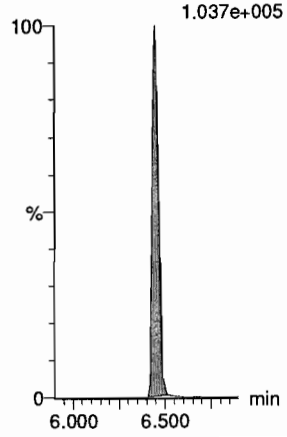
13C2-PFHxDA



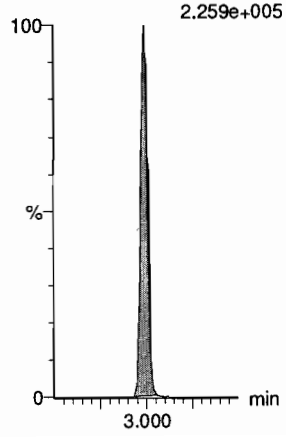
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

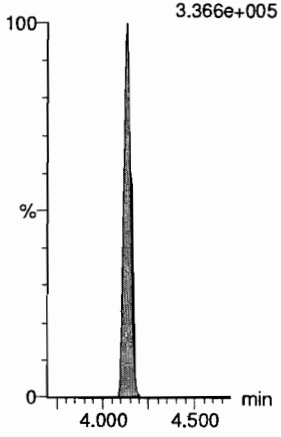


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

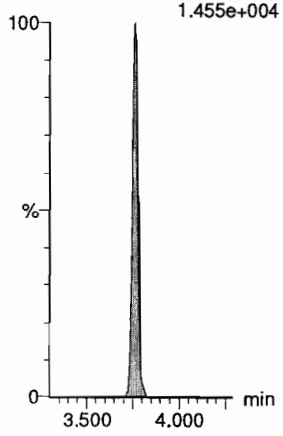
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_7, Date: 10-Jul-2019, Time: 13:54:21, ID: ST190710M2-2 PFC CS-1 19G0802, Description: PFC CS-1 19G0802

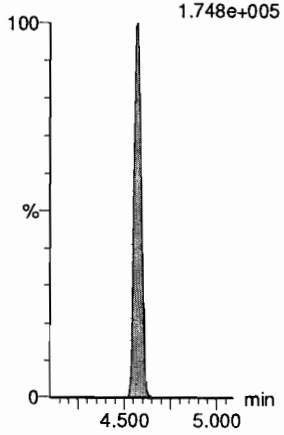
13C8-PFOA



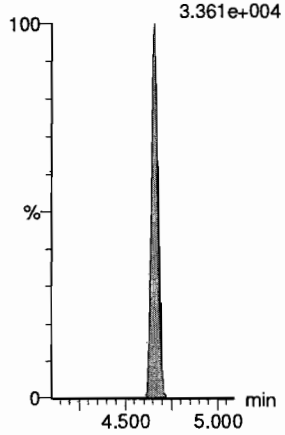
18O2-PFHxS



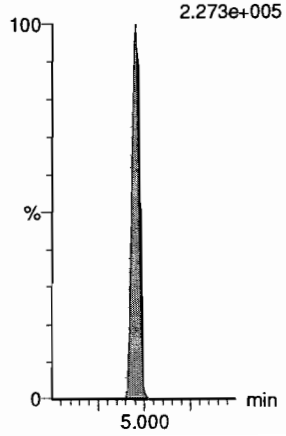
13C9-PFNA



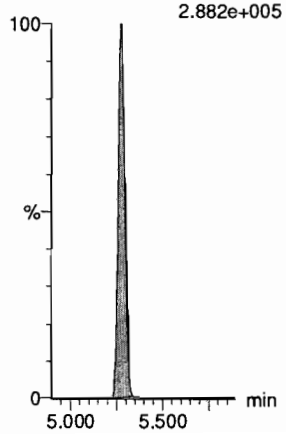
13C4-PFOS



13C6-PFDA



13C7-PFUdA

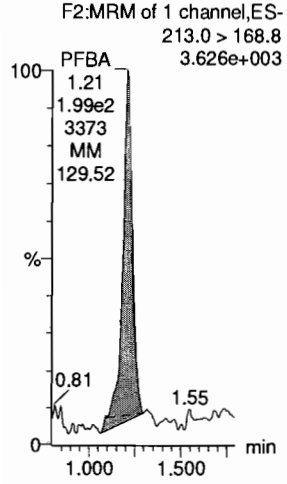


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

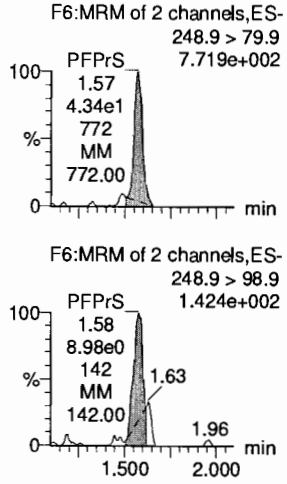
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

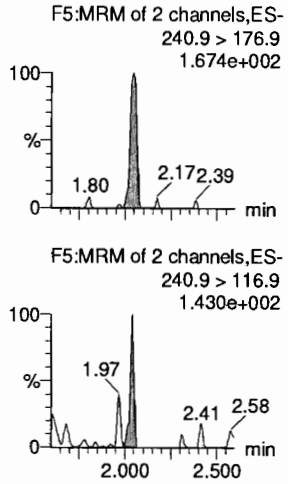
PFBA



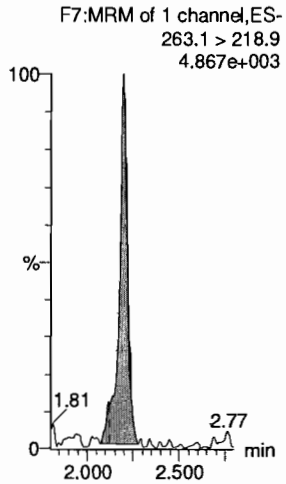
PFPrS



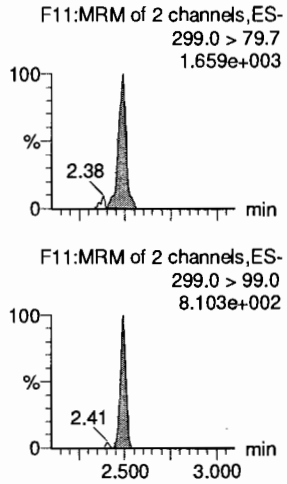
3:3 FTCA



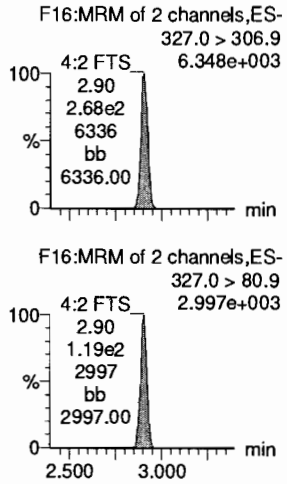
PFPeA



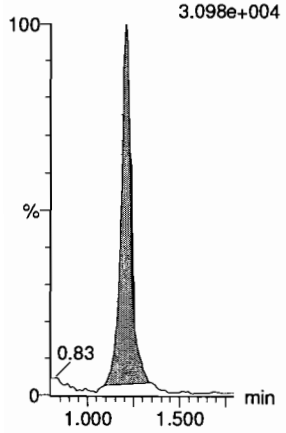
PFBS



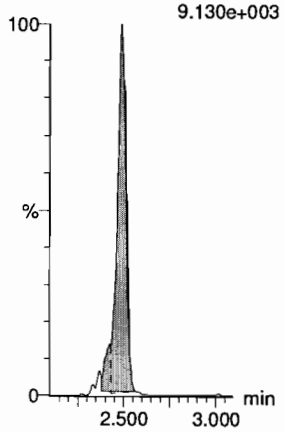
4:2 FTS



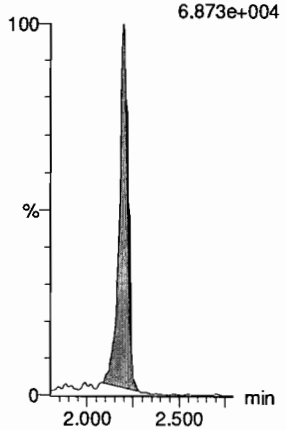
13C3-PFBA



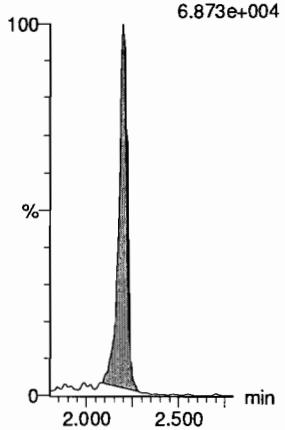
13C3-PFBS



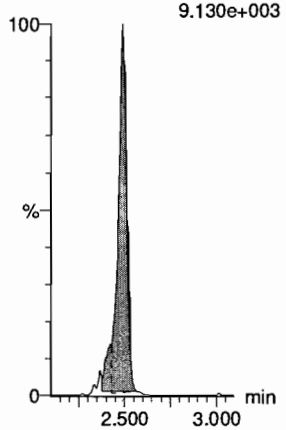
13C3-PFPeA



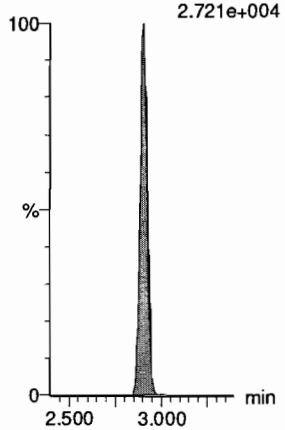
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

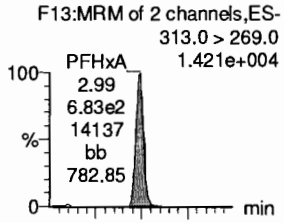


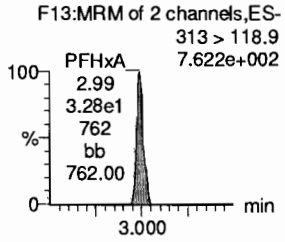
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

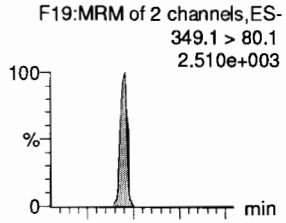
Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

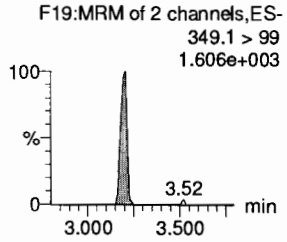
PFHxA



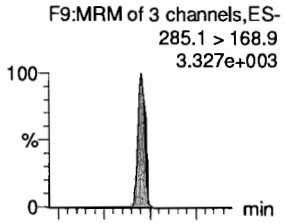


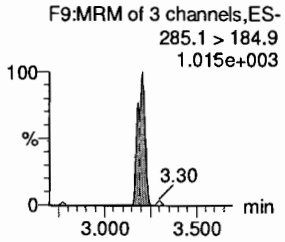
PFPeS



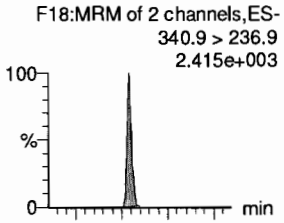


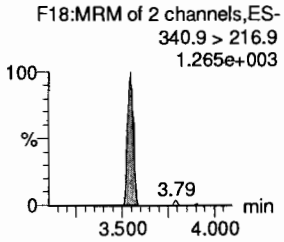
HFPO-DA



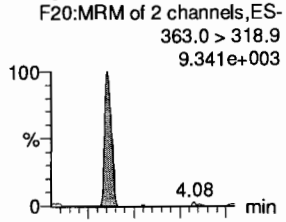


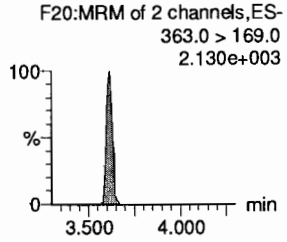
5:3 FTCA



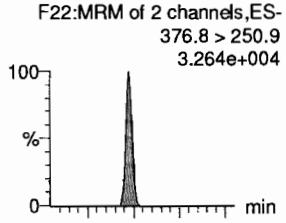


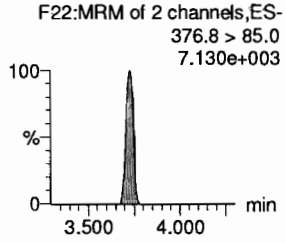
PFHpA



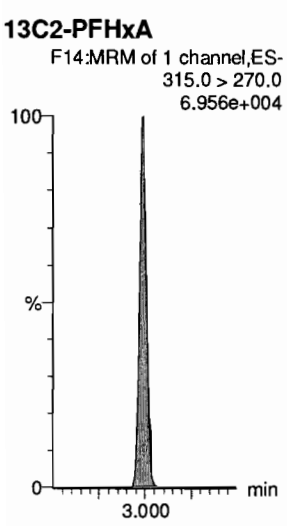


ADONA

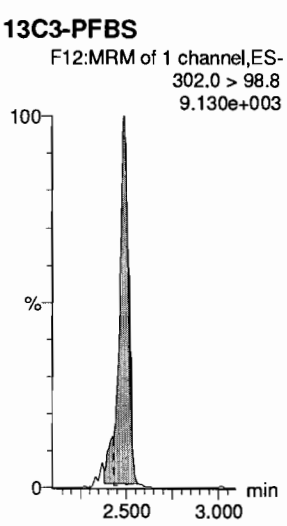




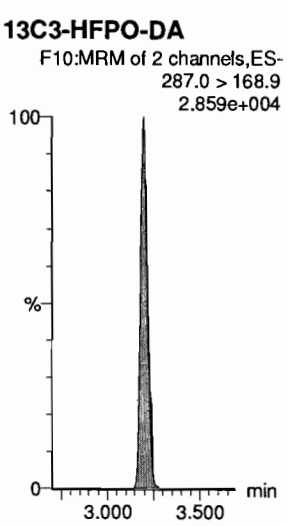
13C2-PFHxA



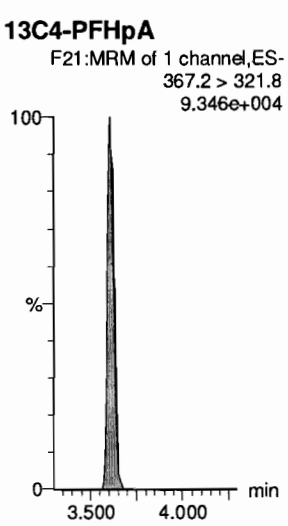
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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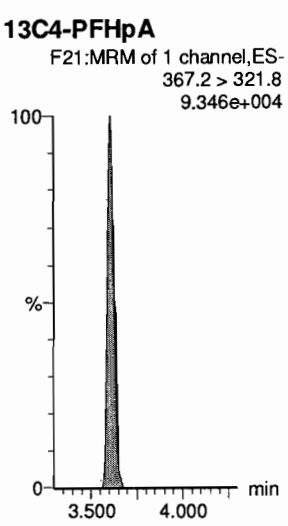

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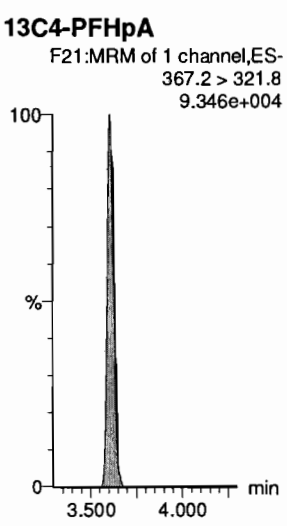
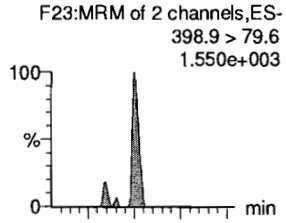


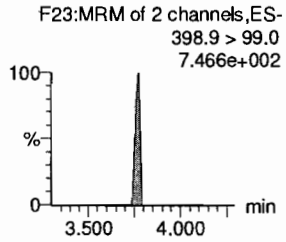
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

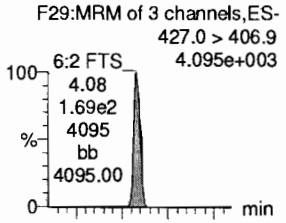
Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

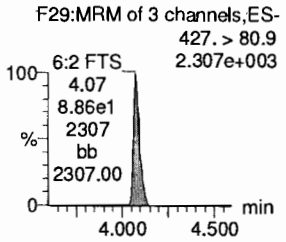
L-PFHxS



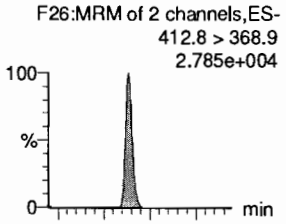


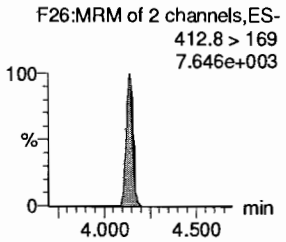
6:2 FTS



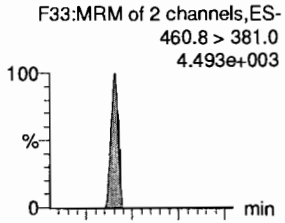


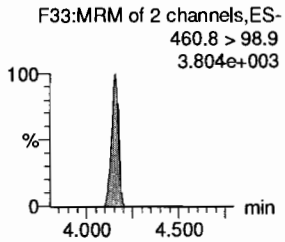
L-PFOA



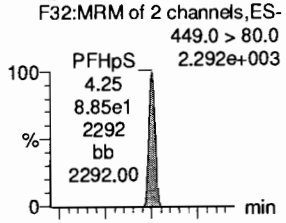


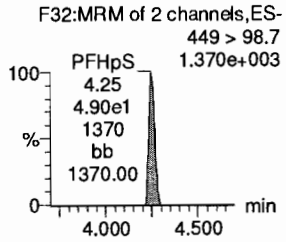
PFEChS



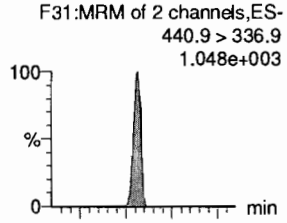


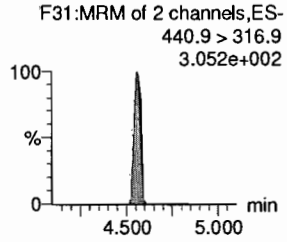
PFHpS



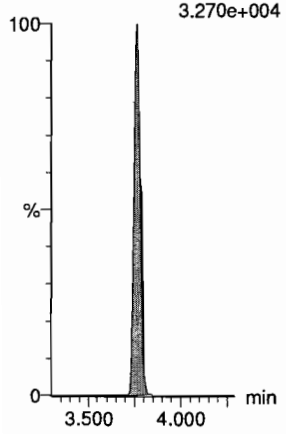


7:3 FTCA

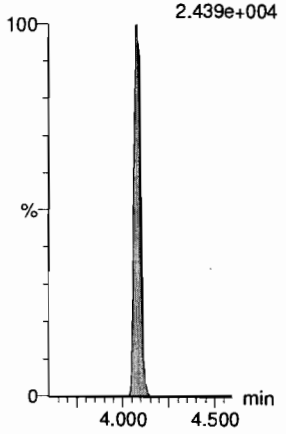




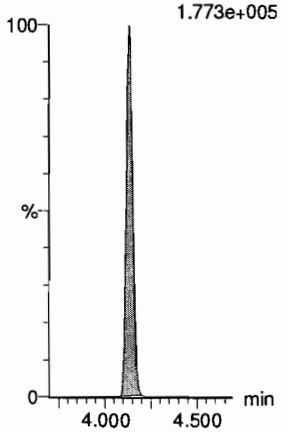
13C3-PFHxS



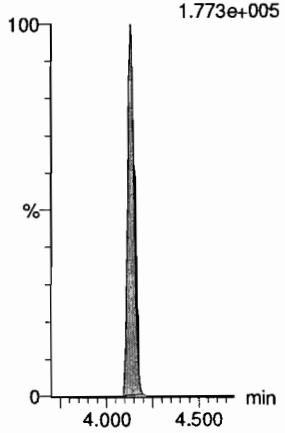
13C2-6:2 FTS



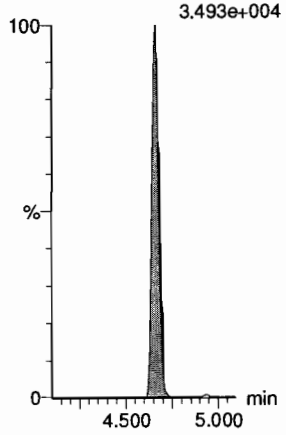
13C2-PFOA



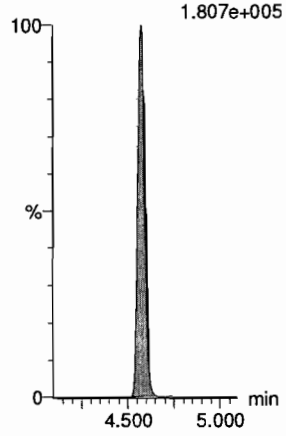
13C2-PFOA



13C8-PFOS



13C5-PFNA

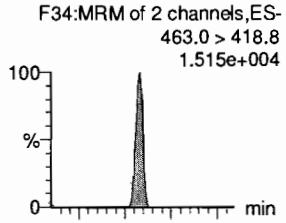


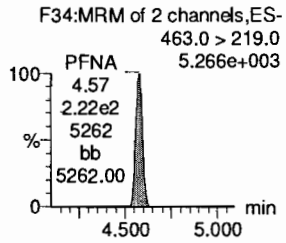
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

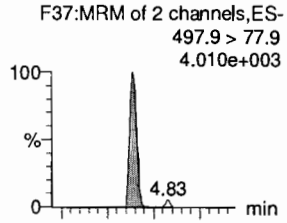
Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

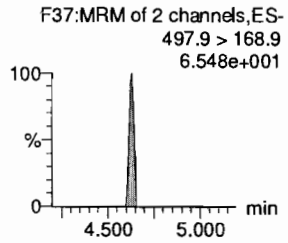
PFNA



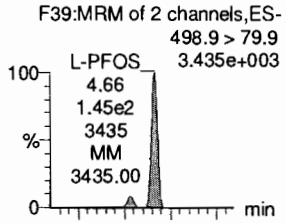


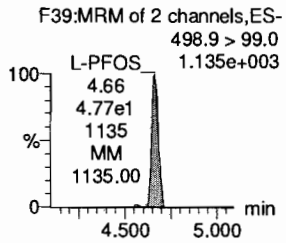
PFOSA



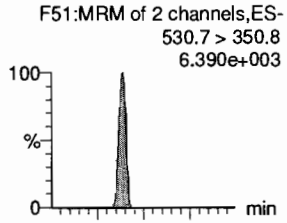


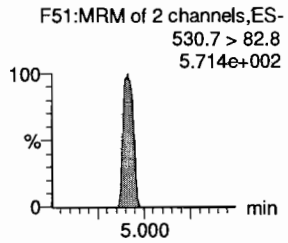
L-PFOS



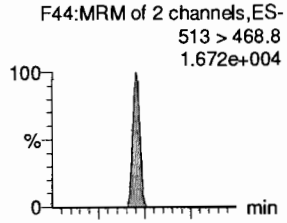


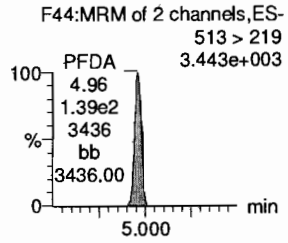
9Cl-PF30NS



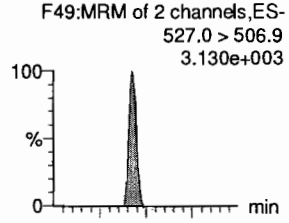


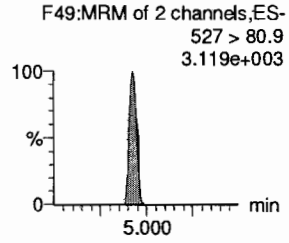
PFDA



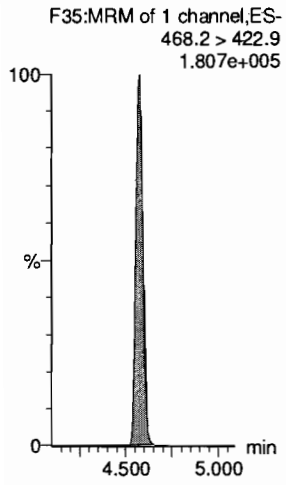


8:2 FTS

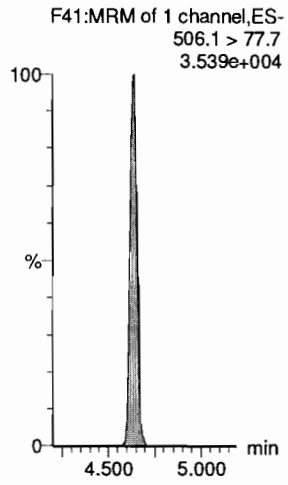




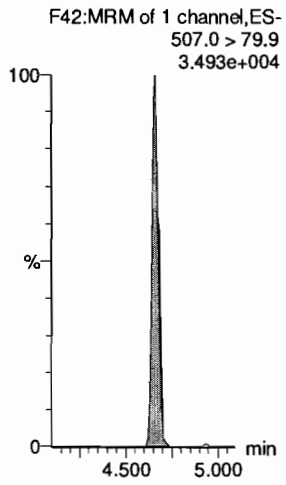
13C5-PFNA



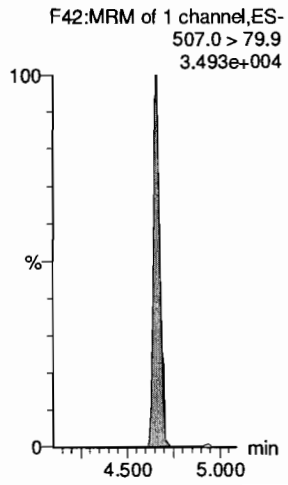
13C8-PFOSA



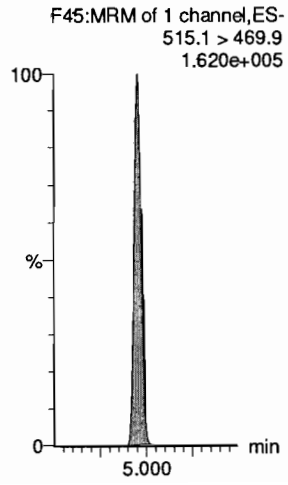
13C8-PFOS



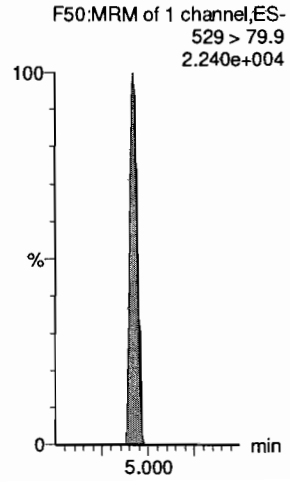
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

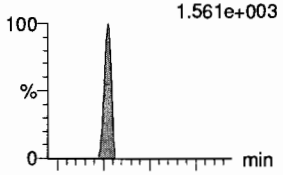


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

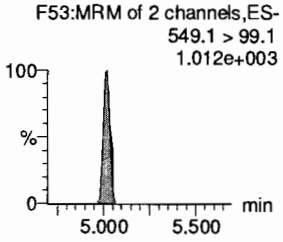
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

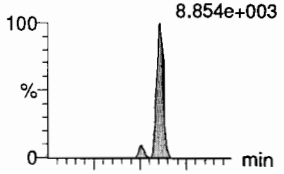
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
1.561e+003



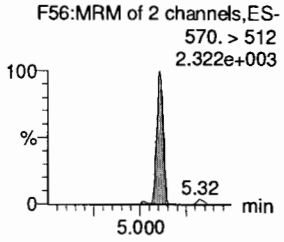
F53:MRM of 2 channels,ES-
549.1 > 99.1
1.012e+003



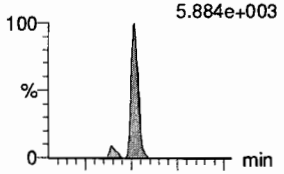
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
8.854e+003



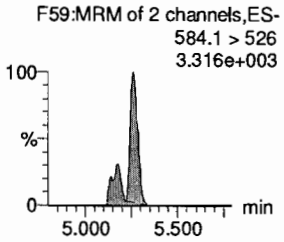
F56:MRM of 2 channels,ES-
570. > 512
2.322e+003



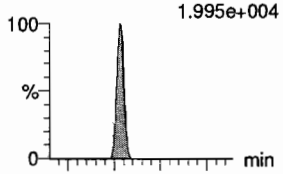
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
5.884e+003



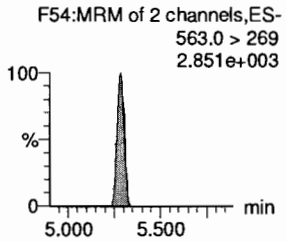
F59:MRM of 2 channels,ES-
584.1 > 526
3.316e+003



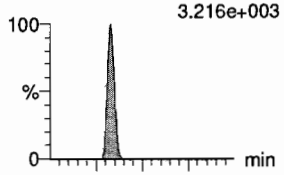
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
1.995e+004



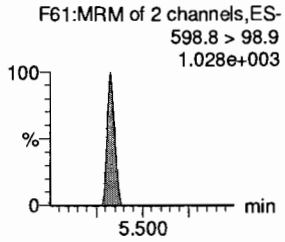
F54:MRM of 2 channels,ES-
563.0 > 269
2.851e+003



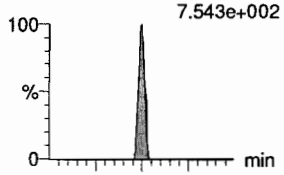
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
3.216e+003



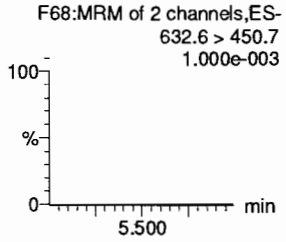
F61:MRM of 2 channels,ES-
598.8 > 98.9
1.028e+003



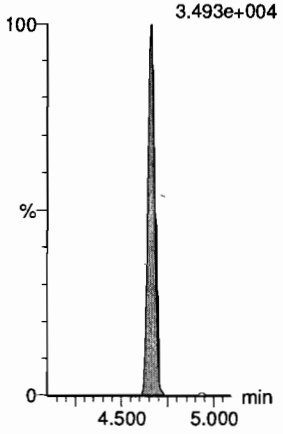
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
7.543e+002



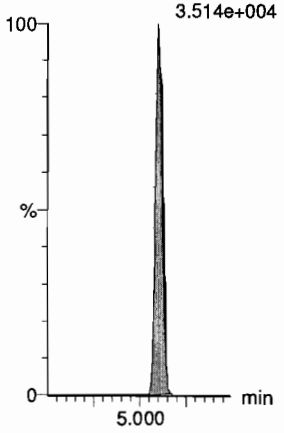
F68:MRM of 2 channels,ES-
632.6 > 450.7
1.000e-003



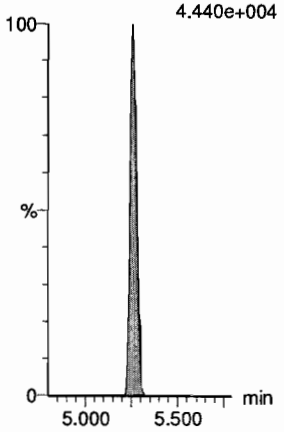
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
3.493e+004



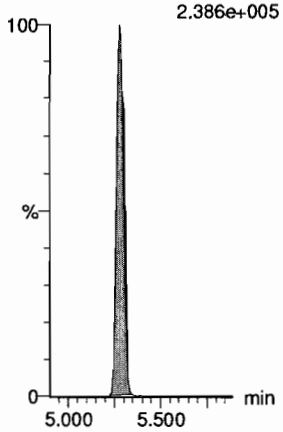
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
3.514e+004



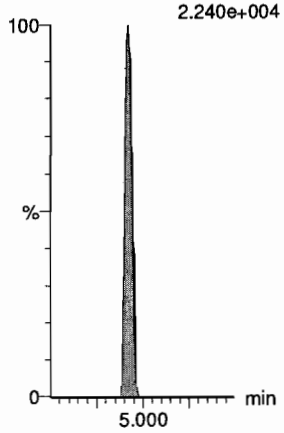
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
4.440e+004



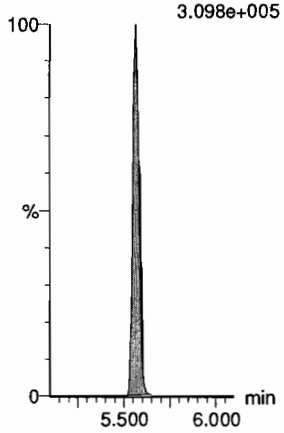
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
2.386e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
2.240e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.098e+005

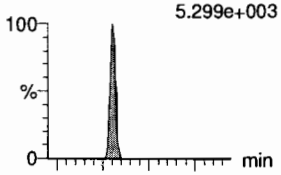


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

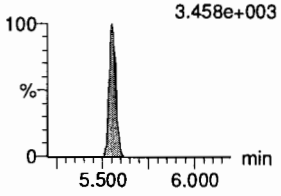
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

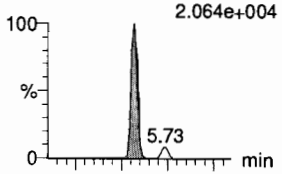
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
5.299e+003



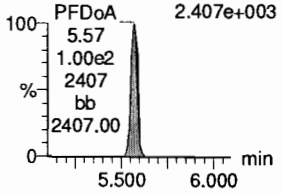
F66:MRM of 2 channels,ES-
627.0 > 80.9
3.458e+003



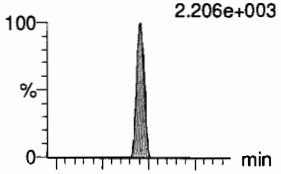
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
2.064e+004



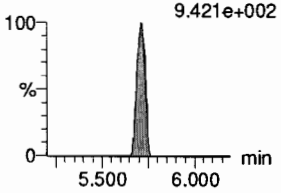
F62:MRM of 4 channels,ES-
612.9 > 318.8
2.407e+003



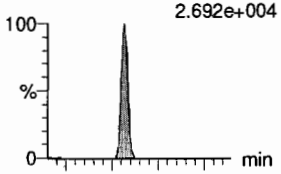
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
2.206e+003



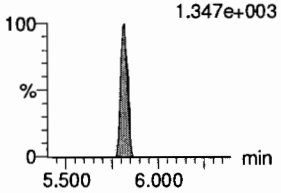
F43:MRM of 2 channels,ES-
512.1 > 219
9.421e+002



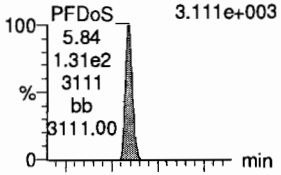
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
2.692e+004



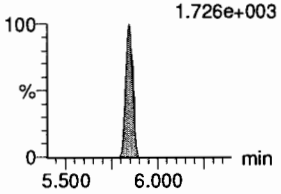
F70:MRM of 2 channels,ES-
662.9 > 319
1.347e+003



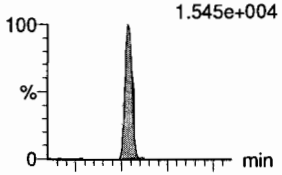
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
3.111e+003



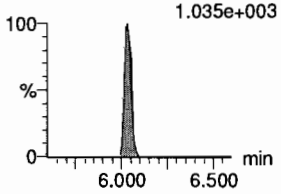
F71:MRM of 2 channels,ES-
698.8 > 98.9
1.726e+003



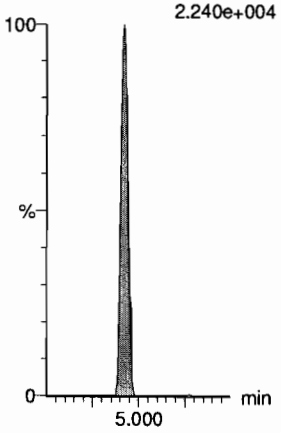
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
1.545e+004



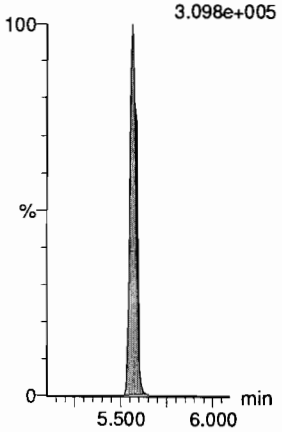
F72:MRM of 2 channels,ES-
713. > 369.0
1.035e+003



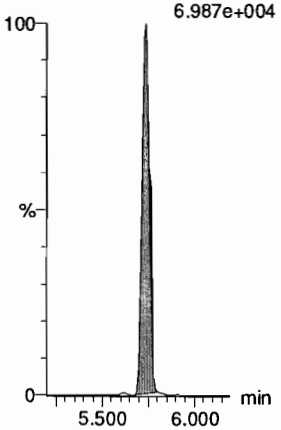
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
2.240e+004



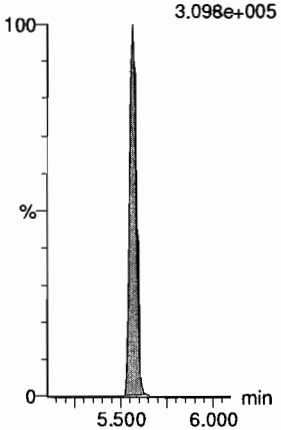
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.098e+005



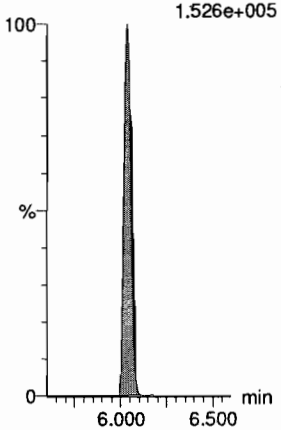
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
6.987e+004



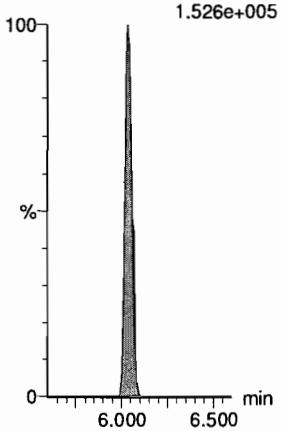
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
3.098e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.526e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
1.526e+005

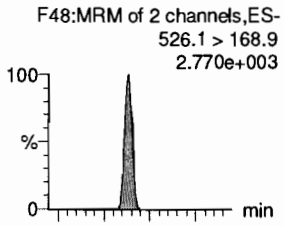


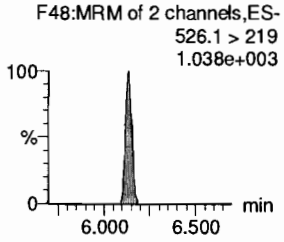
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

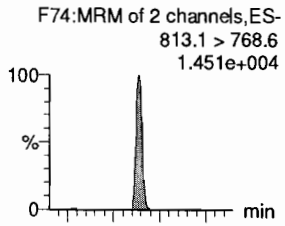
Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

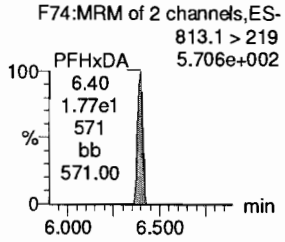
N-EtFOSA



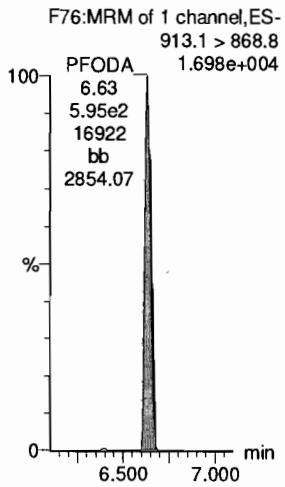


PFHxDA

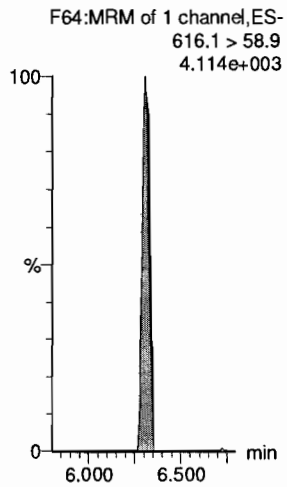




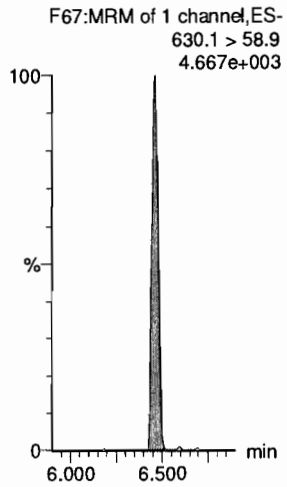
PFODA



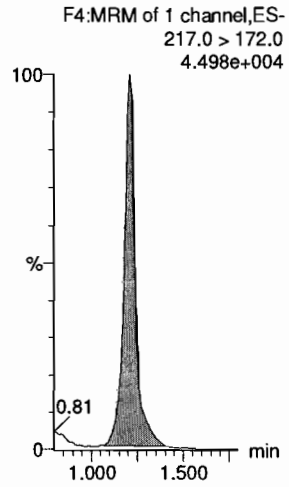
N-MeFOSE



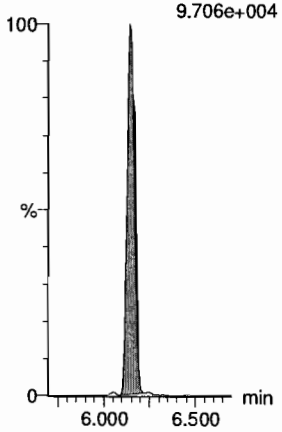
N-EtFOSE



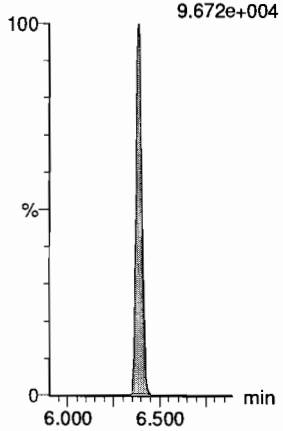
13C4-PFBA



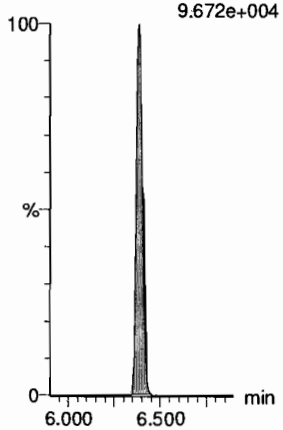
d5-N-ETFOSA



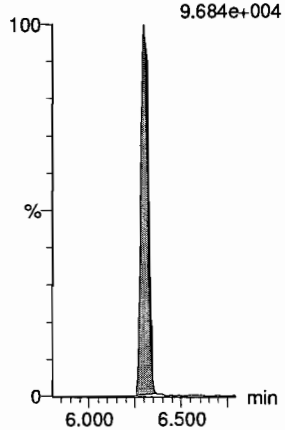
13C2-PFHxDA



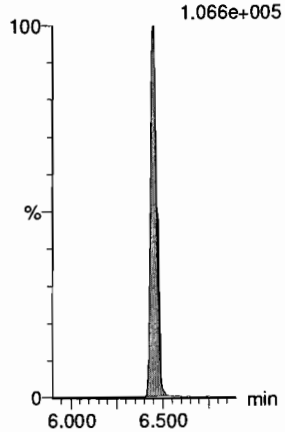
13C2-PFHxDA



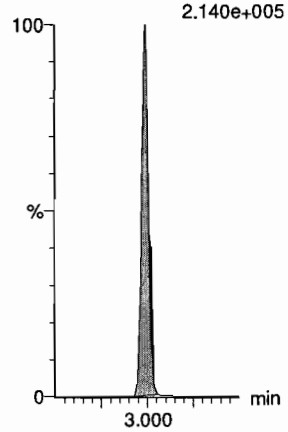
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

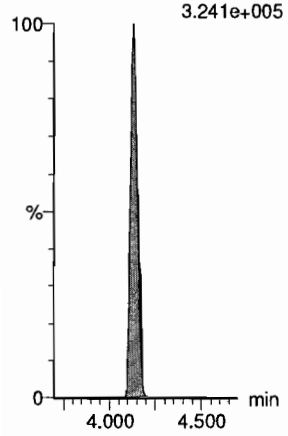


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

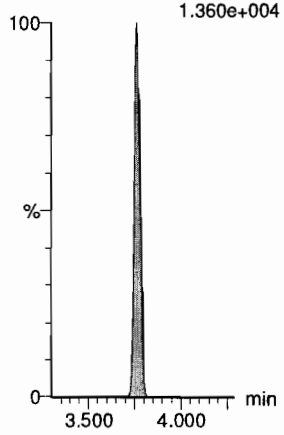
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_8, Date: 10-Jul-2019, Time: 14:04:59, ID: ST190710M2-3 PFC CS0 19G0803, Description: PFC CS0 19G0803

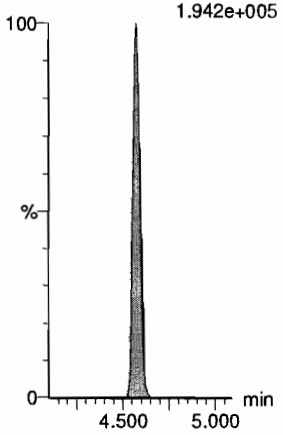
13C8-PFOA



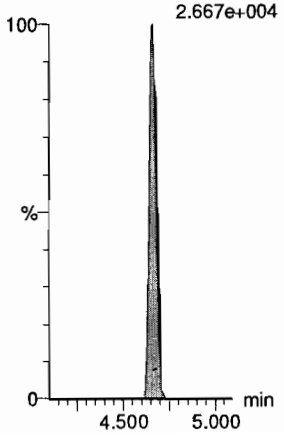
18O2-PFHxS



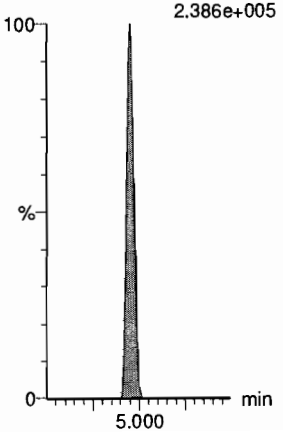
13C9-PFNA



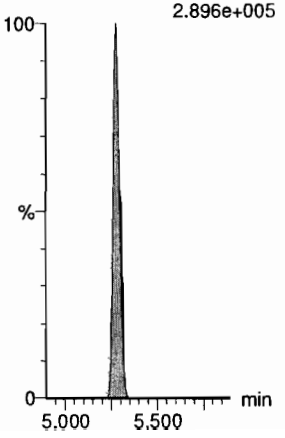
13C4-PFOS



13C6-PFDA



13C7-PFUdA

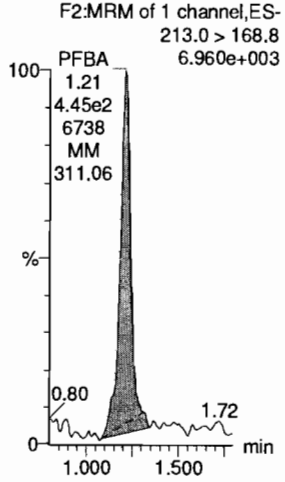


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

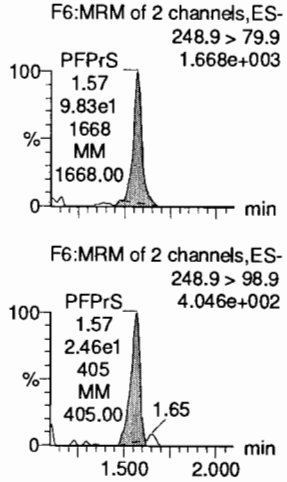
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

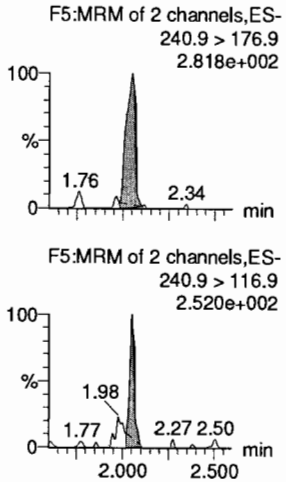
PFBA



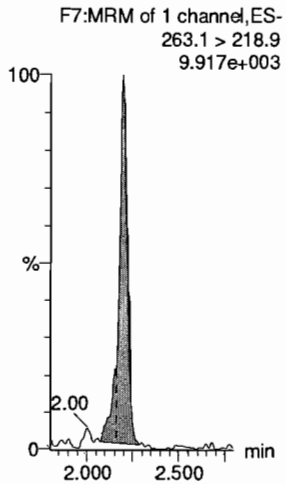
PFPrS



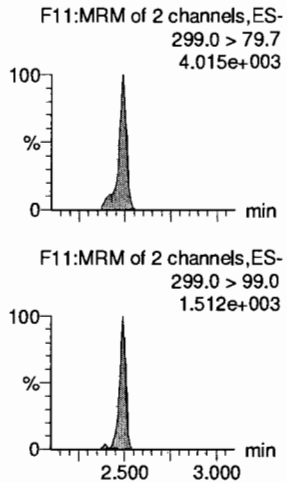
3:3 FTCA



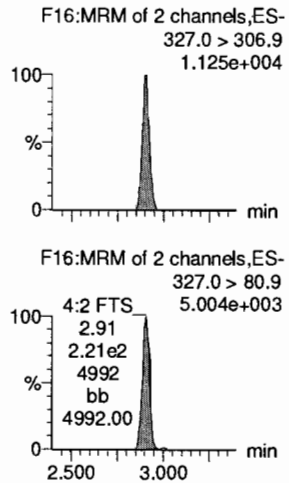
PFPeA



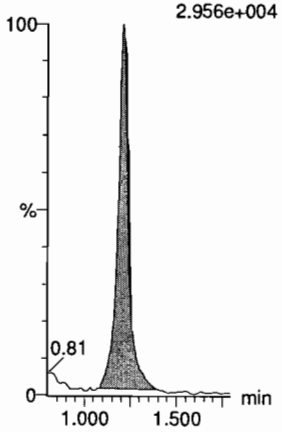
PFBS



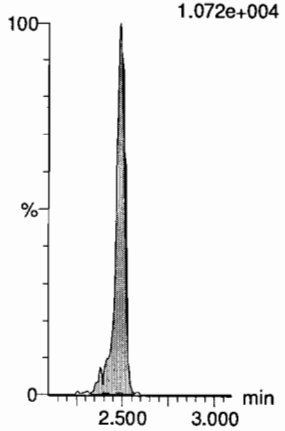
4:2 FTS



13C3-PFBA



13C3-PFBS



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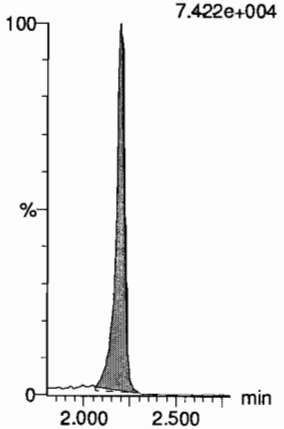

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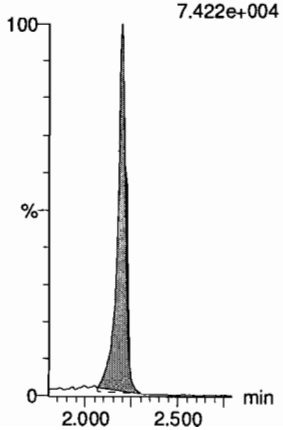
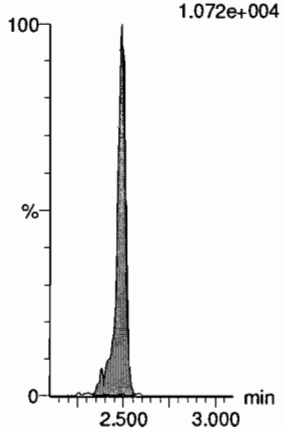
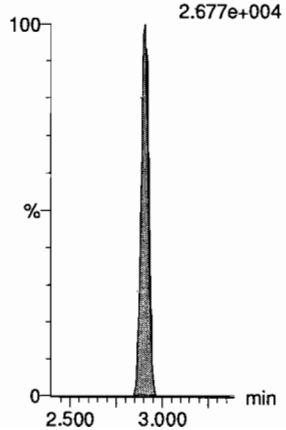


13C3-PFBS



13C2-4:2 FTS

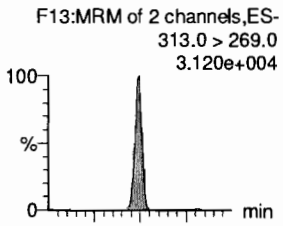


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

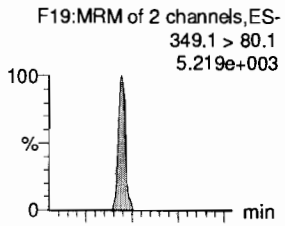
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

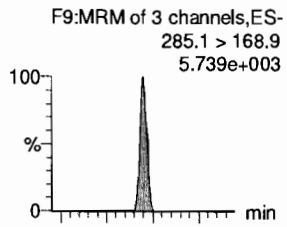
PFHxA



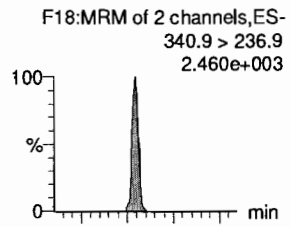
PFPeS



HFPO-DA



5:3 FTCA



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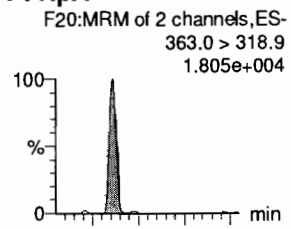
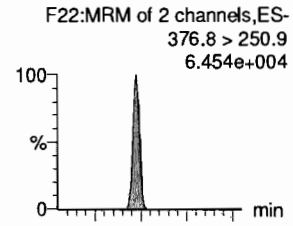
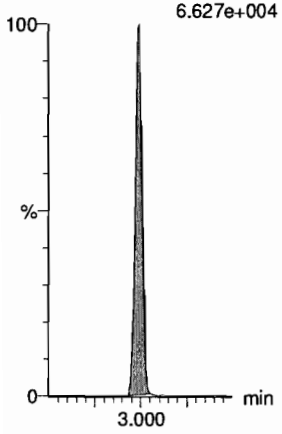


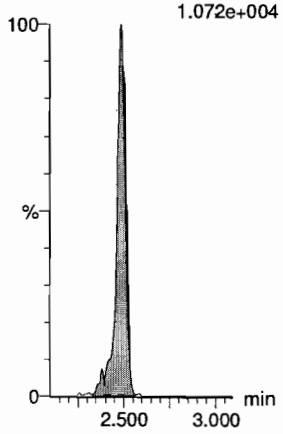
ADONA



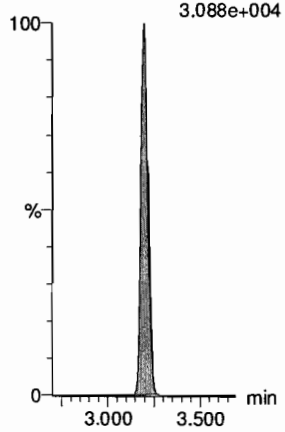
13C2-PFHxA



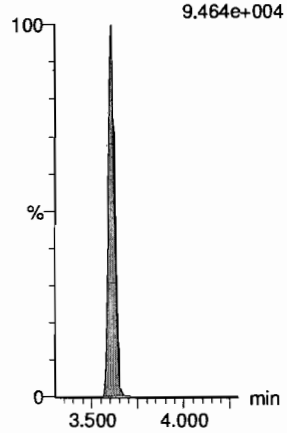
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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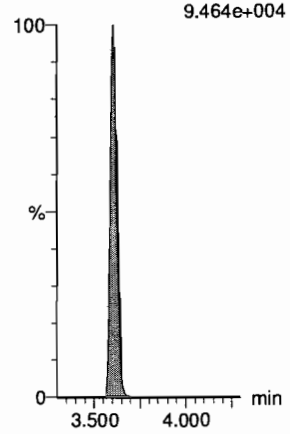

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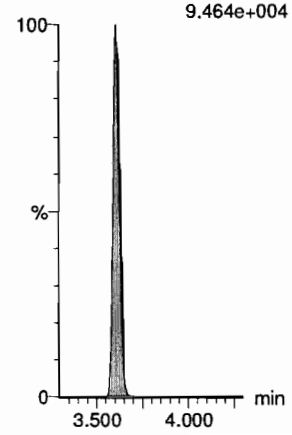
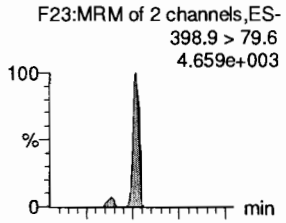


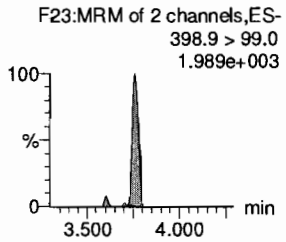
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

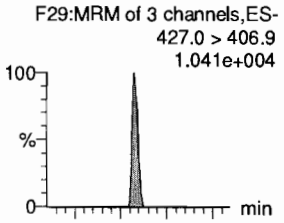
Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

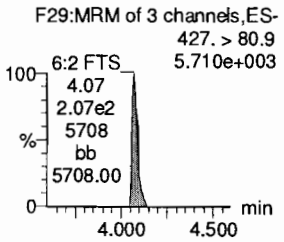
L-PFHxS



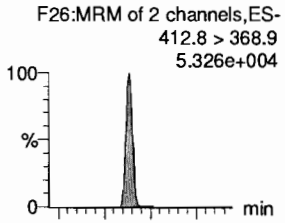


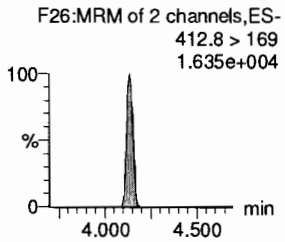
6:2 FTS



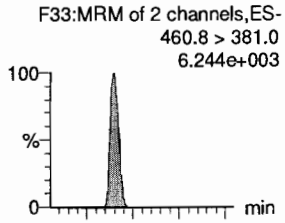


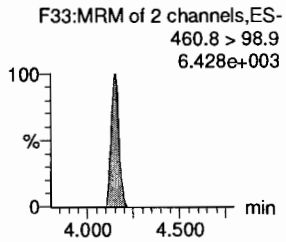
L-PFOA



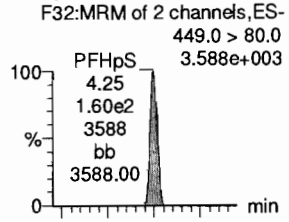


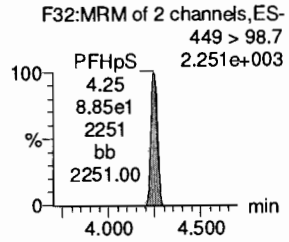
PFEChS



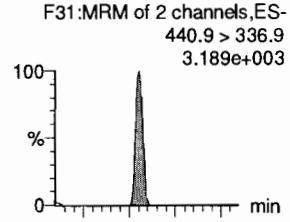


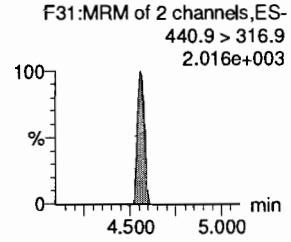
PFHpS



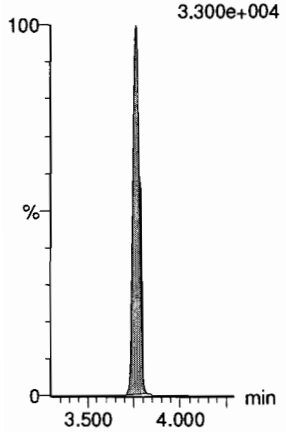


7:3 FTCA

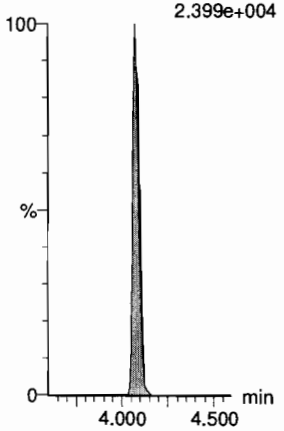




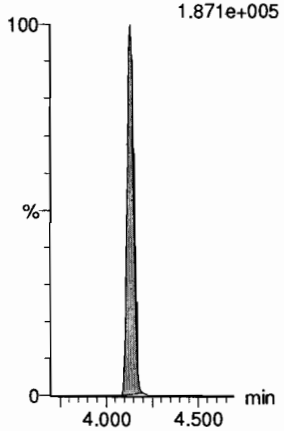
13C3-PFHxS



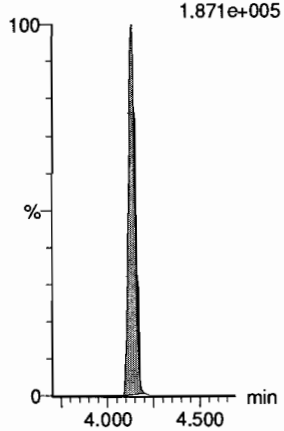
13C2-6:2 FTS



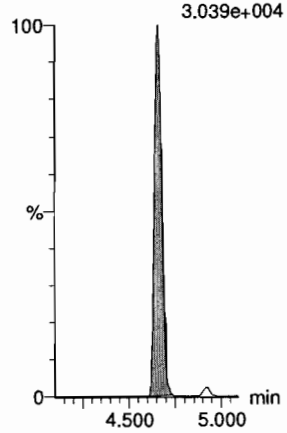
13C2-PFOA



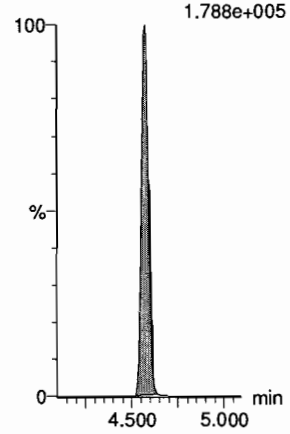
13C2-PFOA



13C8-PFOS



13C5-PFNA

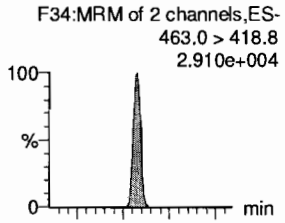


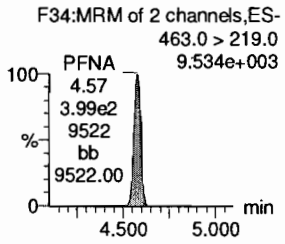
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

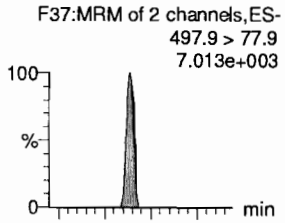
Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

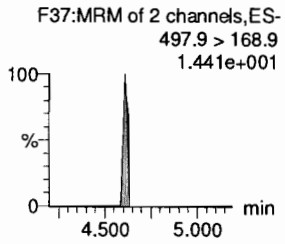
PFNA



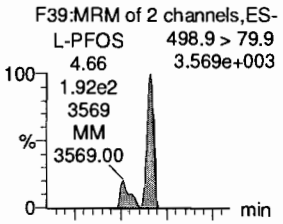


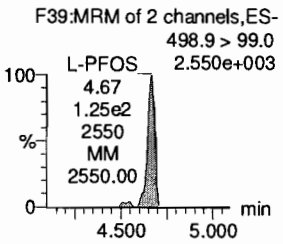
PFOSA



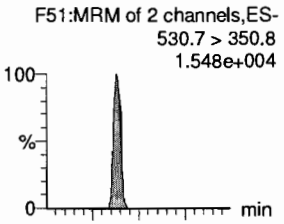


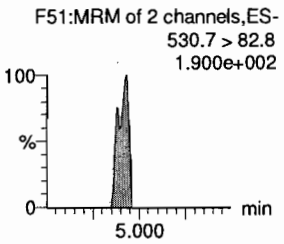
L-PFOS



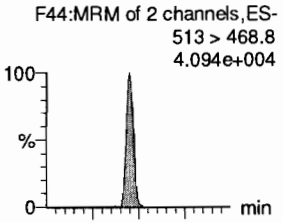


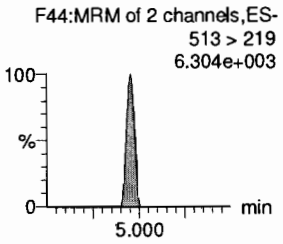
9Cl-PF30NS



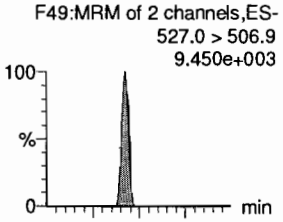


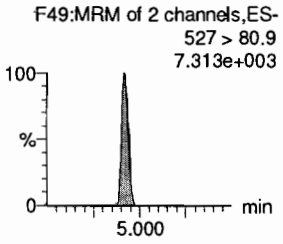
PFDA



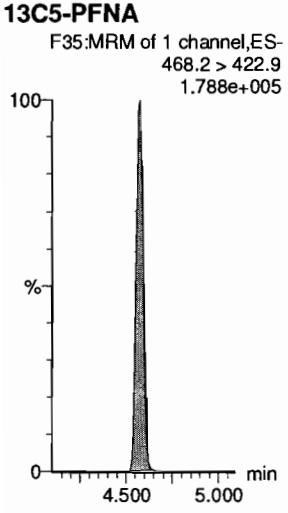


8:2 FTS

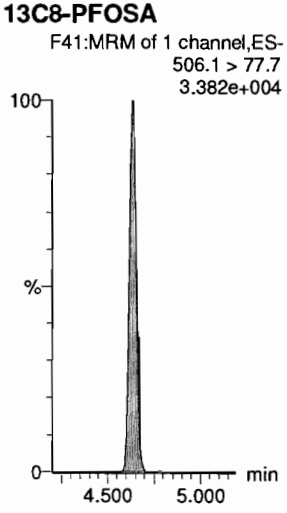




13C5-PFNA



13C8-PFOSA



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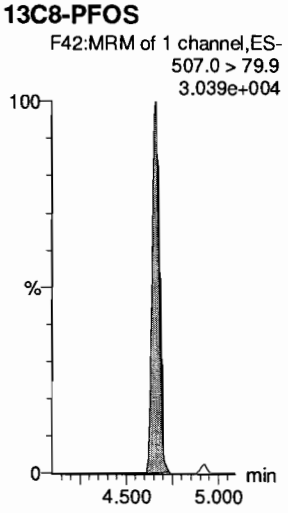

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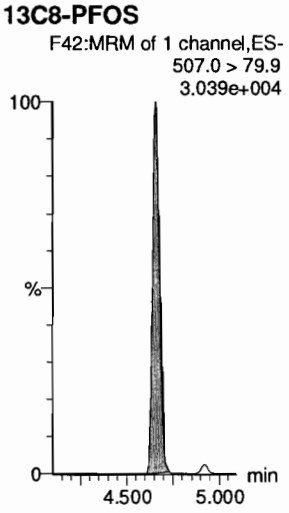
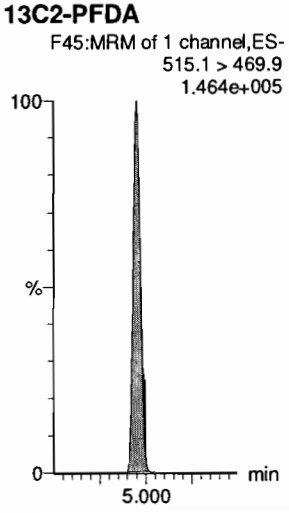
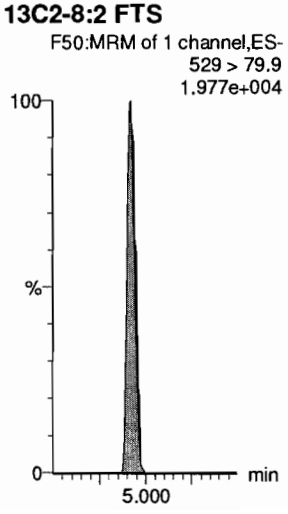


13C2-PFDA



13C2-8:2 FTS

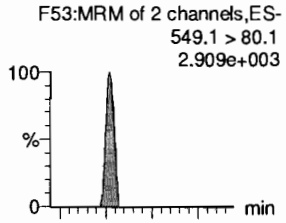


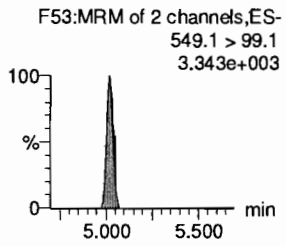
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

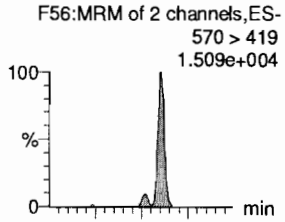
Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

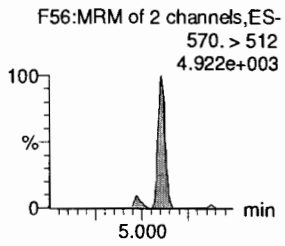
PFNS





L-MeFOSAA





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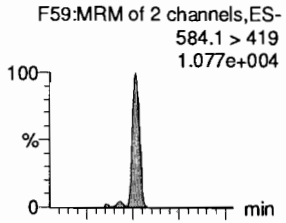

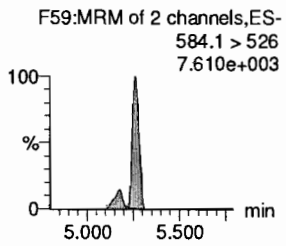

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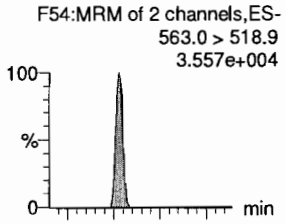

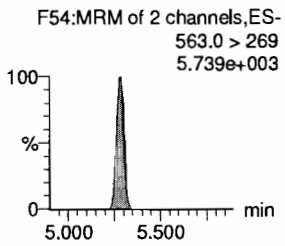

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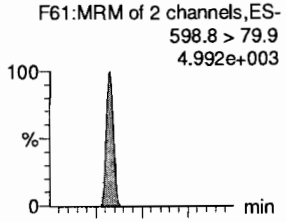

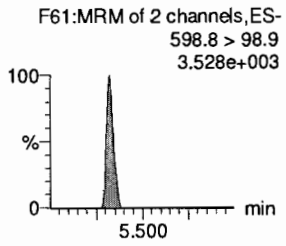

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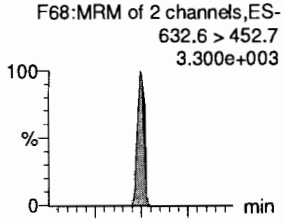
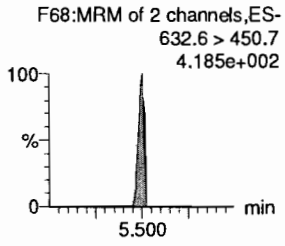
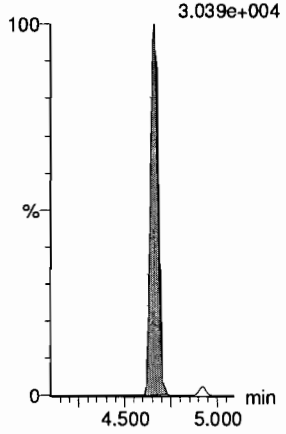
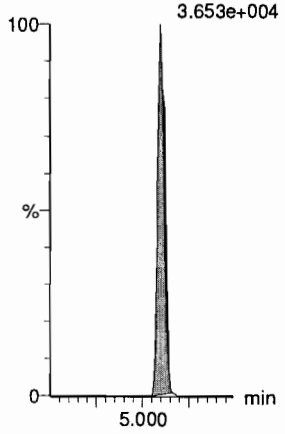




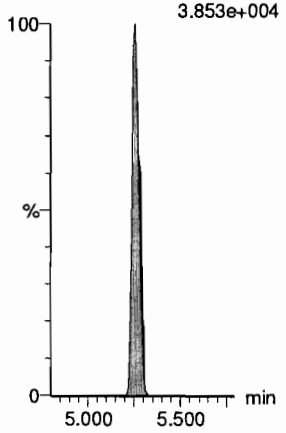
13C8-PFOS



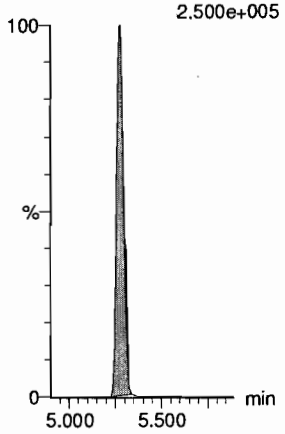
d3-N-MeFOSAA



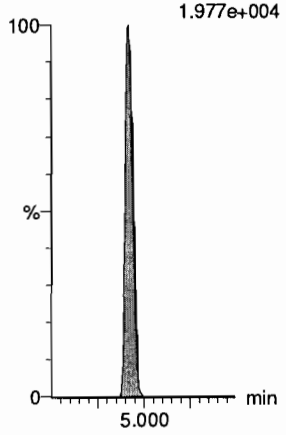
d5-N-EtFOSAA



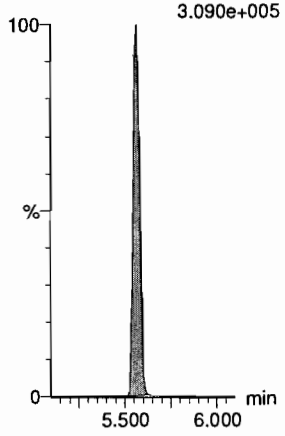
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

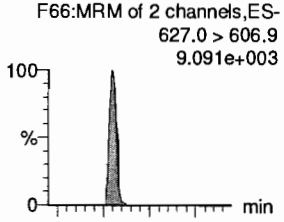


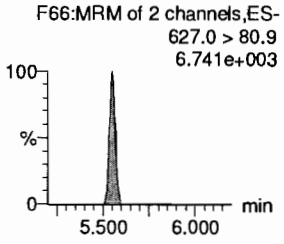
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

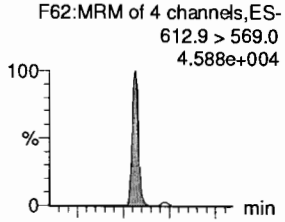
Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

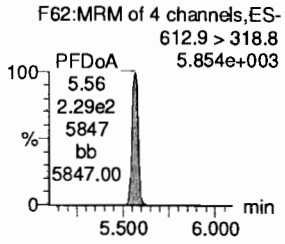
10:2 FTS



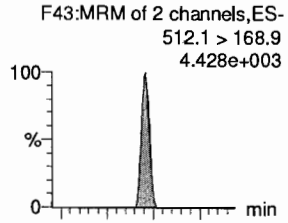


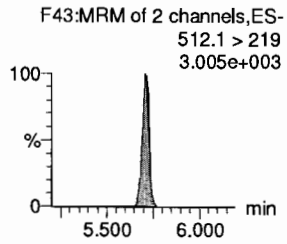
PFDoA



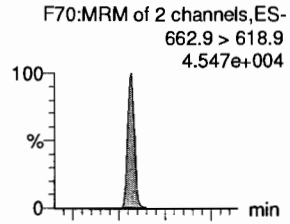


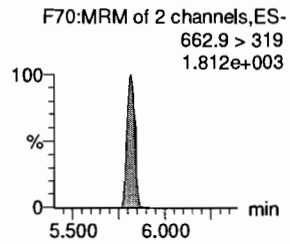
N-MeFOSA



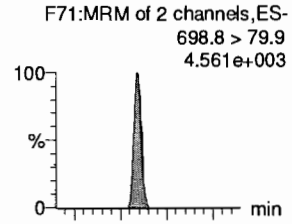


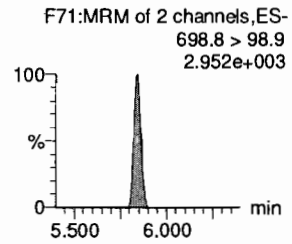
PFTrDA





PFDoS





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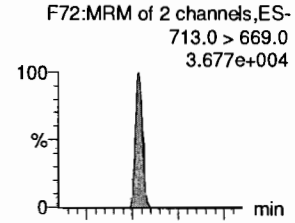
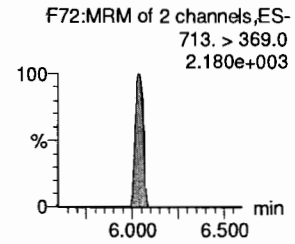
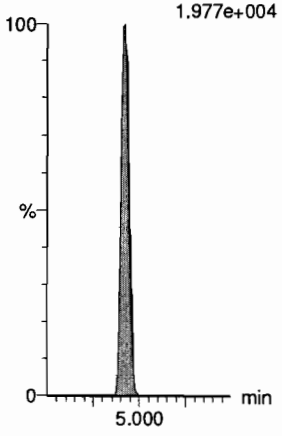
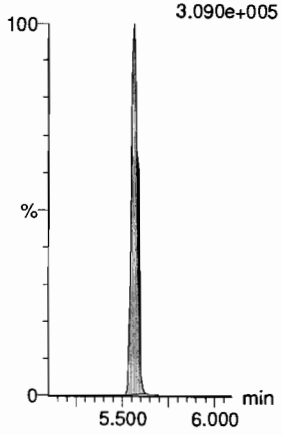




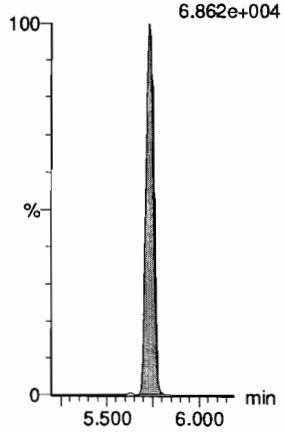
13C2-8:2 FTS



13C2-PFDoA



d3-N-MeFOSA



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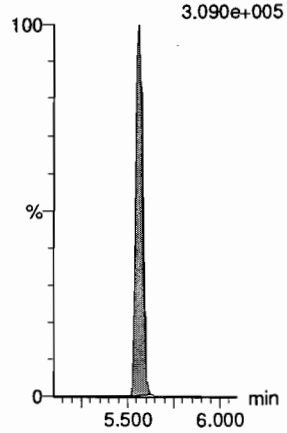

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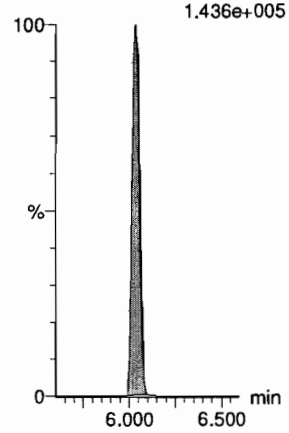

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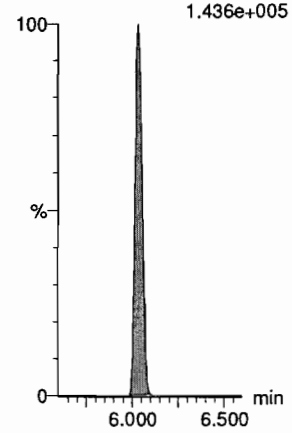

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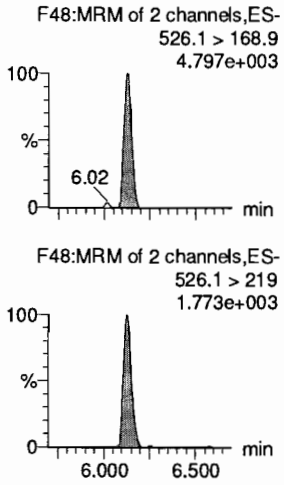
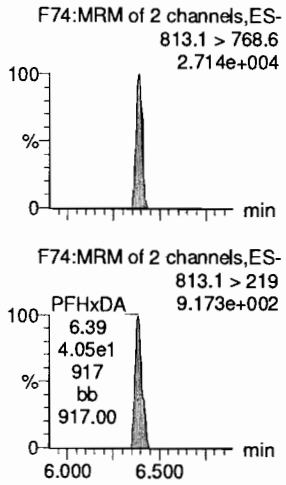
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

N-EtFOSA



PFHxDA



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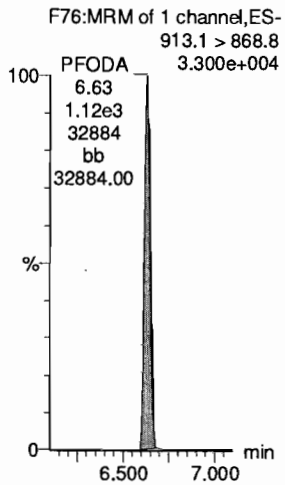
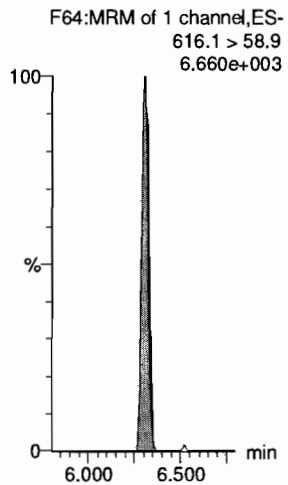


N-MeFOSE



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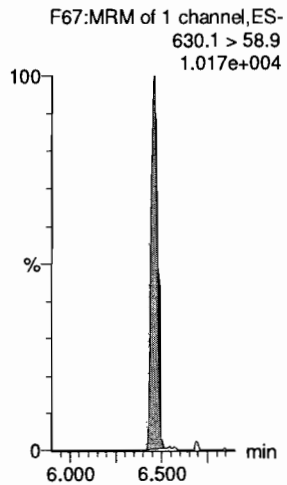
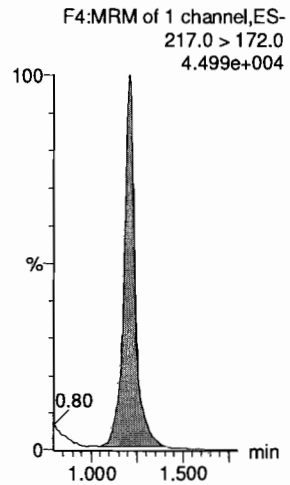
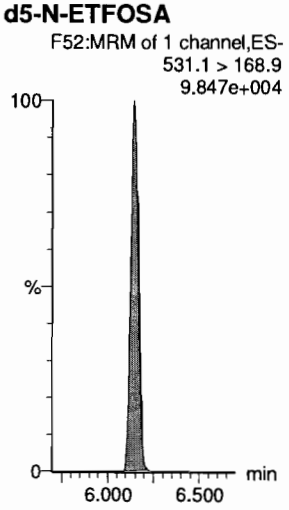


13C4-PFBA



d5-N-ETFOSA



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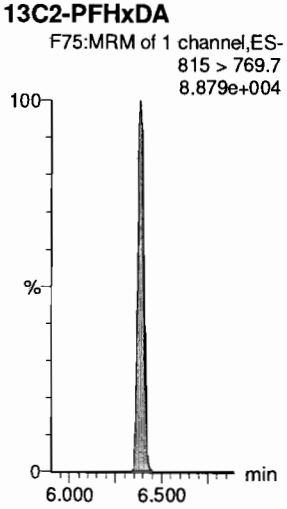

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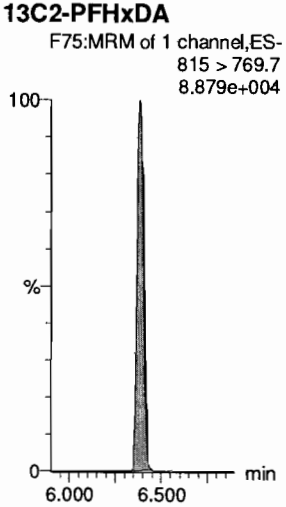
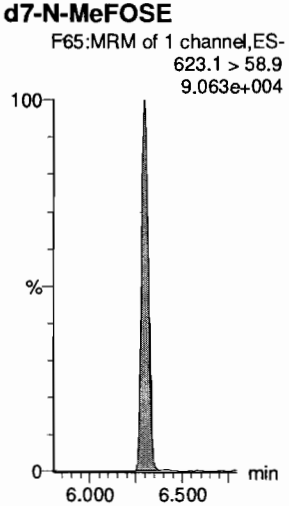
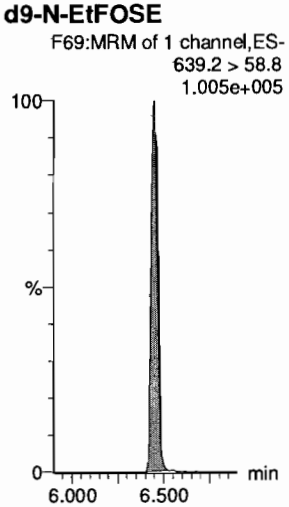


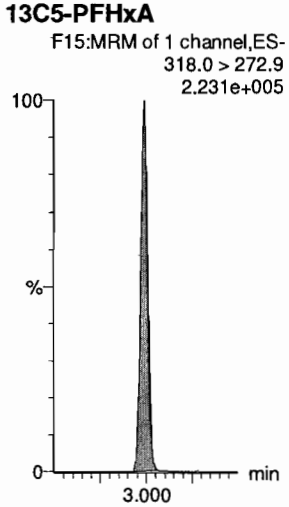
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

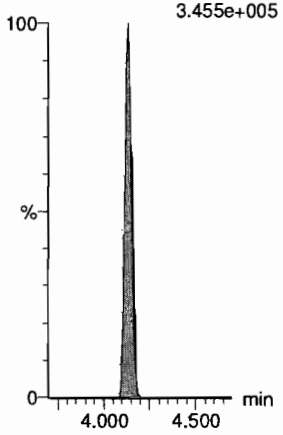


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

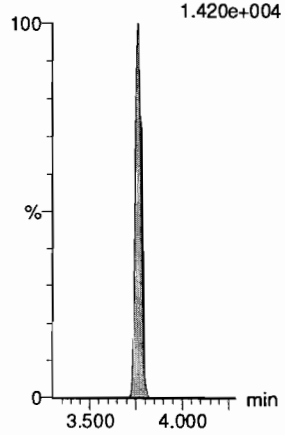
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_9, Date: 10-Jul-2019, Time: 14:15:32, ID: ST190710M2-4 PFC CS1 19G0804, Description: PFC CS1 19G0804

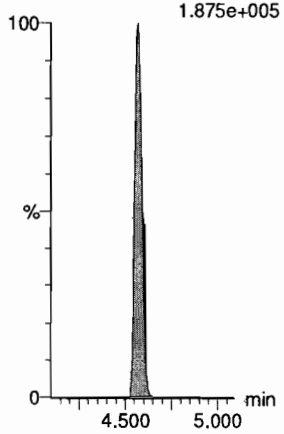
13C8-PFOA



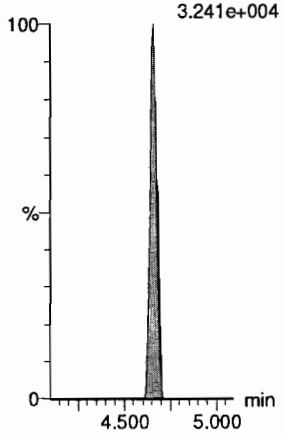
18O2-PFHxS



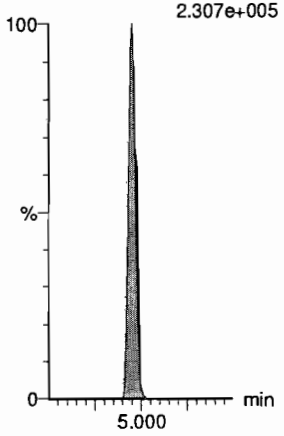
13C9-PFNA



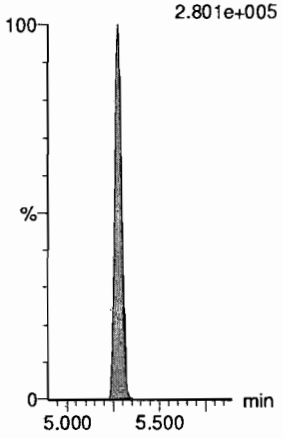
13C4-PFOS



13C6-PFDA



13C7-PFUdA

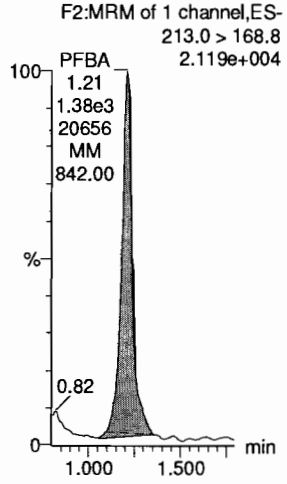


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

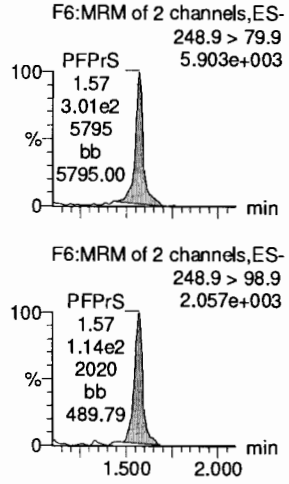
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

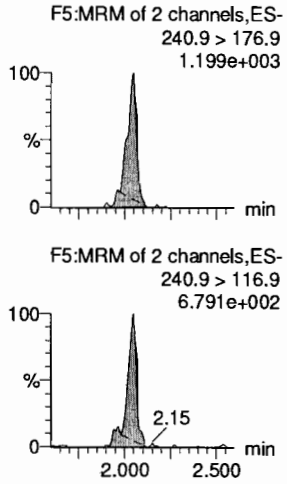
PFBA



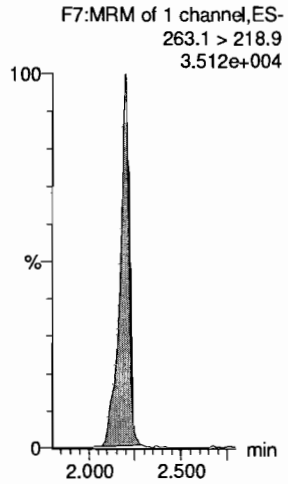
PFPrS



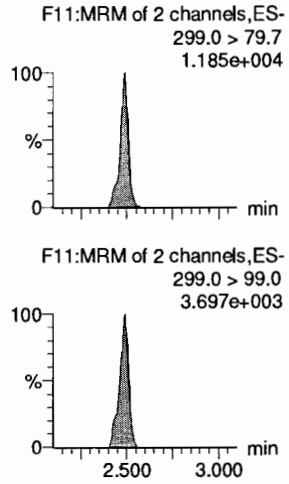
3:3 FTCA



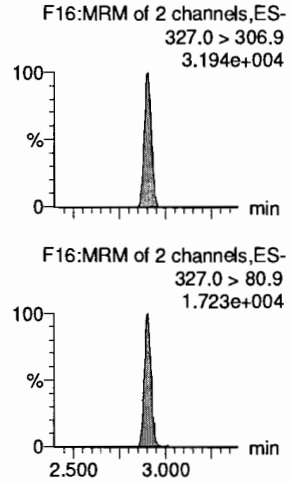
PFPeA



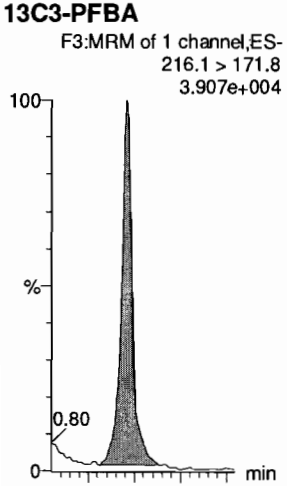
PFBS



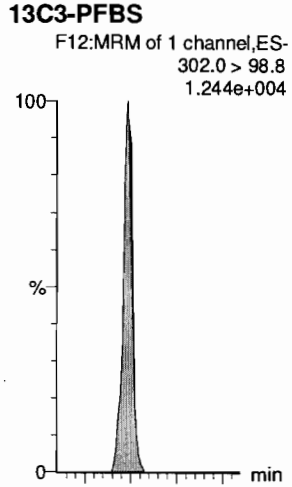
4:2 FTS



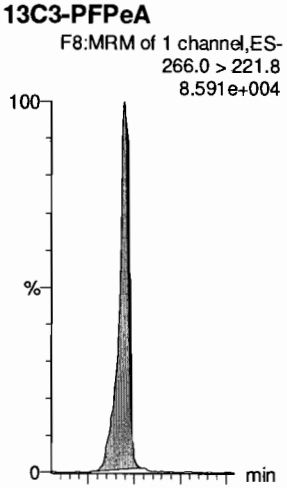
13C3-PFBA



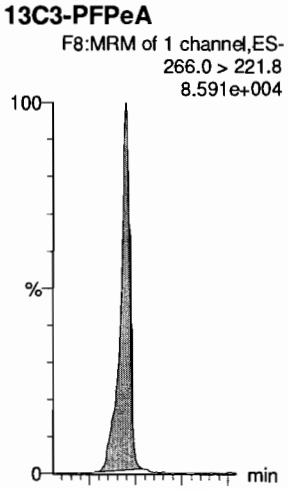
13C3-PFBS



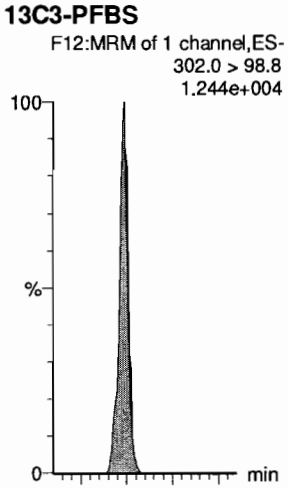
13C3-PFPeA



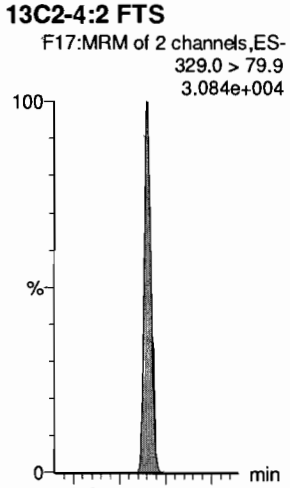
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

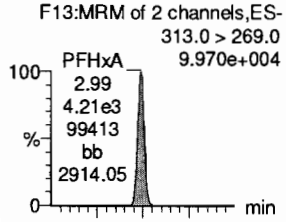


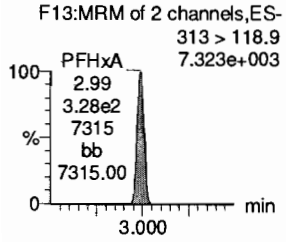
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

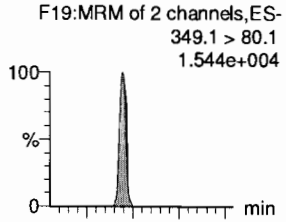
Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

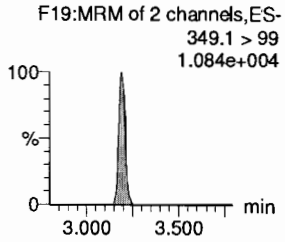
PFHxA



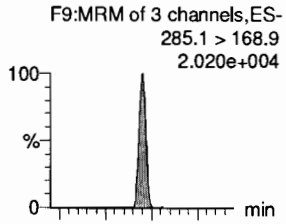


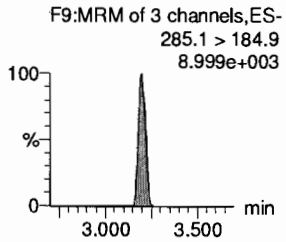
PFPeS



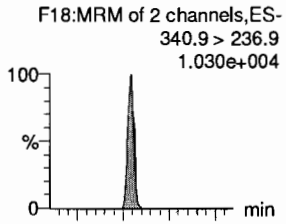


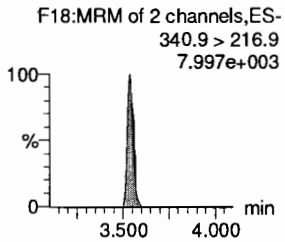
HFPO-DA



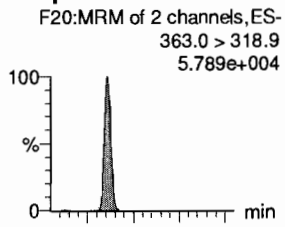


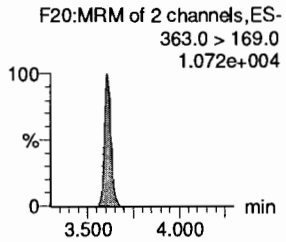
5:3 FTCA



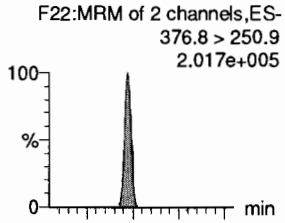


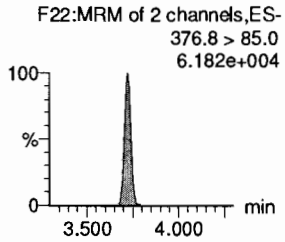
PFHpA



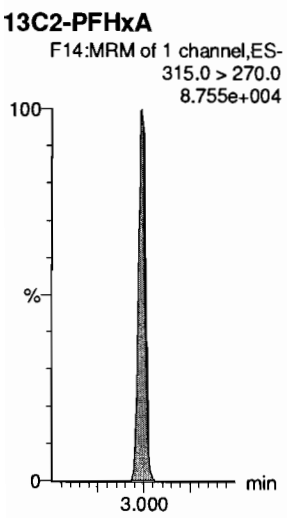


ADONA

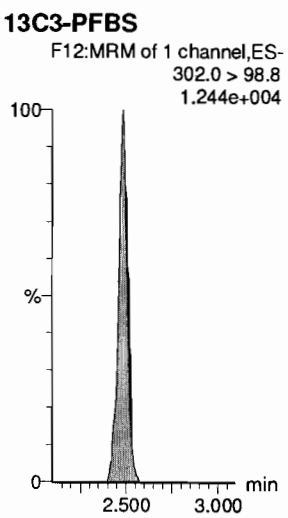




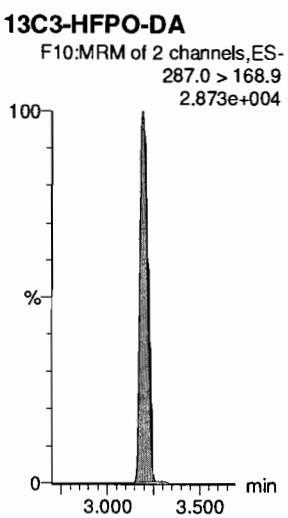
13C2-PFHxA



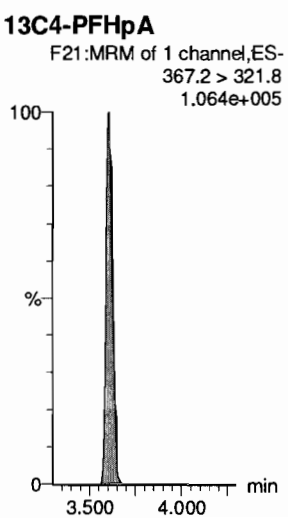
13C3-PFBS



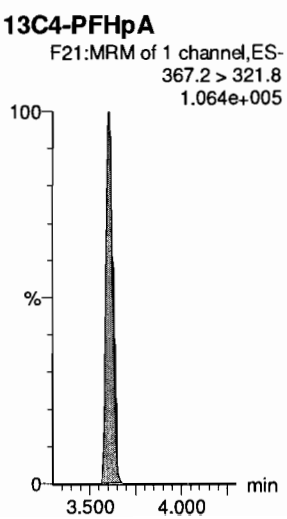
13C3-HFPO-DA



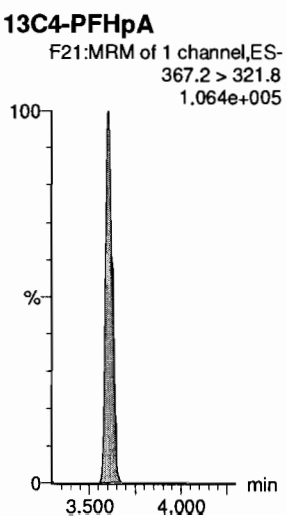
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

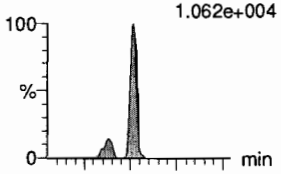


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

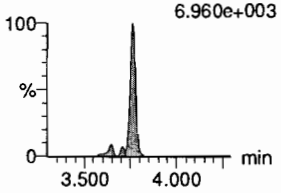
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

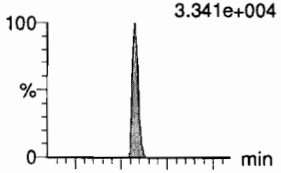
L-PFHxS
F23:MRM of 2 channels,ES-
398.9 > 79.6
1.062e+004



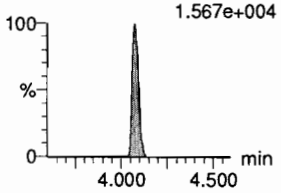
F23:MRM of 2 channels,ES-
398.9 > 99.0
6.960e+003



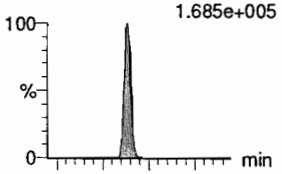
6:2 FTS
F29:MRM of 3 channels,ES-
427.0 > 406.9
3.341e+004



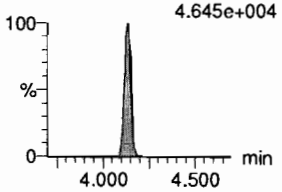
F29:MRM of 3 channels,ES-
427. > 80.9
1.567e+004



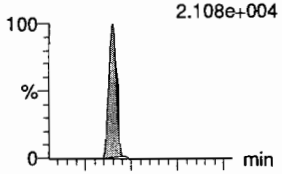
L-PFOA
F26:MRM of 2 channels,ES-
412.8 > 368.9
1.685e+005



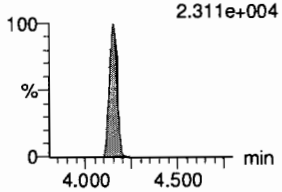
F26:MRM of 2 channels,ES-
412.8 > 169
4.645e+004



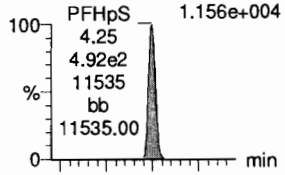
PFEChS
F33:MRM of 2 channels,ES-
460.8 > 381.0
2.108e+004



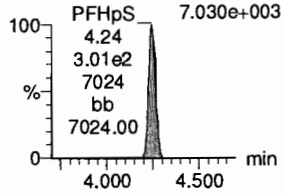
F33:MRM of 2 channels,ES-
460.8 > 98.9
2.311e+004



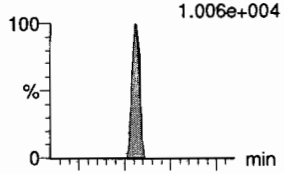
PFHpS
F32:MRM of 2 channels,ES-
449.0 > 80.0
1.156e+004



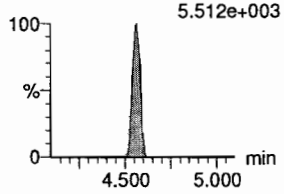
F32:MRM of 2 channels,ES-
449 > 98.7
7.030e+003



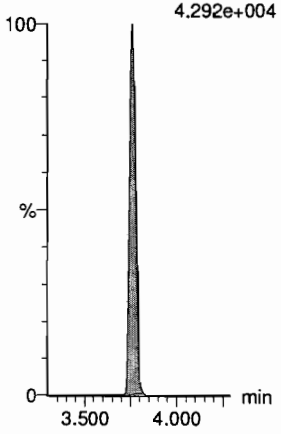
7:3 FTCA
F31:MRM of 2 channels,ES-
440.9 > 336.9
1.006e+004



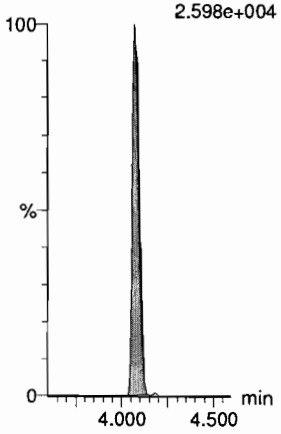
F31:MRM of 2 channels,ES-
440.9 > 316.9
5.512e+003



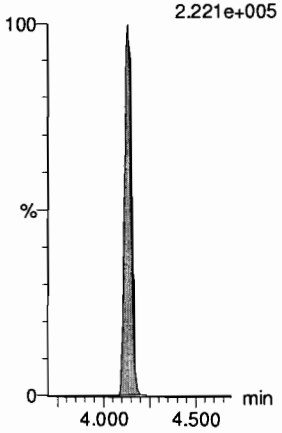
13C3-PFHxS
F24:MRM of 1 channel,ES-
401.8 > 79.9
4.292e+004



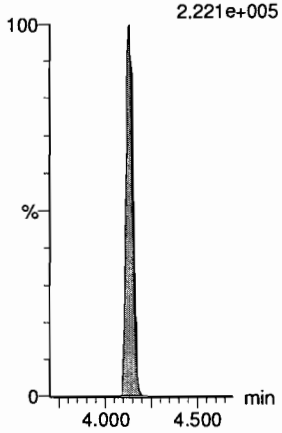
13C2-6:2 FTS
F30:MRM of 1 channel,ES-
429.0 > 79.9
2.598e+004



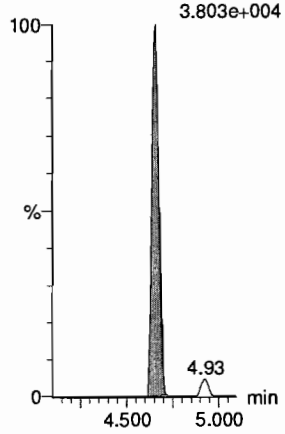
13C2-PFOA
F27:MRM of 1 channel,ES-
414.9 > 369.7
2.221e+005



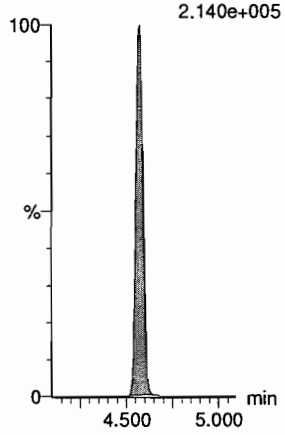
13C2-PFOA
F27:MRM of 1 channel,ES-
414.9 > 369.7
2.221e+005



13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
3.803e+004



13C5-PFNA
F35:MRM of 1 channel,ES-
468.2 > 422.9
2.140e+005

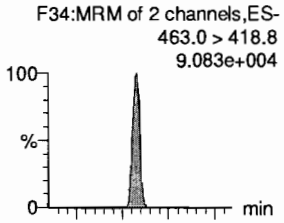


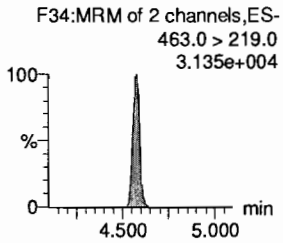
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

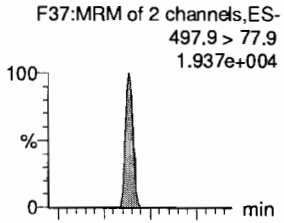
Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

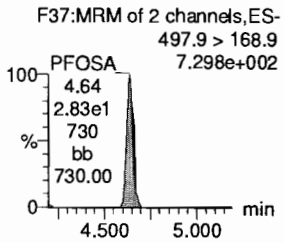
PFNA



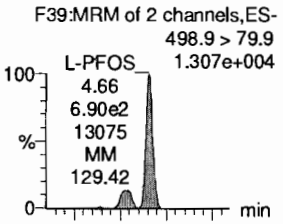


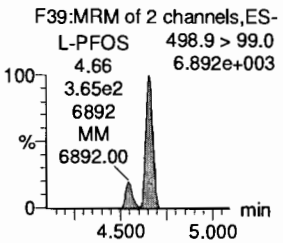
PFOSA



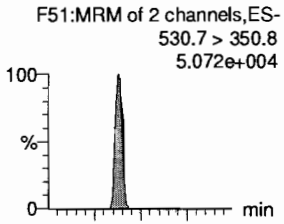


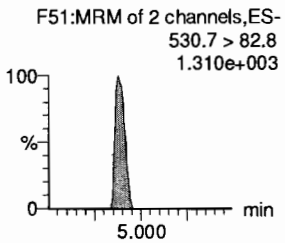
L-PFOS



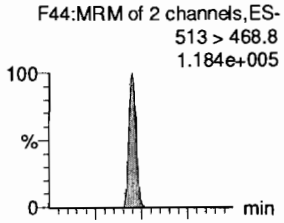


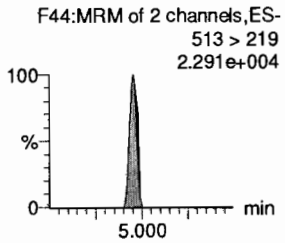
9Cl-PF30NS



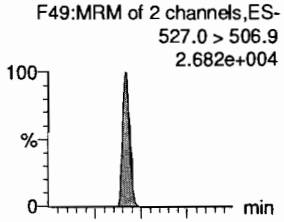


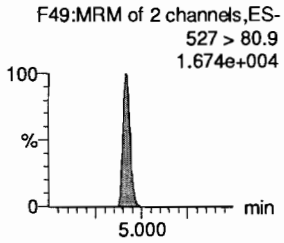
PFDA



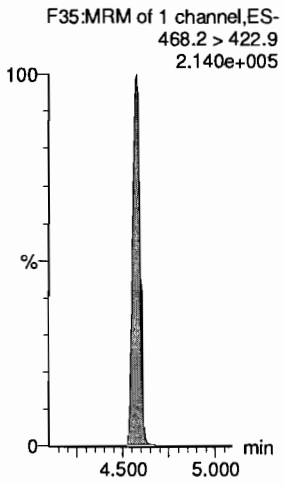


8:2 FTS

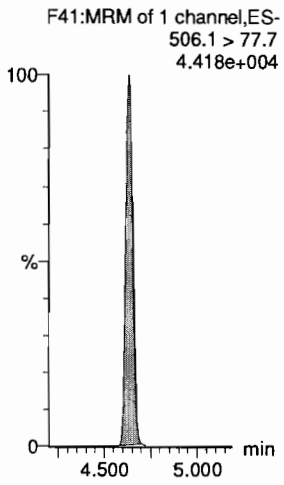




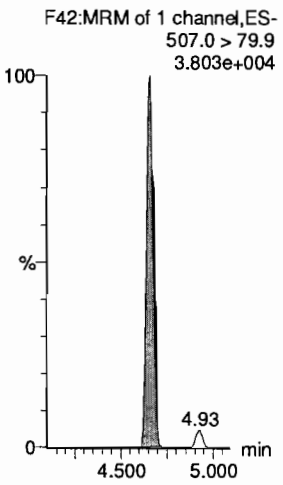
13C5-PFNA



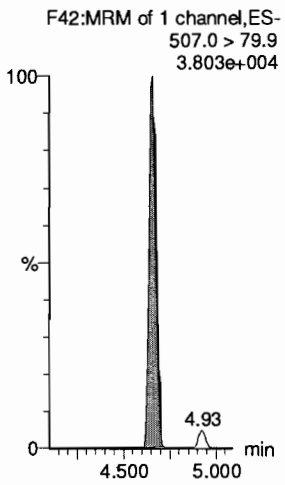
13C8-PFOSA



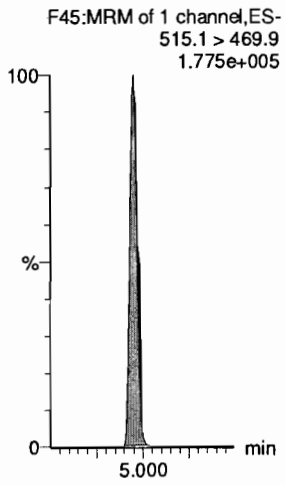
13C8-PFOS



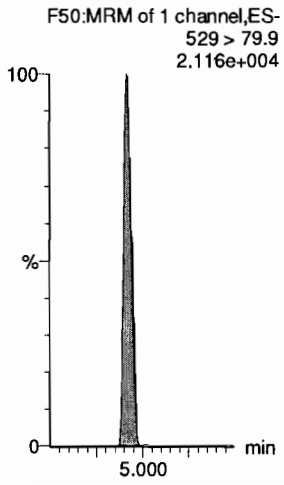
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

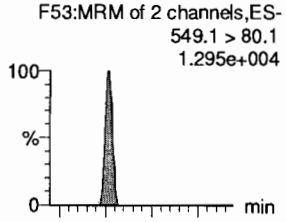


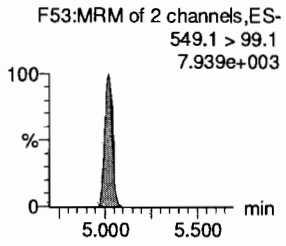
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

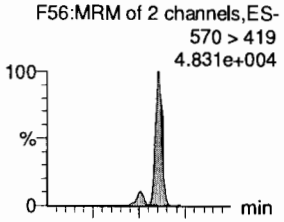
Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

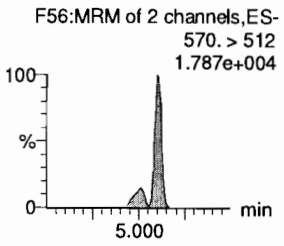
PFNS



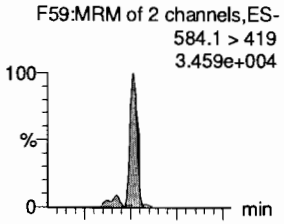


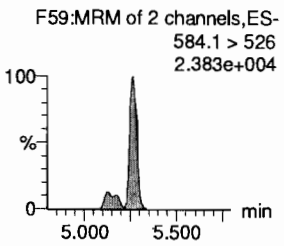
L-MeFOSAA



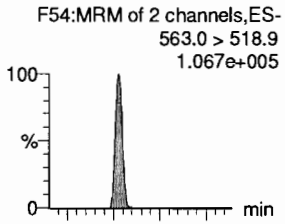


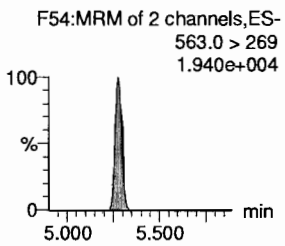
L-EtFOSAA



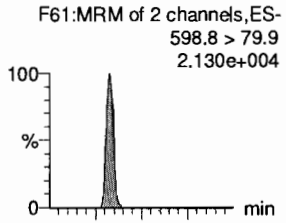


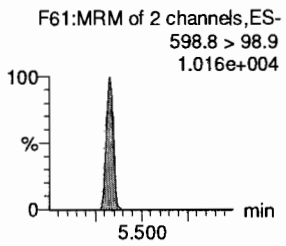
PFUdA



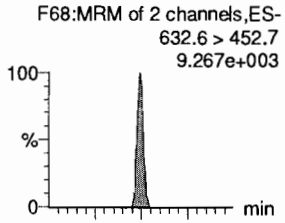


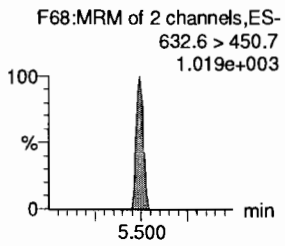
PFDS



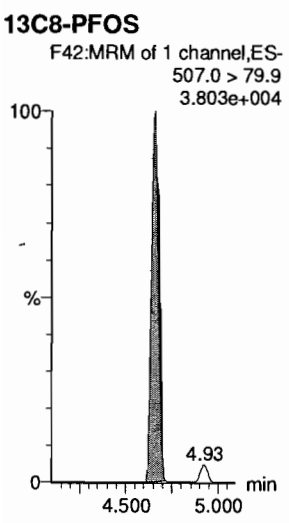


11Cl-PF30UdS

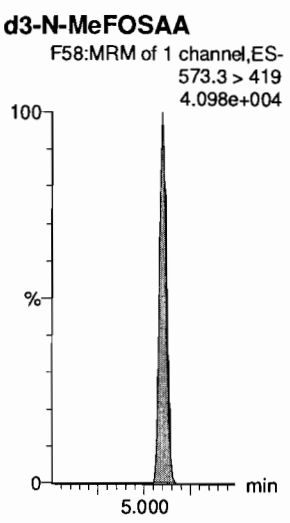




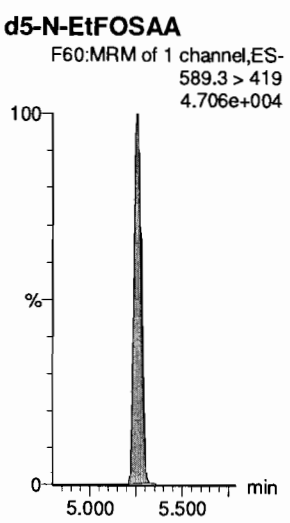
13C8-PFOS



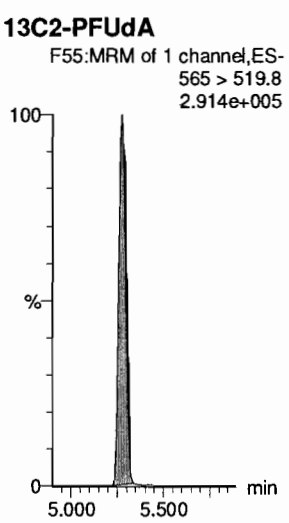
d3-N-MeFOSAA



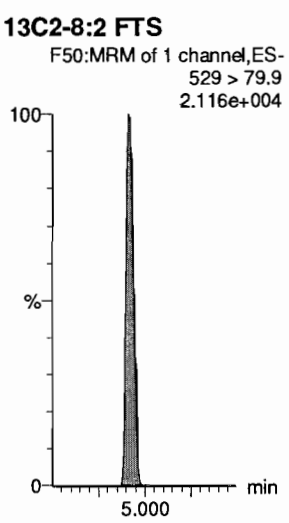
d5-N-EtFOSAA



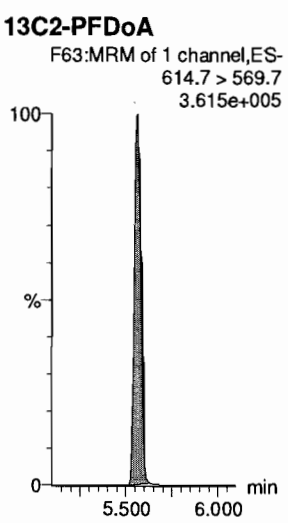
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

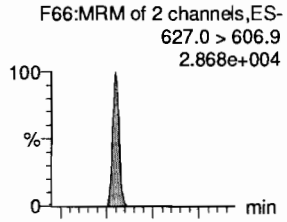


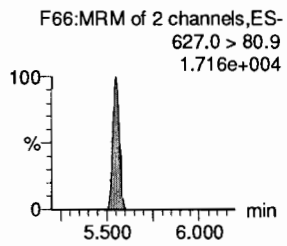
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

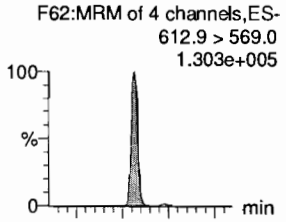
Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

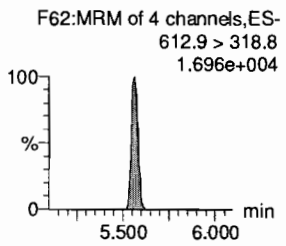
10:2 FTS



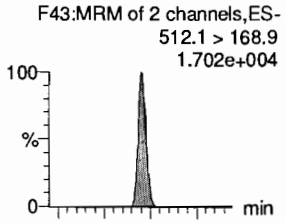


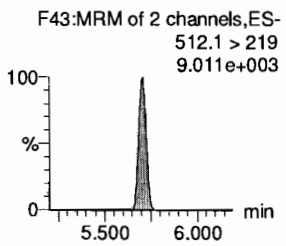
PFDoA



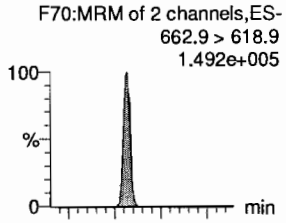


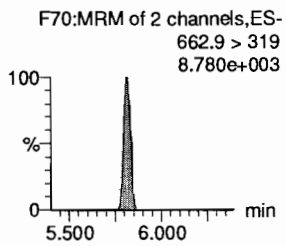
N-MeFOSA



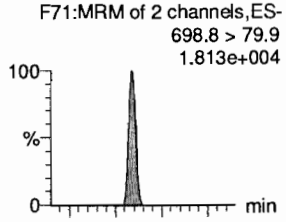


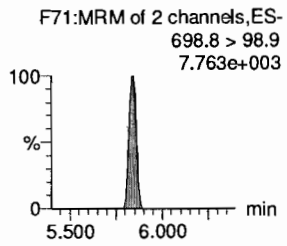
PFTrDA



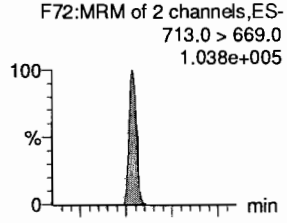


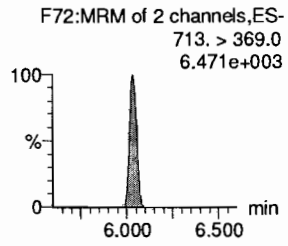
PFDoS



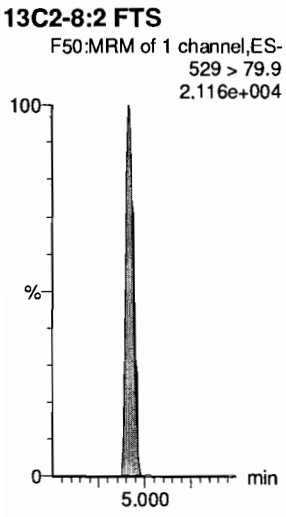


PFTeDA

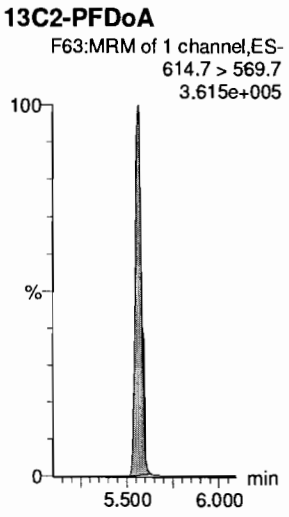




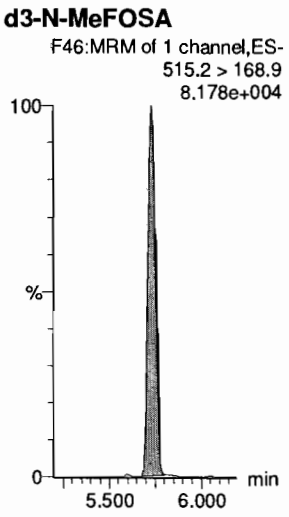
13C2-8:2 FTS



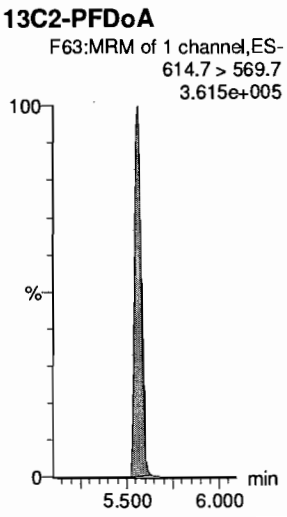
13C2-PFDoA



d3-N-MeFOSA



13C2-PFDoA



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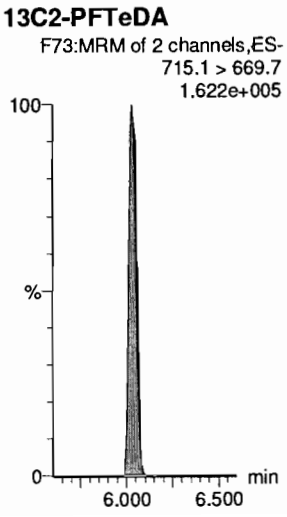
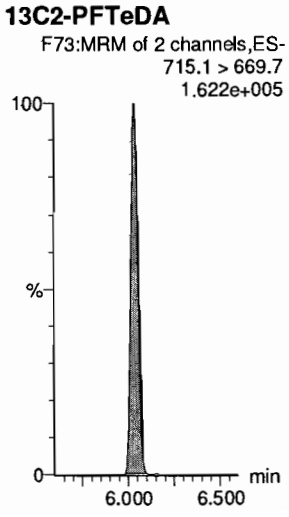


13C2-PFTeDA

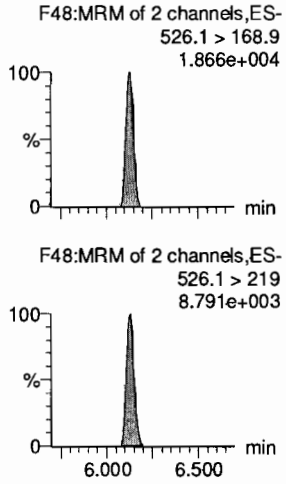


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

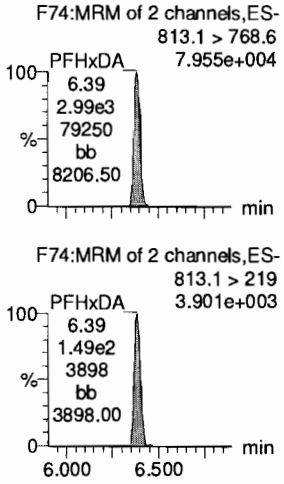
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

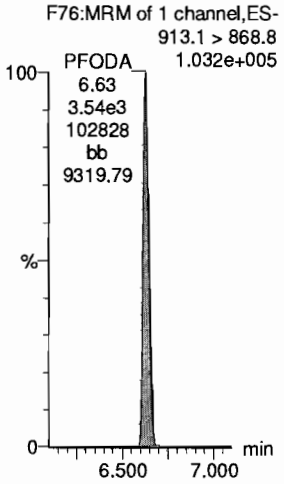
N-EtFOSA



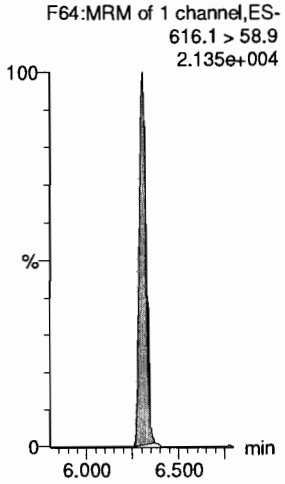
PFHxDA



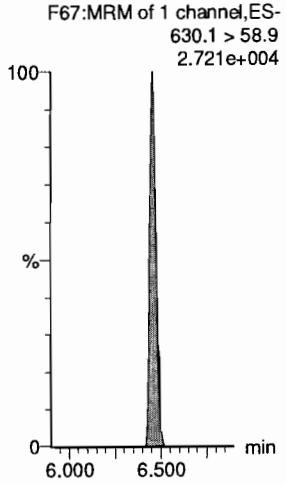
PFODA



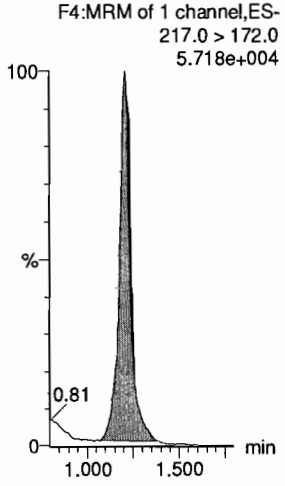
N-MeFOSE



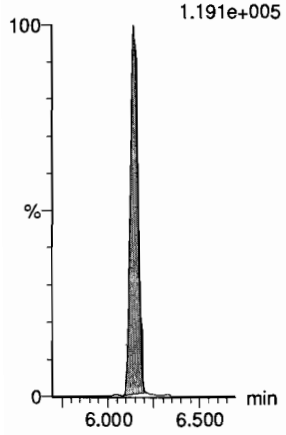
N-EtFOSE



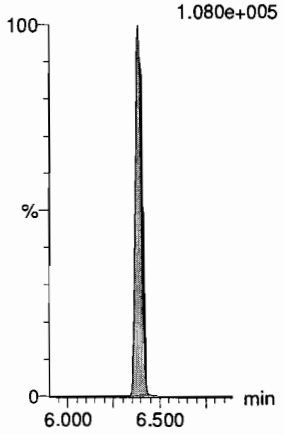
13C4-PFBA



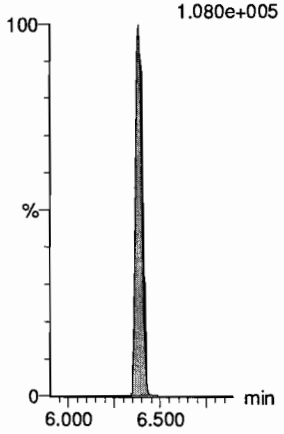
d5-N-ETFOSA



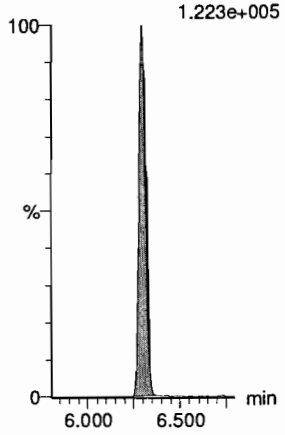
13C2-PFHxDA



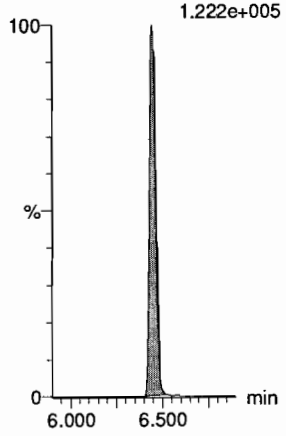
13C2-PFHxDA



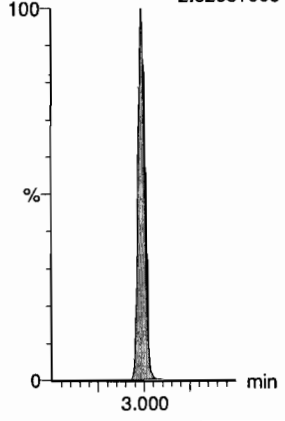
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

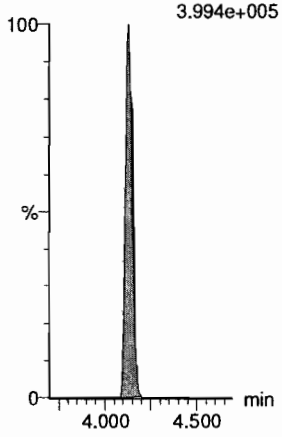


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

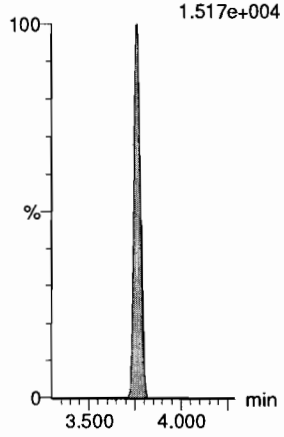
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_10, Date: 10-Jul-2019, Time: 14:26:10, ID: ST190710M2-5 PFC CS2 19G0805, Description: PFC CS2 19G0805

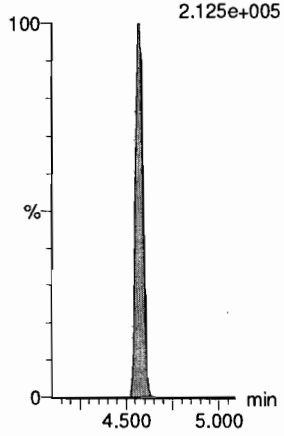
13C8-PFOA



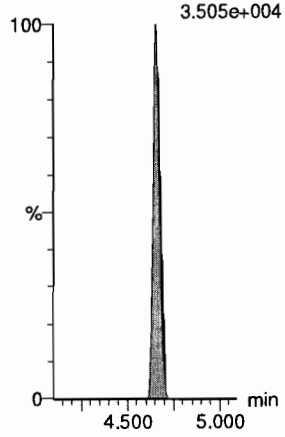
18O2-PFHxS



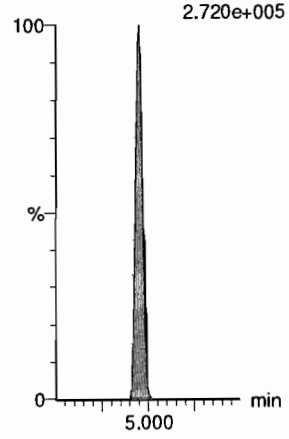
13C9-PFNA



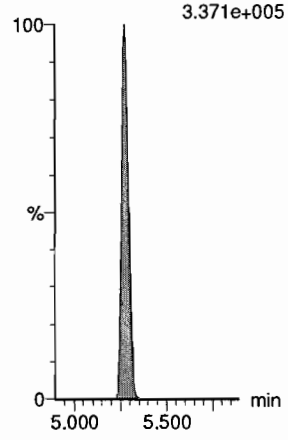
13C4-PFOS



13C6-PFDA



13C7-PFUdA

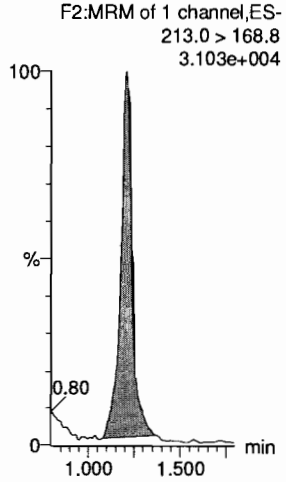


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

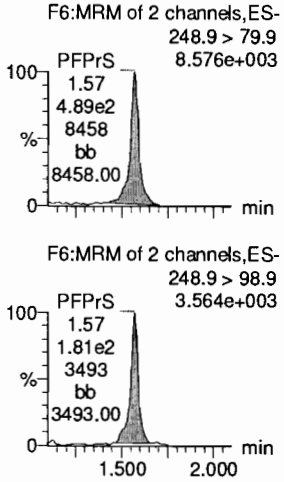
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

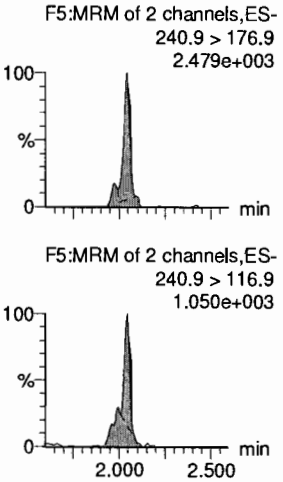
PFBA



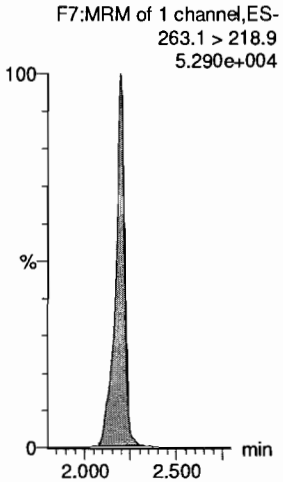
PFPrS



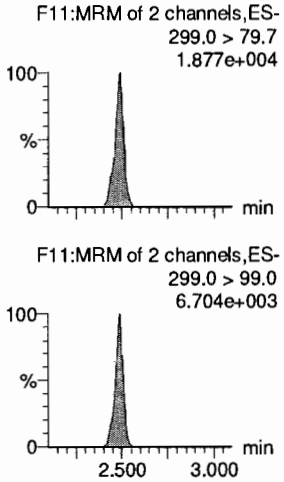
3:3 FTCA



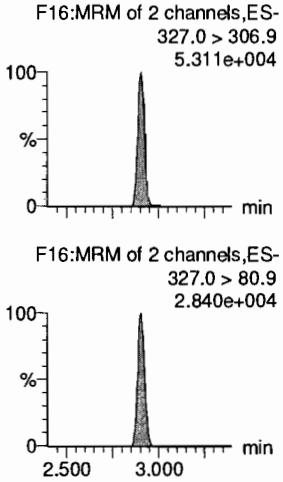
PFPeA



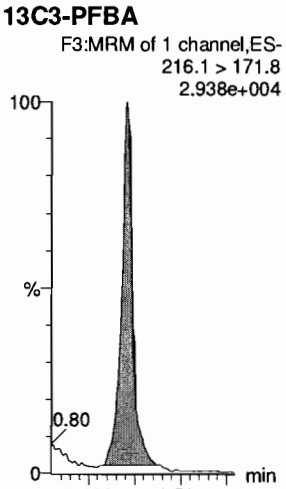
PFBS



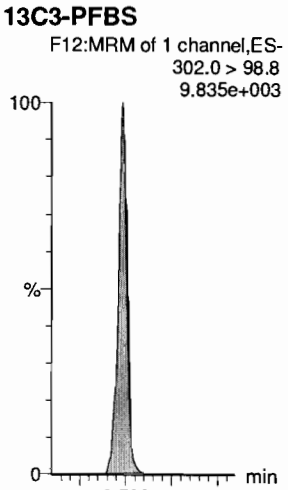
4:2 FTS



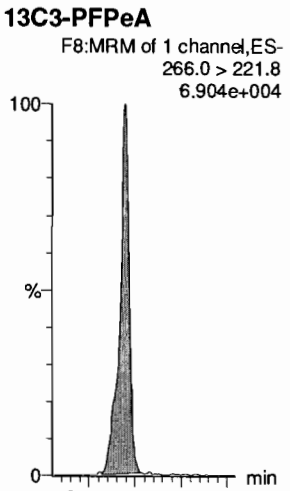
13C3-PFBA



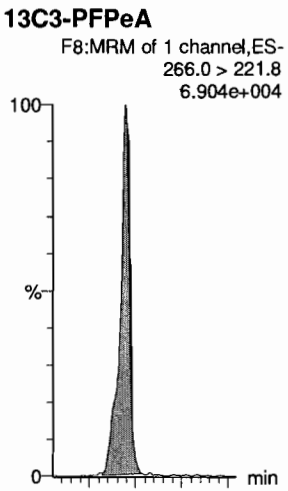
13C3-PFBS



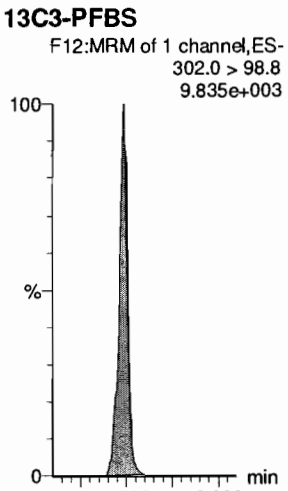
13C3-PFPeA



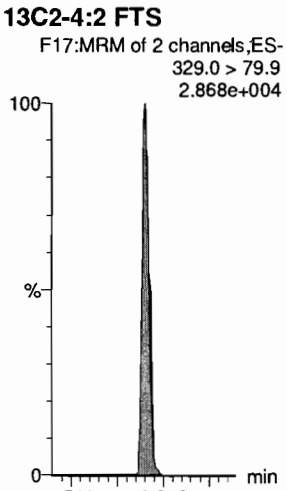
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

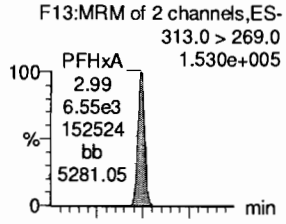


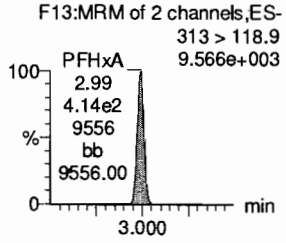
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

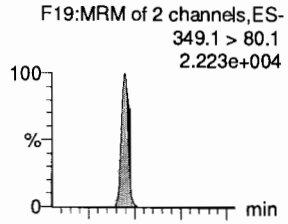
Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

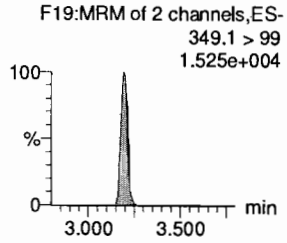
PFHxA



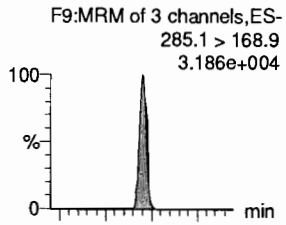


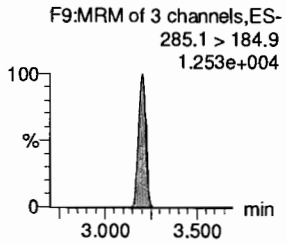
PFPeS



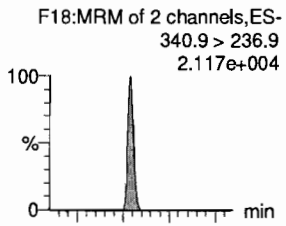


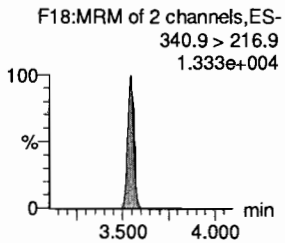
HFPO-DA



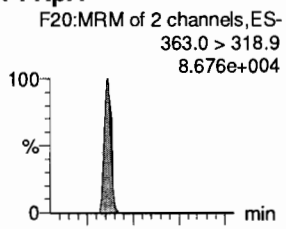


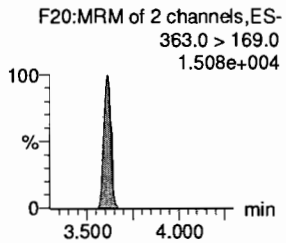
5:3 FTCA



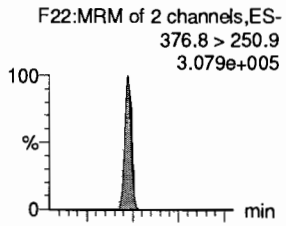


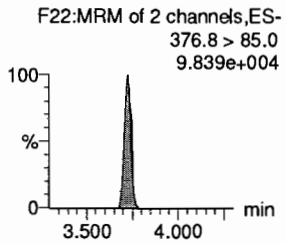
PFHpA



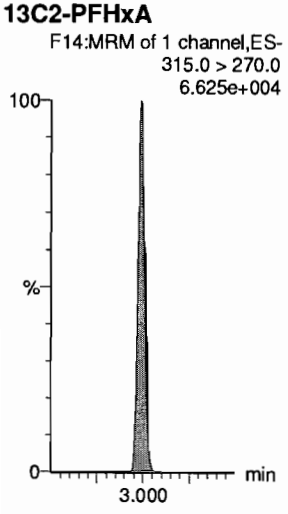


ADONA

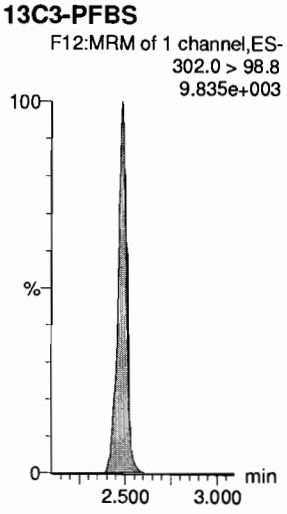




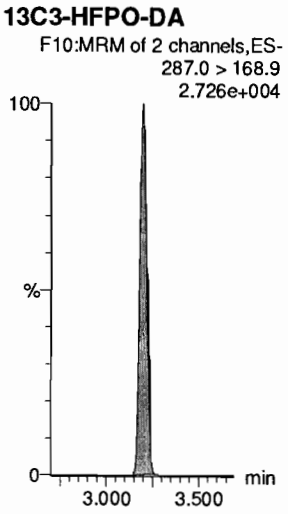
13C2-PFHxA



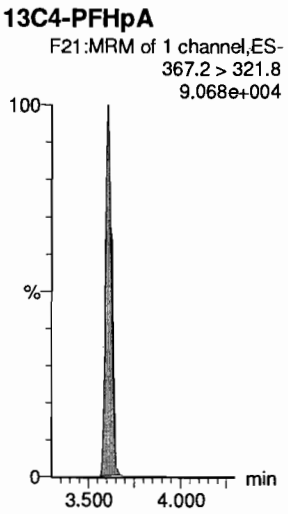
13C3-PFBS



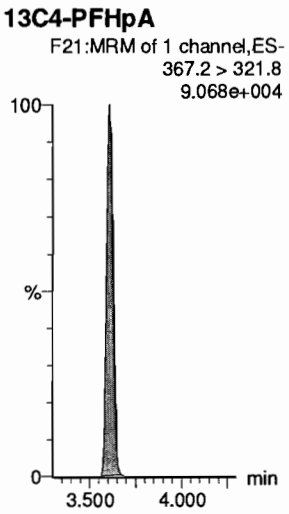
13C3-HFPO-DA



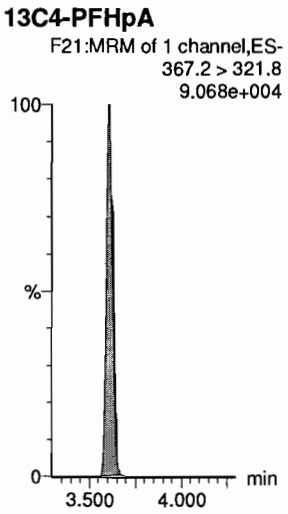
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

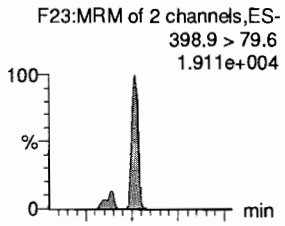


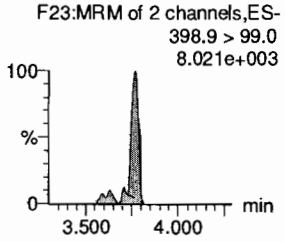
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

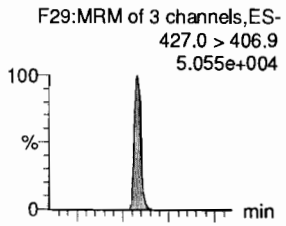
Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

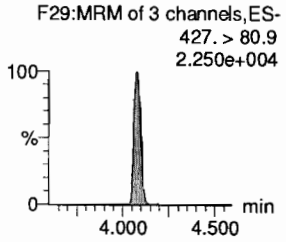
L-PFHxS



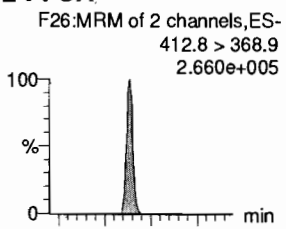


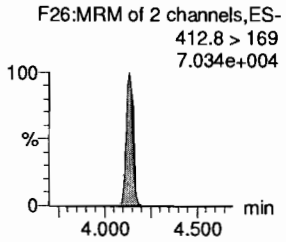
6:2 FTS



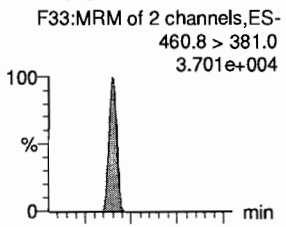


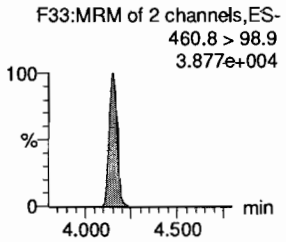
L-PFOA



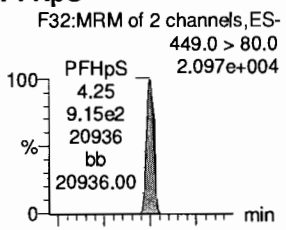


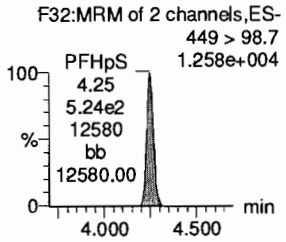
PFEChS



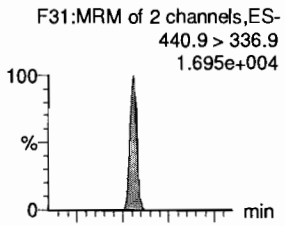


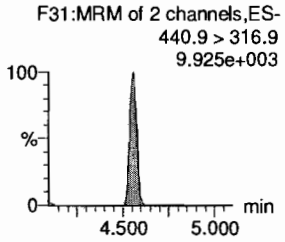
PFHpS



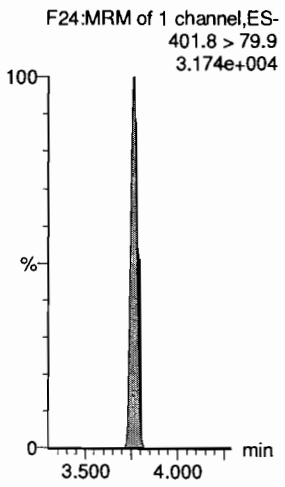


7:3 FTCA

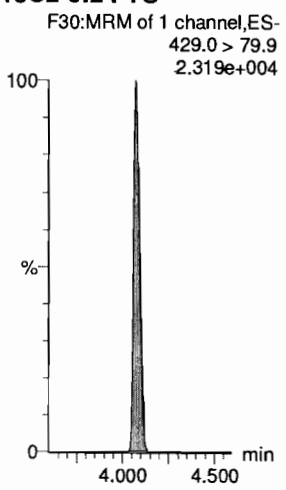




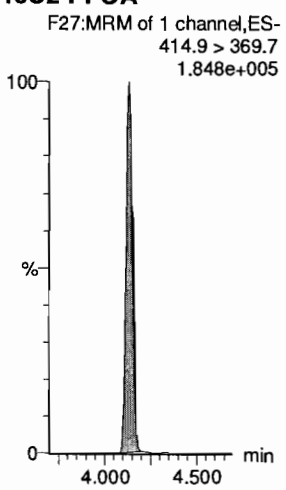
13C3-PFHxS



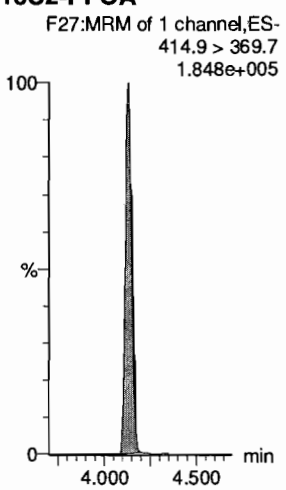
13C2-6:2 FTS



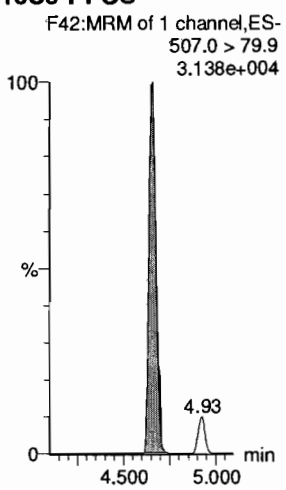
13C2-PFOA



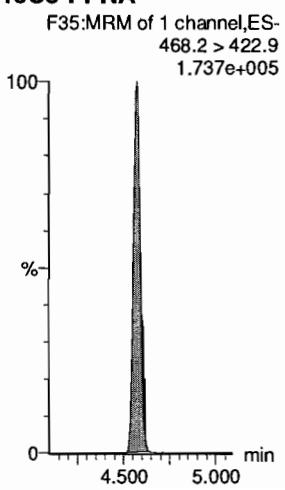
13C2-PFOA



13C8-PFOS



13C5-PFNA

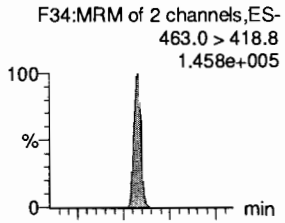


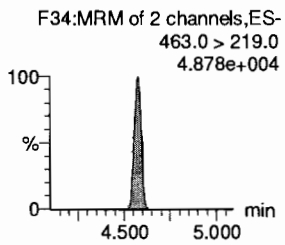
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

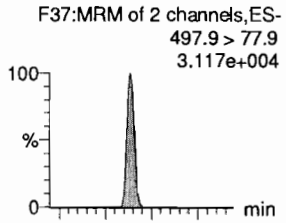
Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

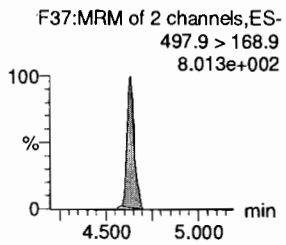
PFNA



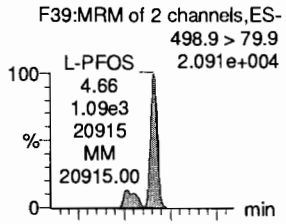


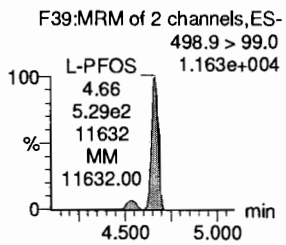
PFOSA



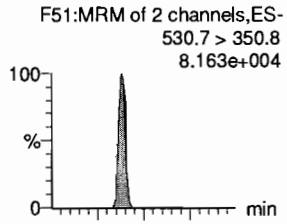


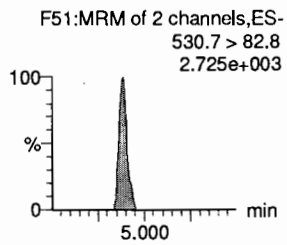
L-PFOS



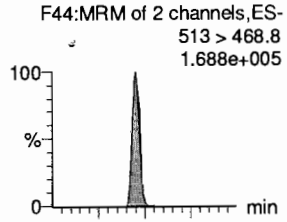


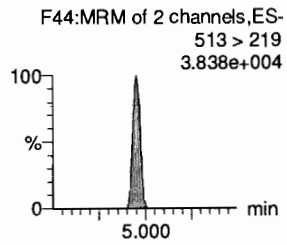
9Cl-PF30NS



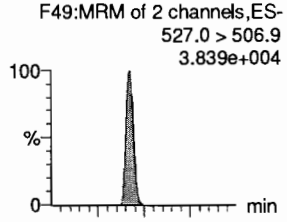


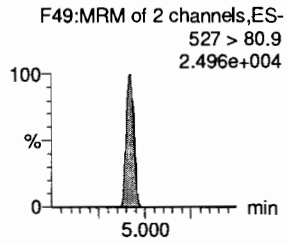
PFDA



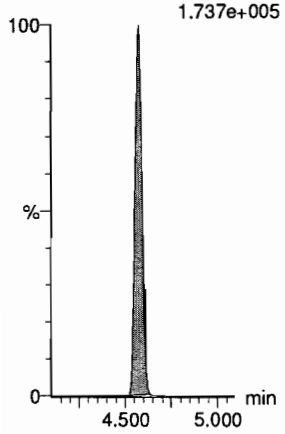


8:2 FTS

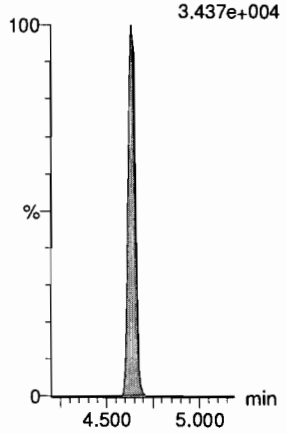




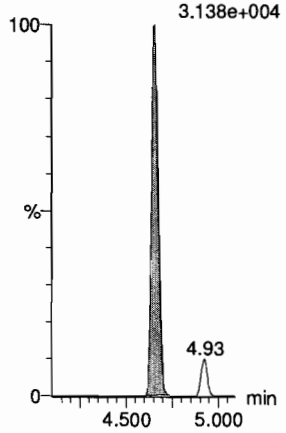
13C5-PFNA



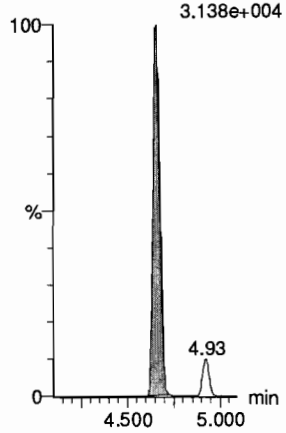
13C8-PFOSA



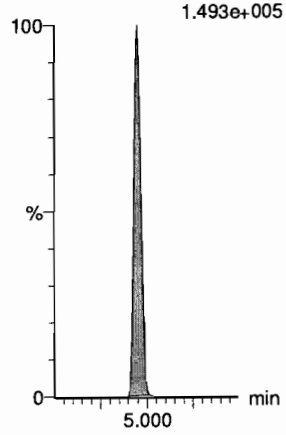
13C8-PFOS



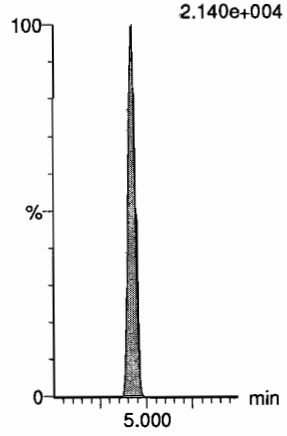
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

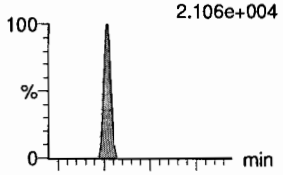


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

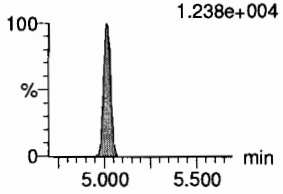
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

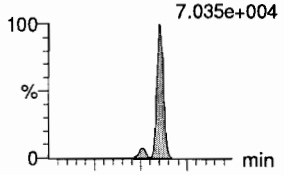
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
2.106e+004



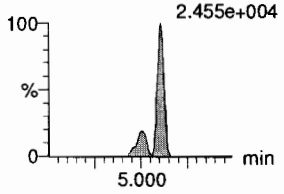
F53:MRM of 2 channels,ES-
549.1 > 99.1
1.238e+004



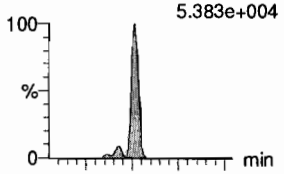
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
7.035e+004



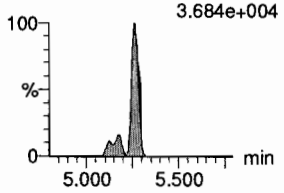
F56:MRM of 2 channels,ES-
570. > 512
2.455e+004



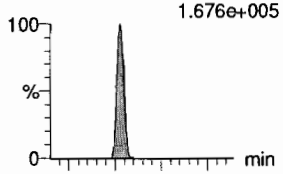
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
5.383e+004



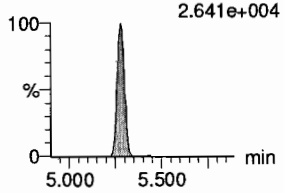
F59:MRM of 2 channels,ES-
584.1 > 526
3.684e+004



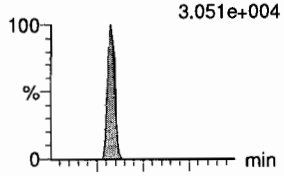
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
1.676e+005



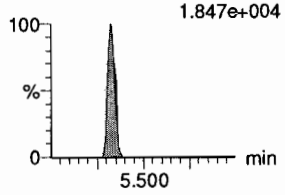
F54:MRM of 2 channels,ES-
563.0 > 269
2.641e+004



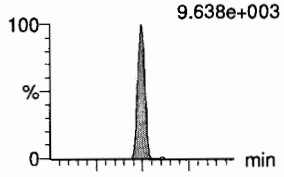
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
3.051e+004



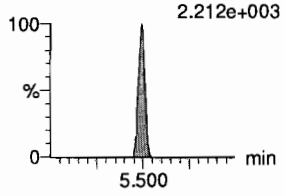
F61:MRM of 2 channels,ES-
598.8 > 98.9
1.847e+004



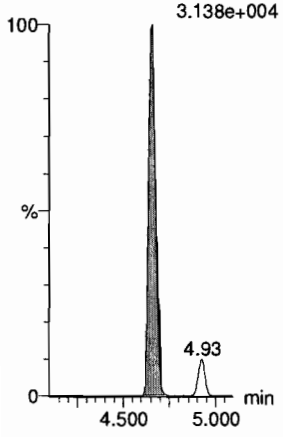
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
9.638e+003



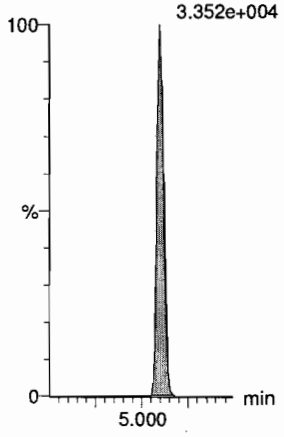
F68:MRM of 2 channels,ES-
632.6 > 450.7
2.212e+003



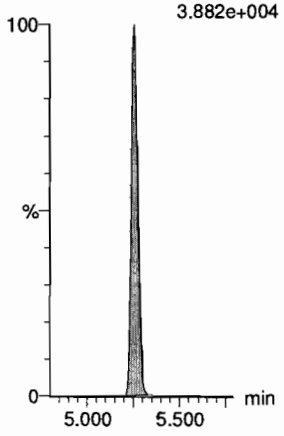
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
3.138e+004



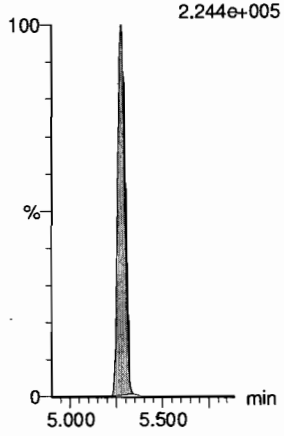
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
3.352e+004



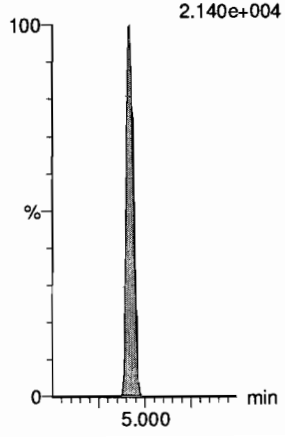
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
3.882e+004



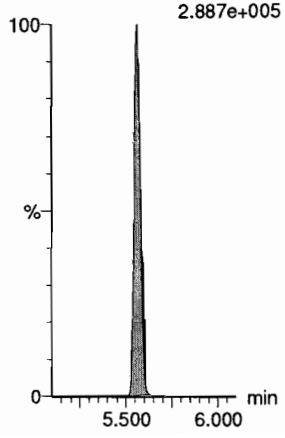
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
2.244e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
2.140e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
2.887e+005

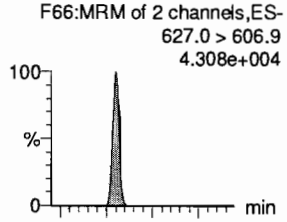


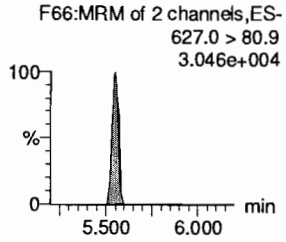
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

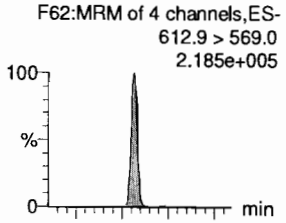
Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

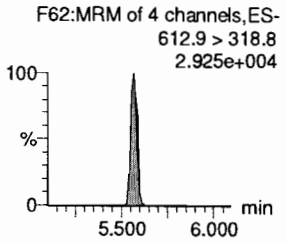
10:2 FTS



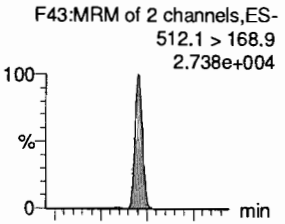


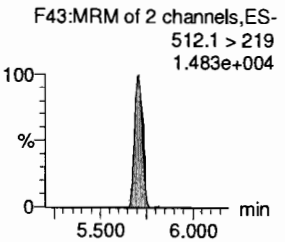
PFDoA



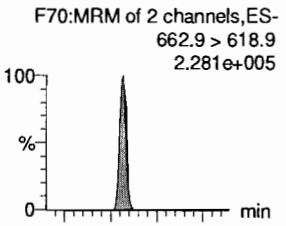


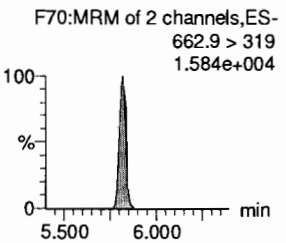
N-MeFOSA



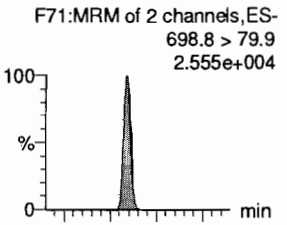


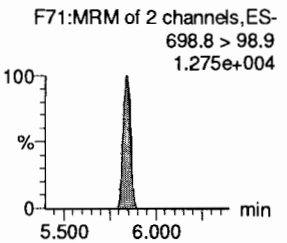
PFTrDA



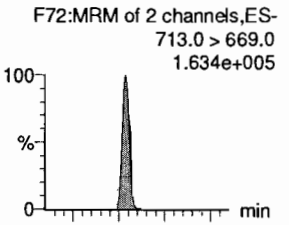


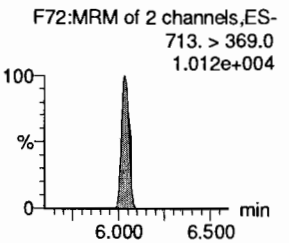
PFDoS



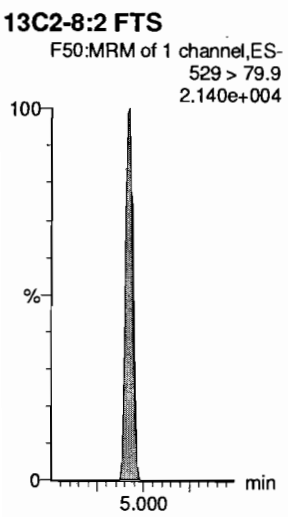


PFTeDA

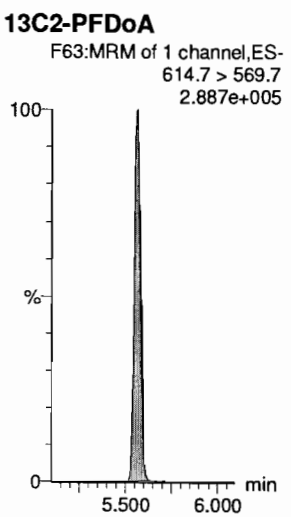




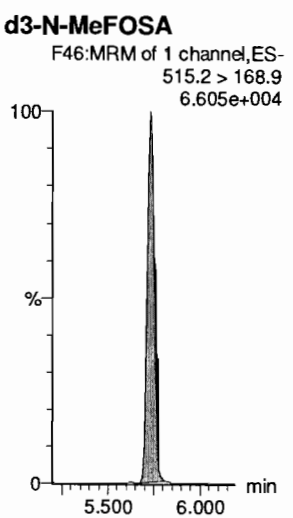
13C2-8:2 FTS



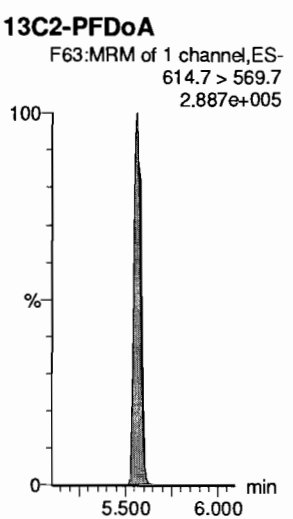
13C2-PFDoA



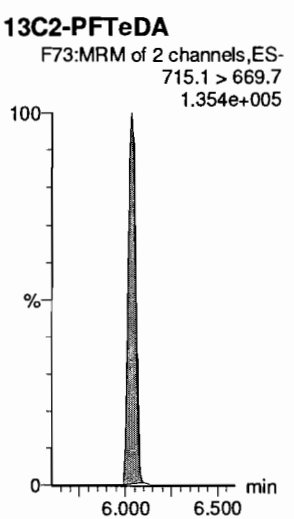
d3-N-MeFOSA



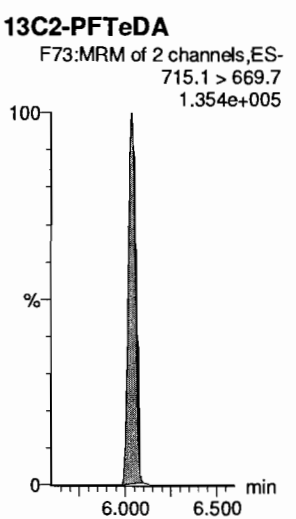
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

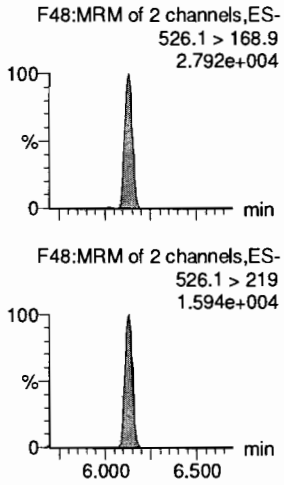


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

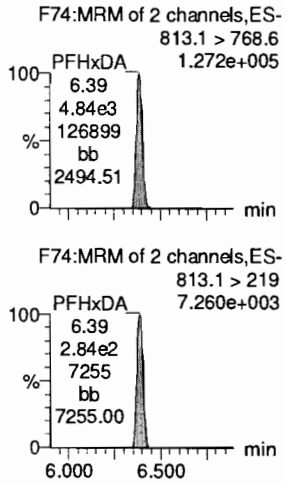
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

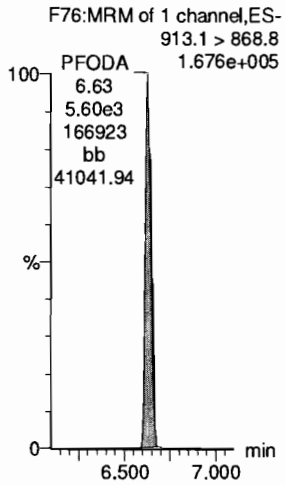
N-EtFOSA



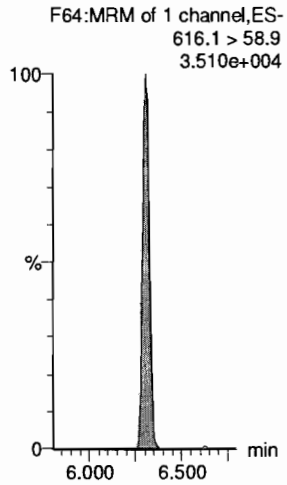
PFHxDA



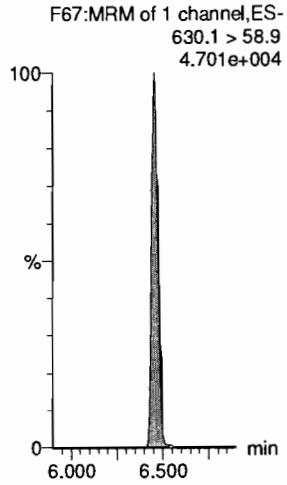
PFODA



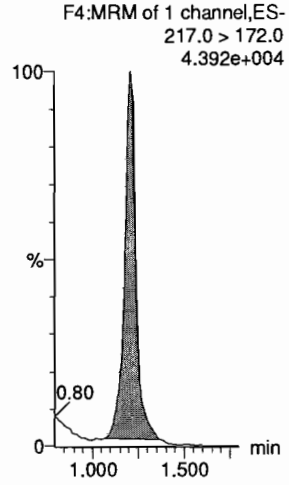
N-MeFOSE



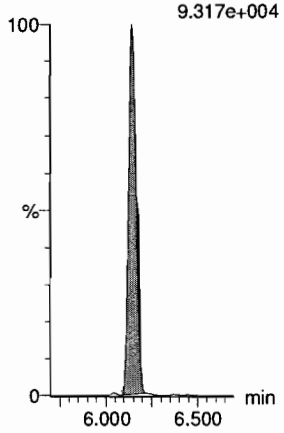
N-EtFOSE



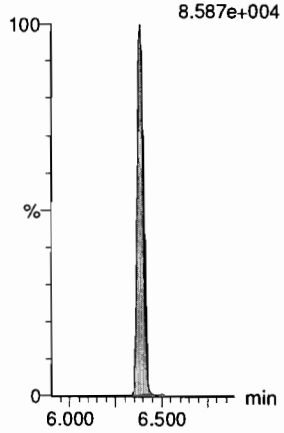
13C4-PFBA



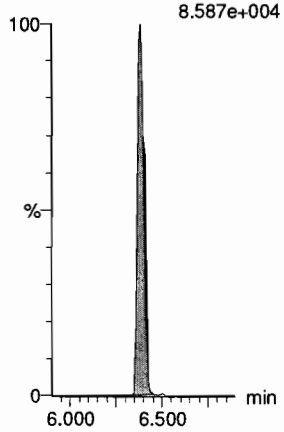
d5-N-ETFOSA



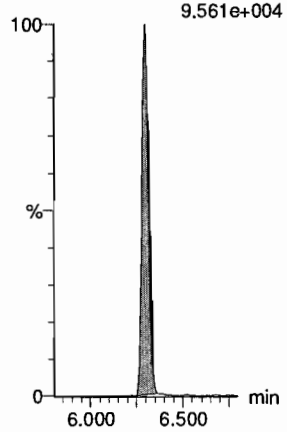
13C2-PFHxDA



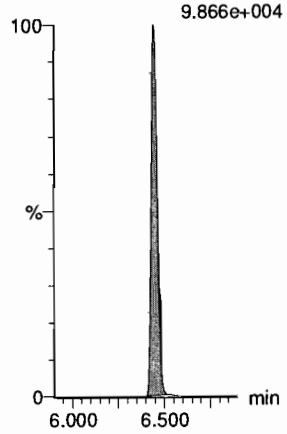
13C2-PFHxDA



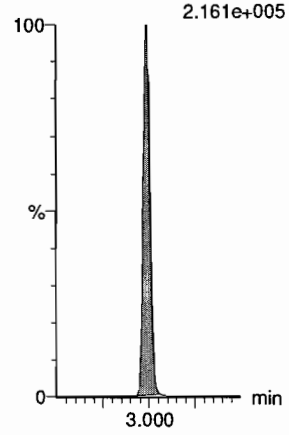
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

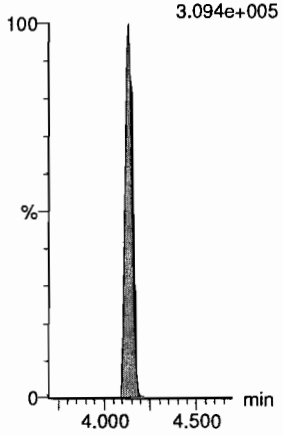


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

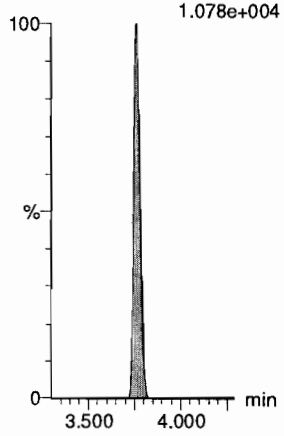
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_11, Date: 10-Jul-2019, Time: 14:36:42, ID: ST190710M2-6 PFC CS3 19G0806, Description: PFC CS3 19G0806

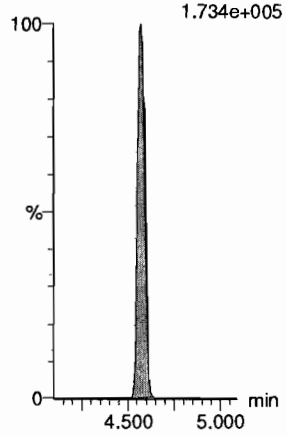
13C8-PFOA



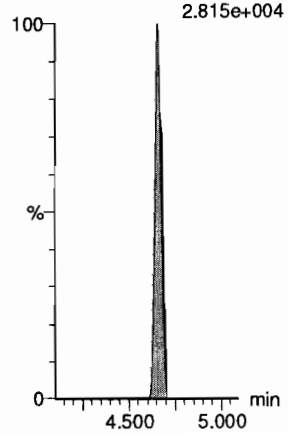
18O2-PFHxS



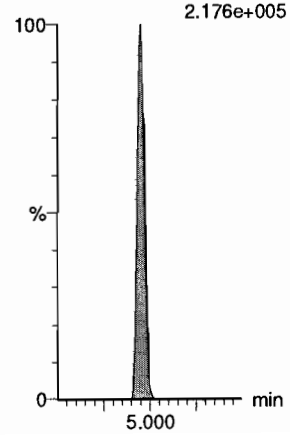
13C9-PFNA



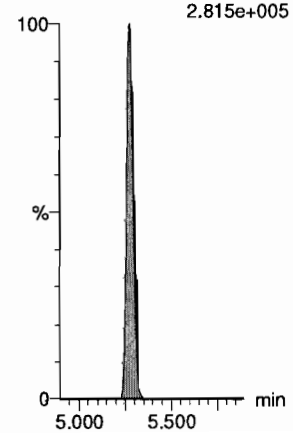
13C4-PFOS



13C6-PFDA



13C7-PFUdA

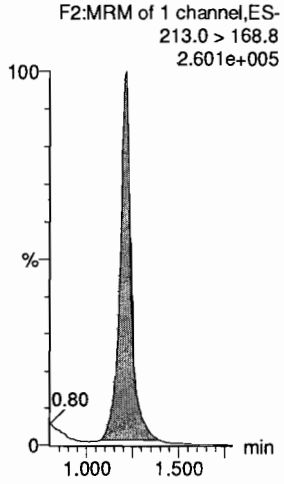


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

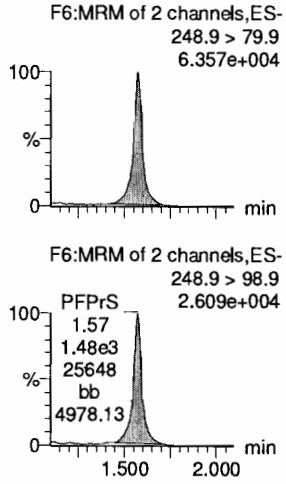
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

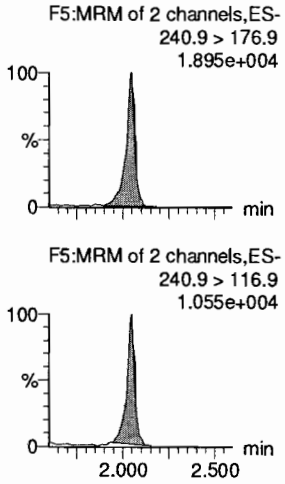
PFBA



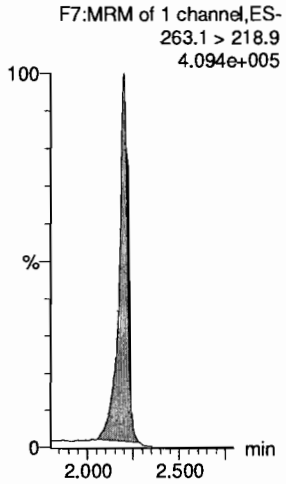
PFPrS



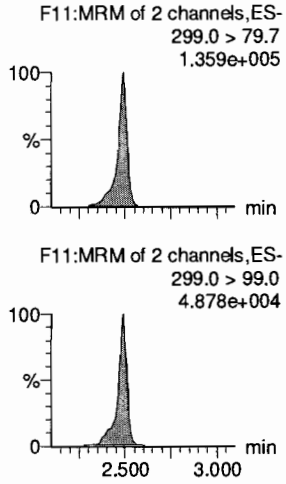
3:3 FTCA



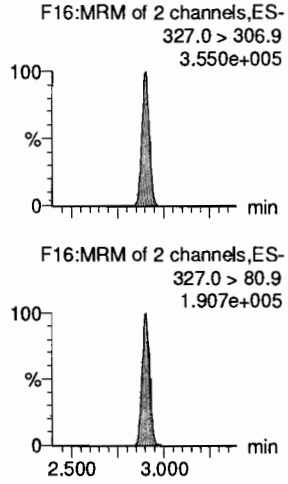
PFPeA



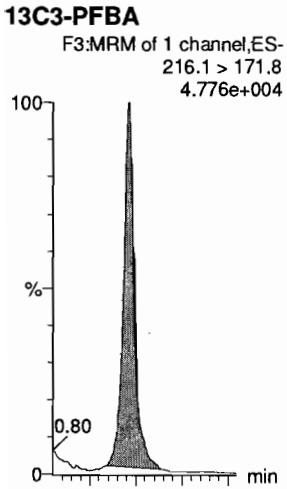
PFBS



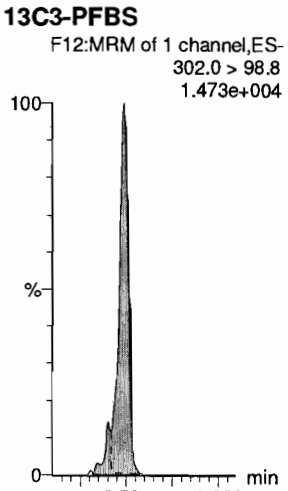
4:2 FTS



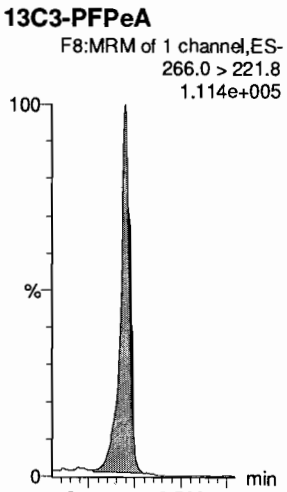
13C3-PFBA



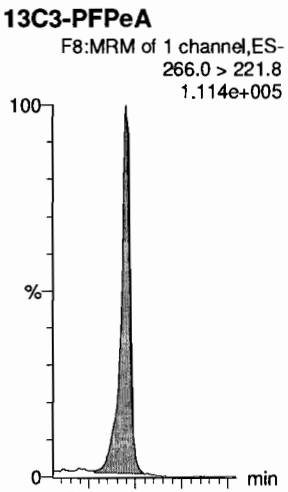
13C3-PFBS



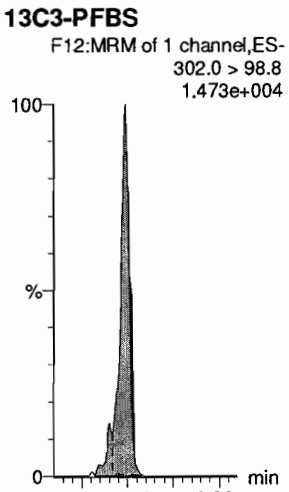
13C3-PFPeA



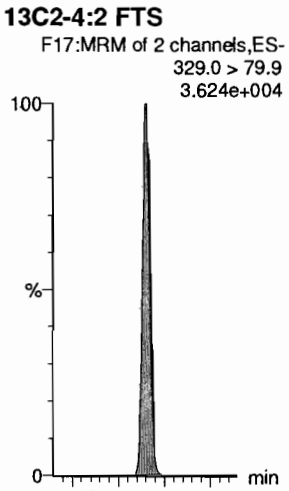
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

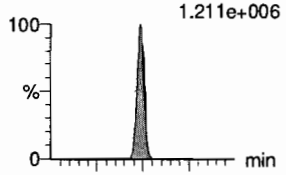


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

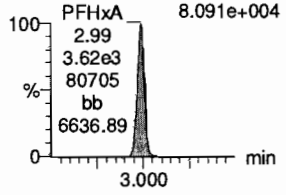
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

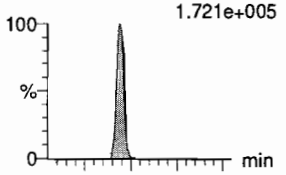
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
1.211e+006



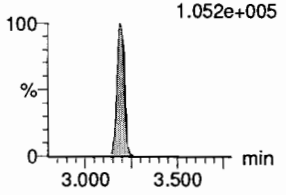
F13:MRM of 2 channels,ES-
313 > 118.9
8.091e+004



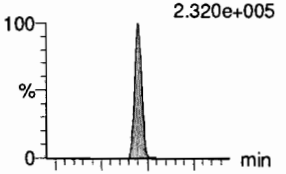
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
1.721e+005



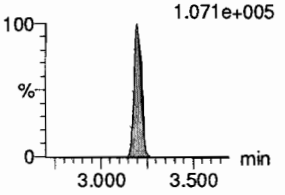
F19:MRM of 2 channels,ES-
349.1 > 99
1.052e+005



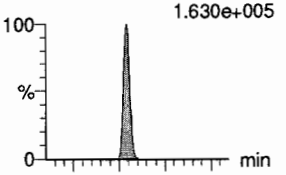
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
2.320e+005



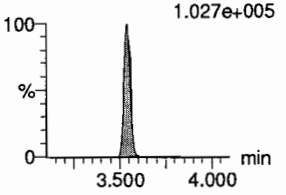
F9:MRM of 3 channels,ES-
285.1 > 184.9
1.071e+005



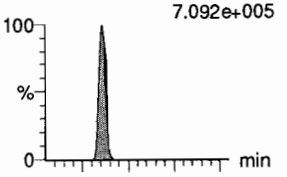
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
1.630e+005



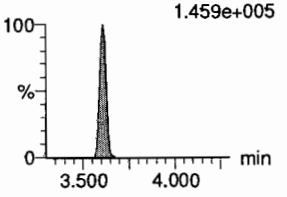
F18:MRM of 2 channels,ES-
340.9 > 216.9
1.027e+005



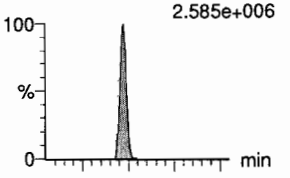
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
7.092e+005



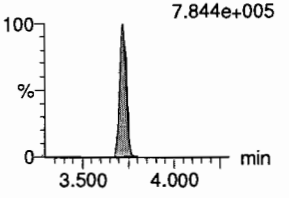
F20:MRM of 2 channels,ES-
363.0 > 169.0
1.459e+005



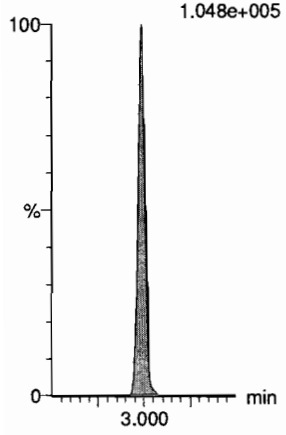
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
2.585e+006



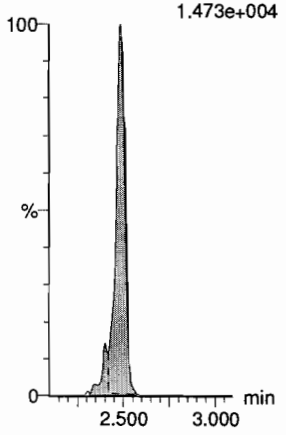
F22:MRM of 2 channels,ES-
376.8 > 85.0
7.844e+005



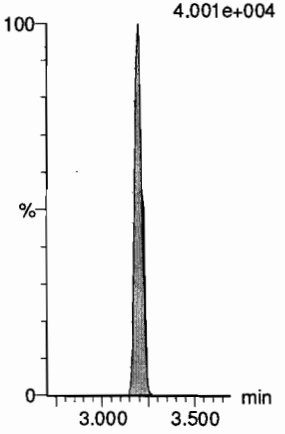
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
1.048e+005



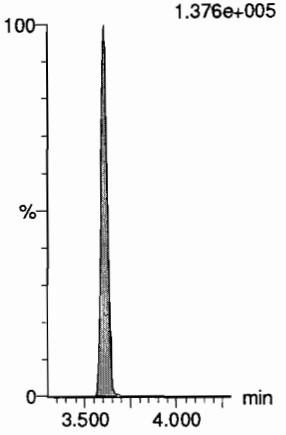
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.473e+004



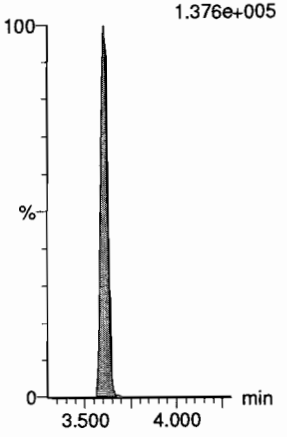
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
4.001e+004



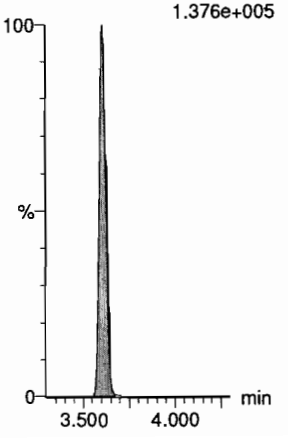
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.376e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.376e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.376e+005

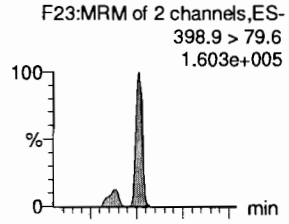


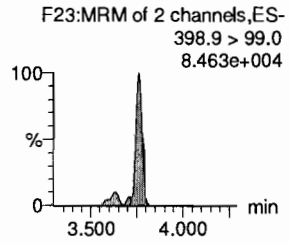
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

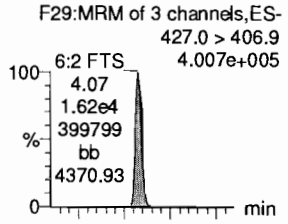
Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

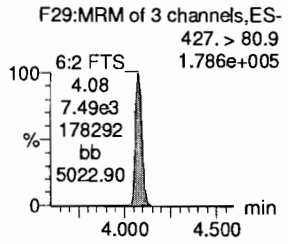
L-PFHxS



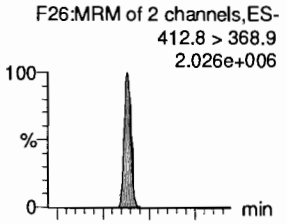


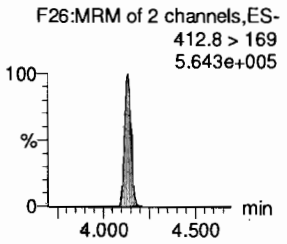
6:2 FTS



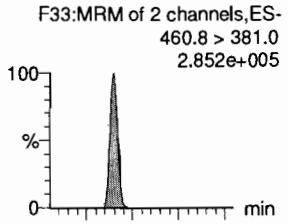


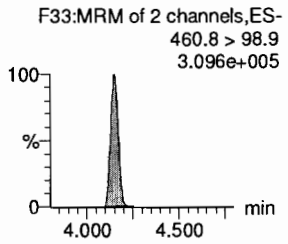
L-PFOA



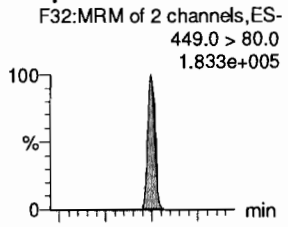


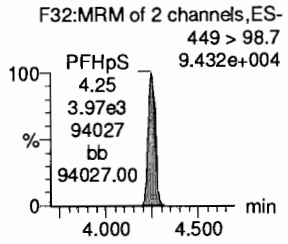
PFEChS



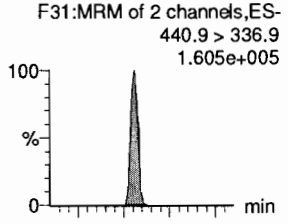


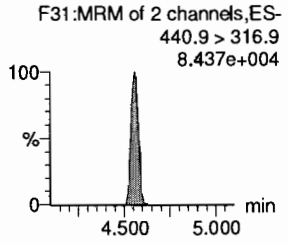
PFHpS



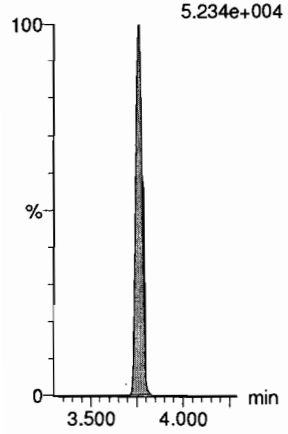


7:3 FTCA

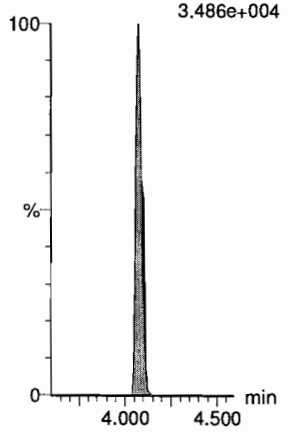




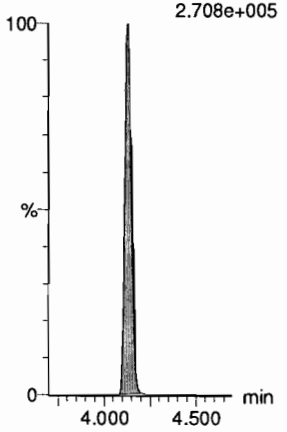
13C3-PFHxS



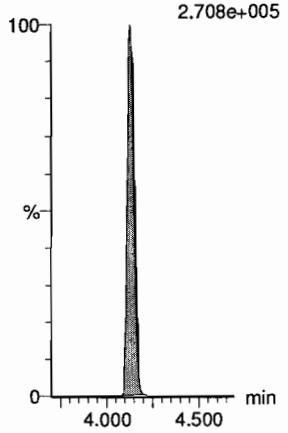
13C2-6:2 FTS



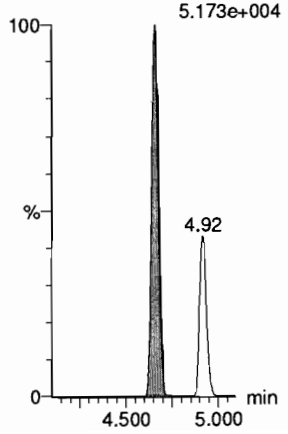
13C2-PFOA



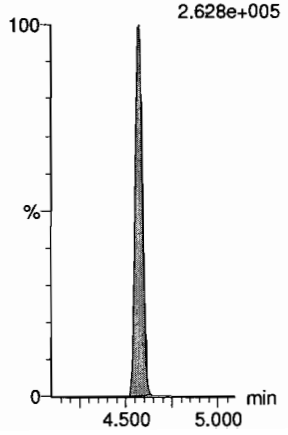
13C2-PFOA



13C8-PFOS



13C5-PFNA

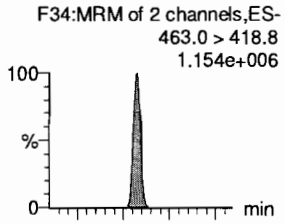


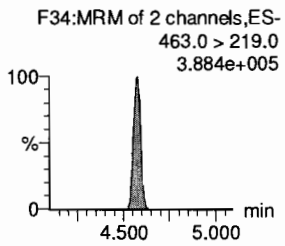
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

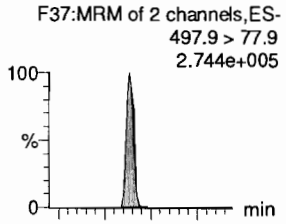
Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

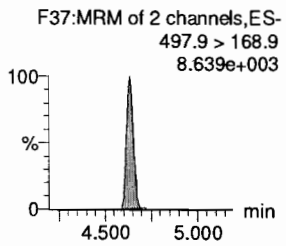
PFNA



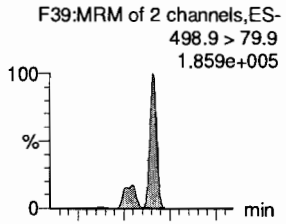


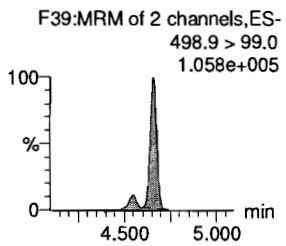
PFOSA



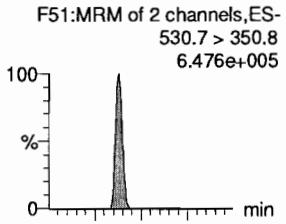


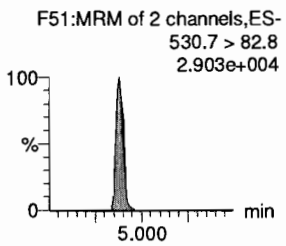
L-PFOS



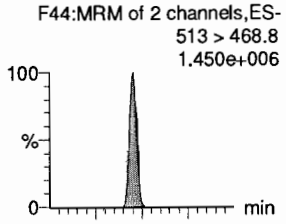


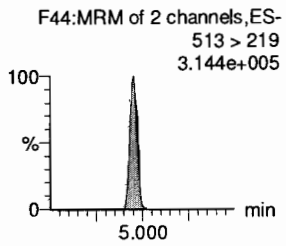
9Cl-PF30NS



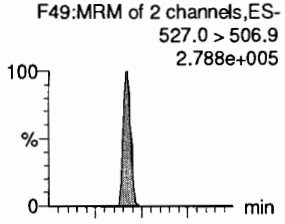


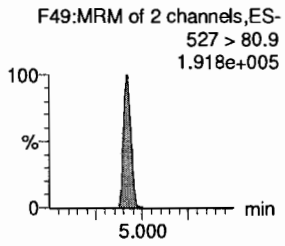
PFDA



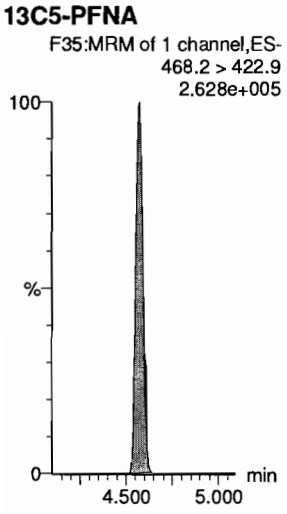


8:2 FTS

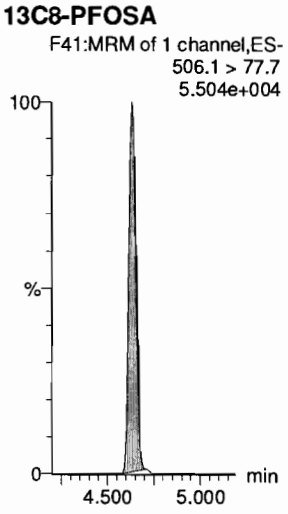




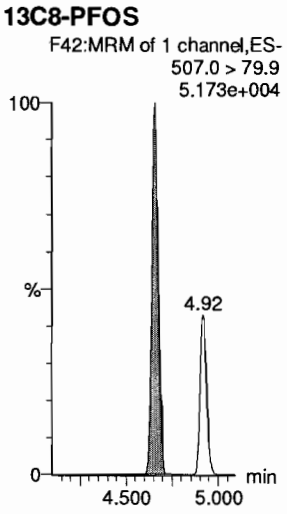
13C5-PFNA



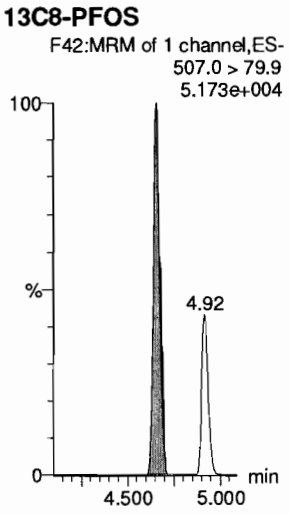
13C8-PFOSA



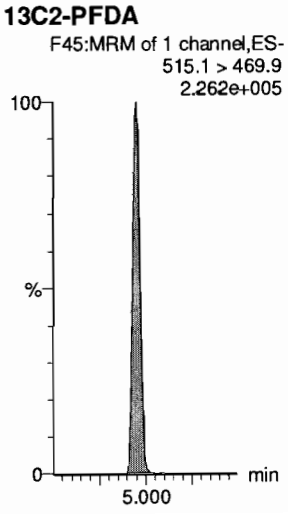
13C8-PFOS



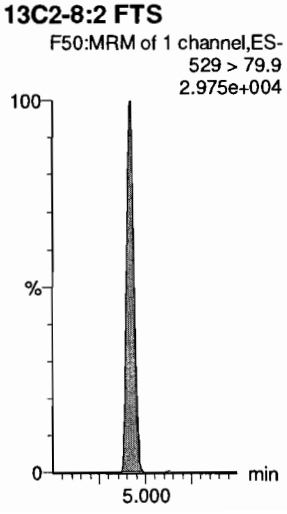
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

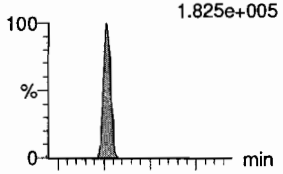


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

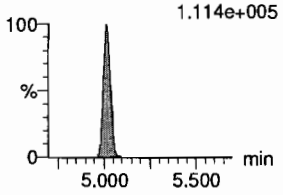
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

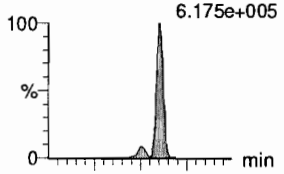
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
1.825e+005



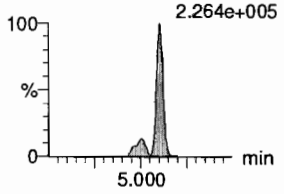
F53:MRM of 2 channels,ES-
549.1 > 99.1
1.114e+005



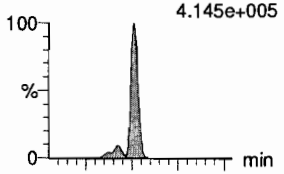
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
6.175e+005



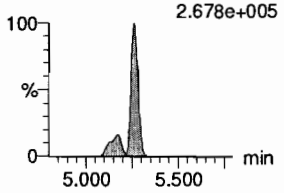
F56:MRM of 2 channels,ES-
570. > 512
2.264e+005



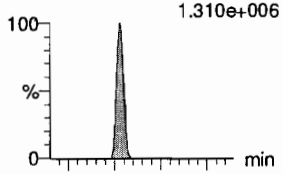
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
4.145e+005



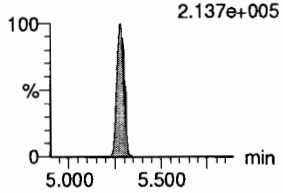
F59:MRM of 2 channels,ES-
584.1 > 526
2.678e+005



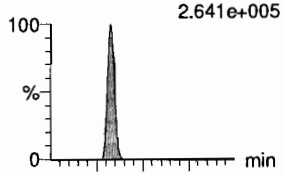
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
1.310e+006



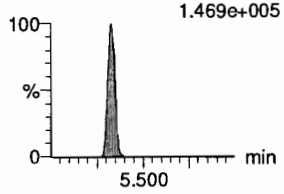
F54:MRM of 2 channels,ES-
563.0 > 269
2.137e+005



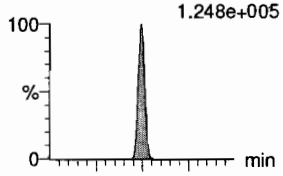
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
2.641e+005



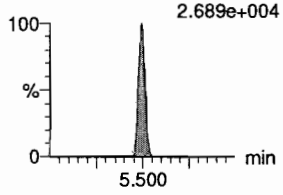
F61:MRM of 2 channels,ES-
598.8 > 98.9
1.469e+005



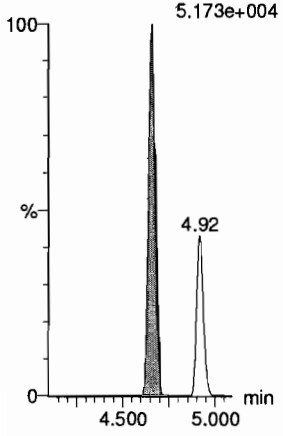
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
1.248e+005



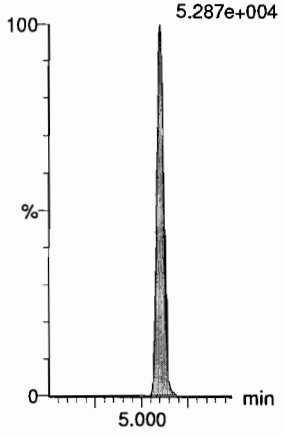
F68:MRM of 2 channels,ES-
632.6 > 450.7
2.689e+004



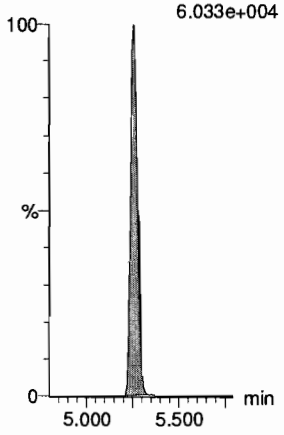
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
5.173e+004



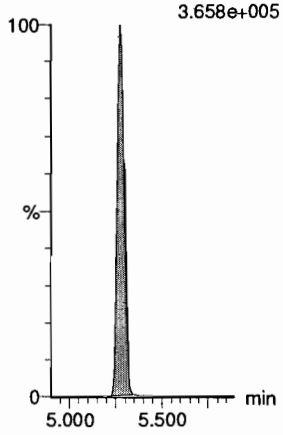
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
5.287e+004



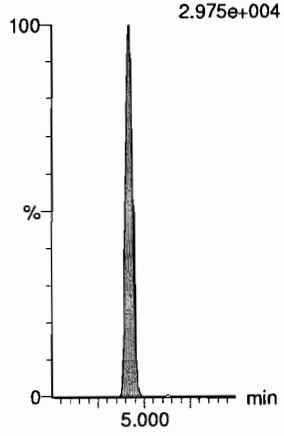
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
6.033e+004



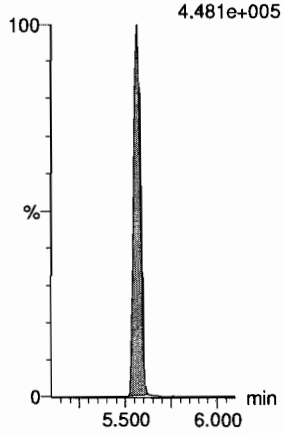
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
3.658e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
2.975e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
4.481e+005

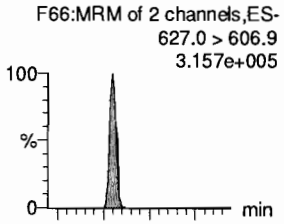


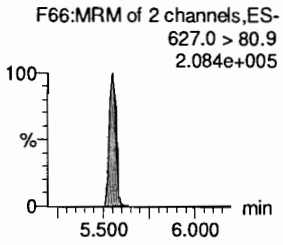
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

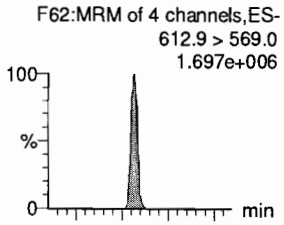
Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

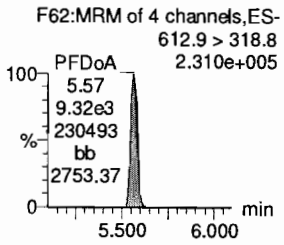
10:2 FTS



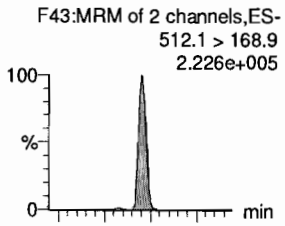


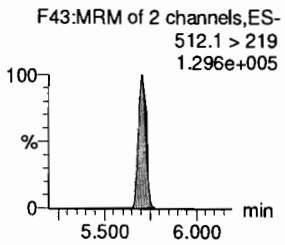
PFDoA



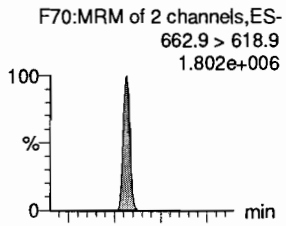


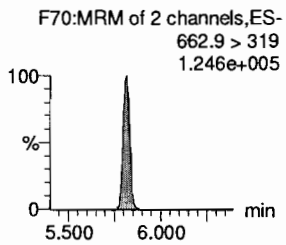
N-MeFOSA



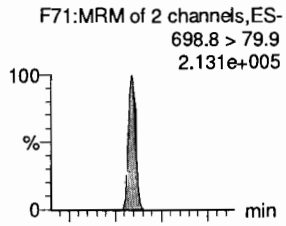


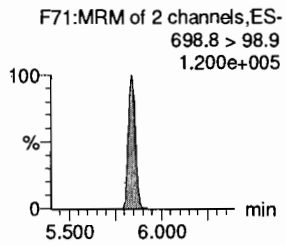
PFTrDA



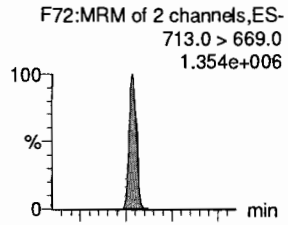


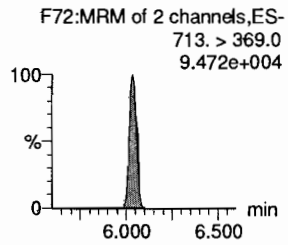
PFDoS



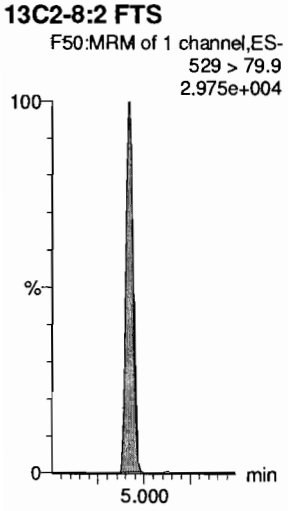


PFTeDA

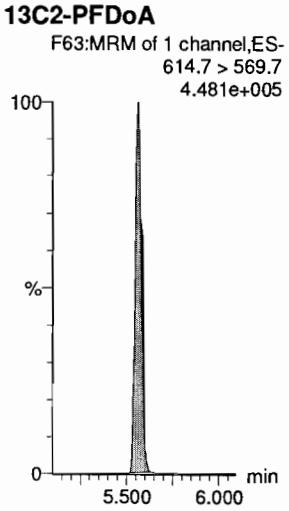




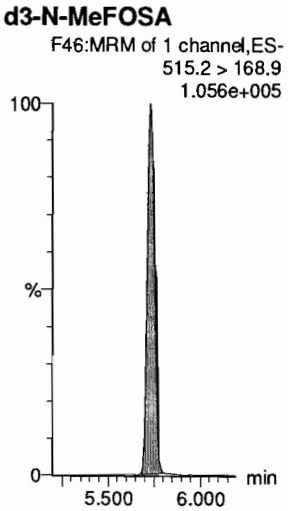
13C2-8:2 FTS



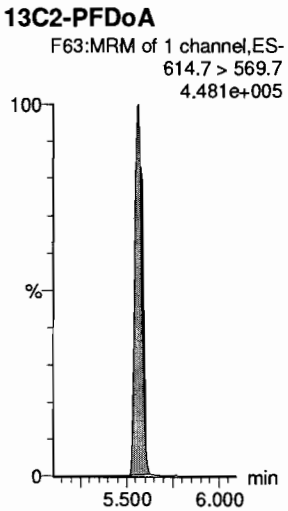
13C2-PFDoA



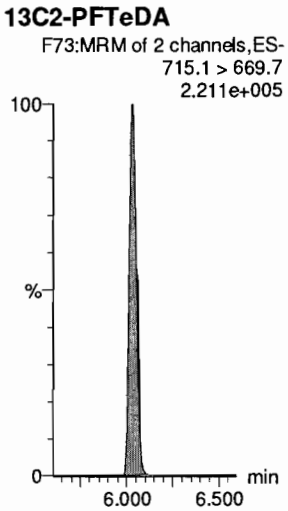
d3-N-MeFOSA



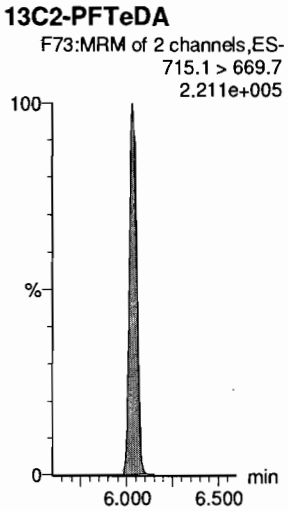
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

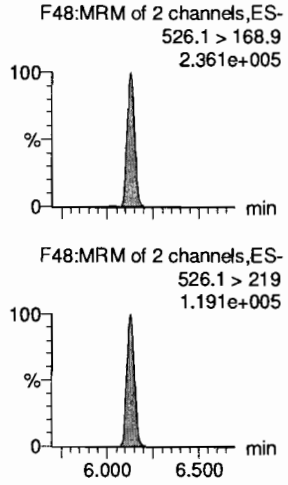


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

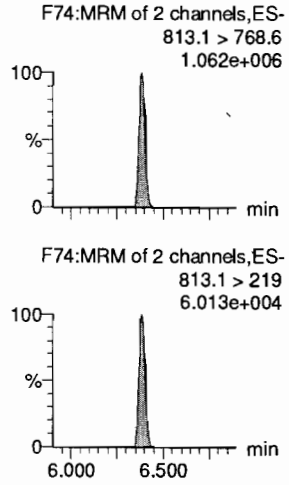
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

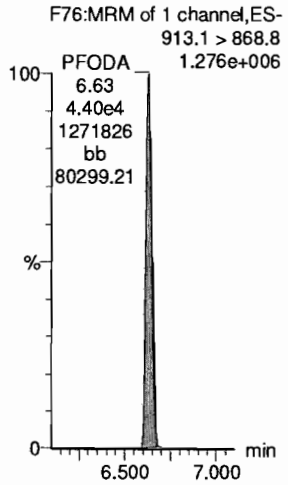
N-EtFOSA



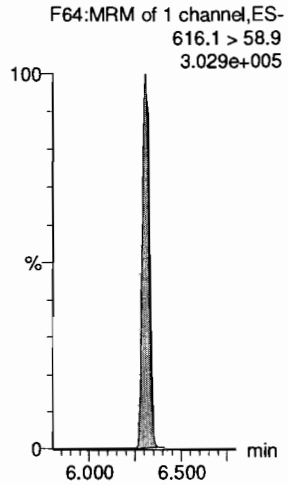
PFHxDA



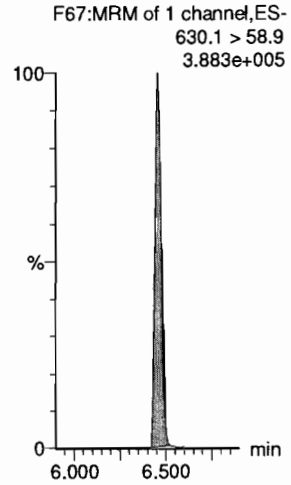
PFODA



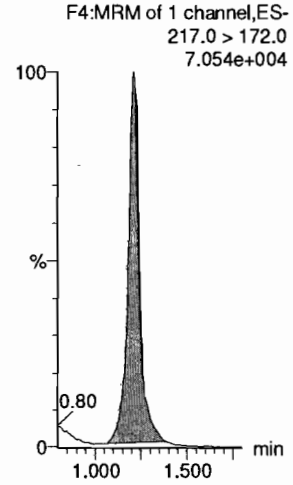
N-MeFOSE



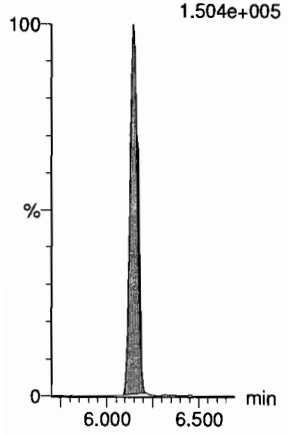
N-EtFOSE



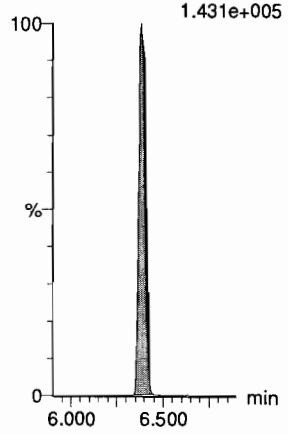
13C4-PFBA



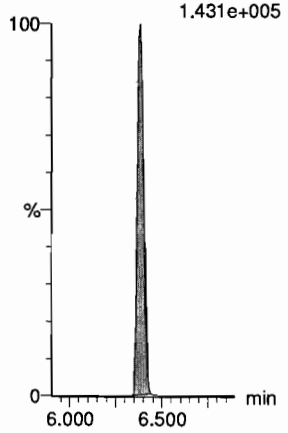
d5-N-ETFOSA



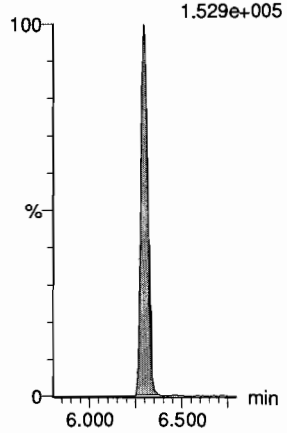
13C2-PFHxDA



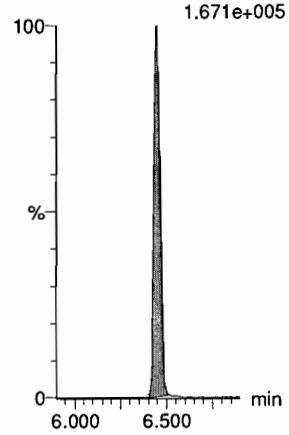
13C2-PFHxDA



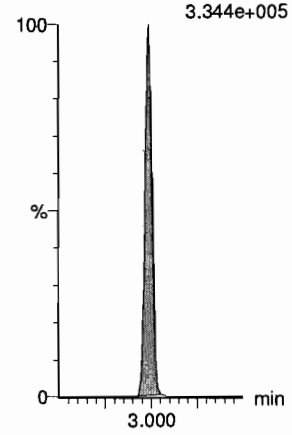
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

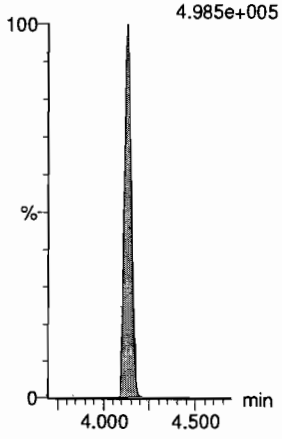


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

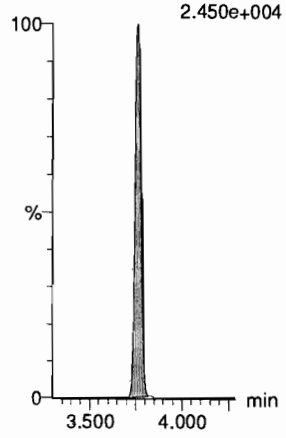
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_12, Date: 10-Jul-2019, Time: 14:47:21, ID: ST190710M2-7 PFC CS4 19G0807, Description: PFC CS4 19G0807

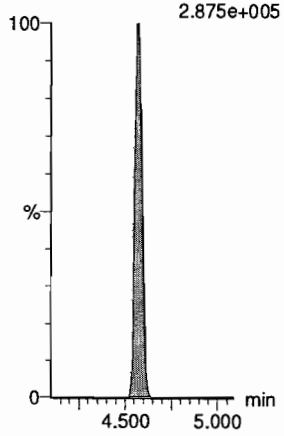
13C8-PFOA



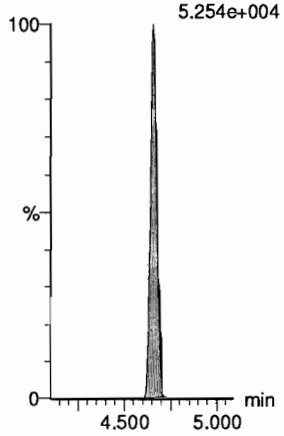
18O2-PFHxS



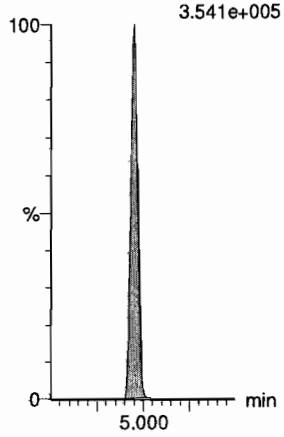
13C9-PFNA



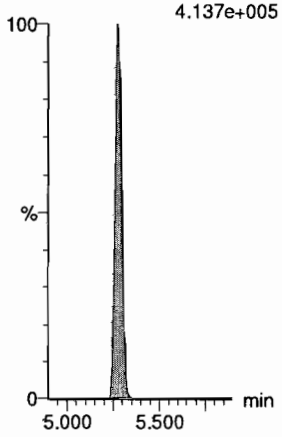
13C4-PFOS



13C6-PFDA



13C7-PFUdA

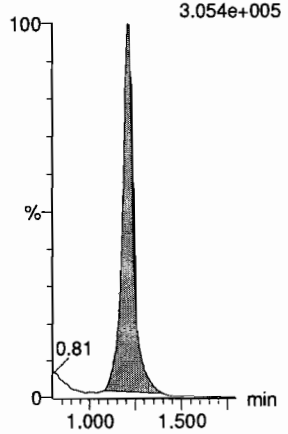


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

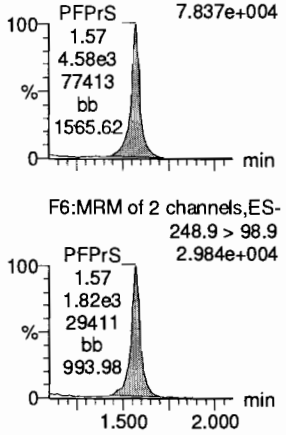
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

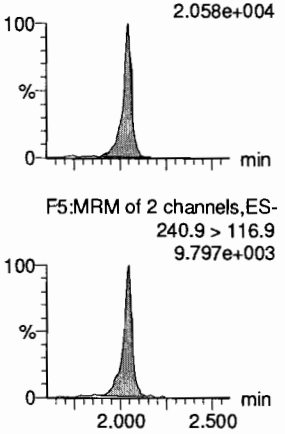
PFBA



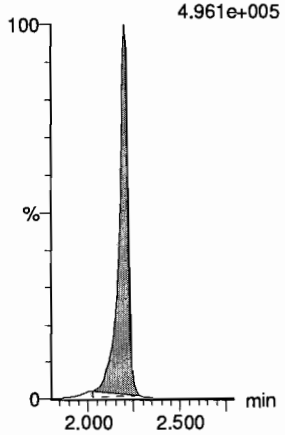
PFPrS



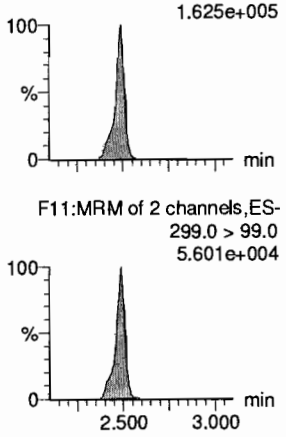
3:3 FTCA



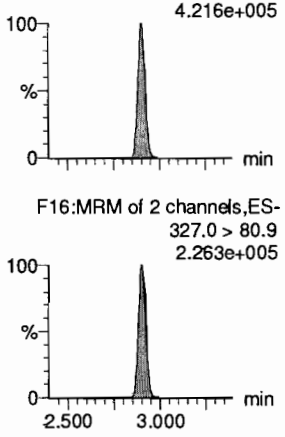
PFPeA



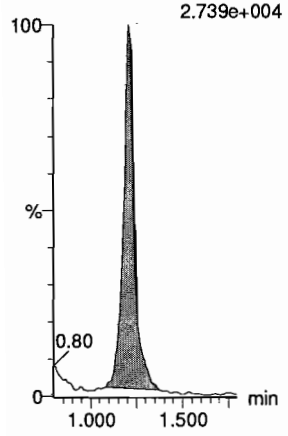
PFBS



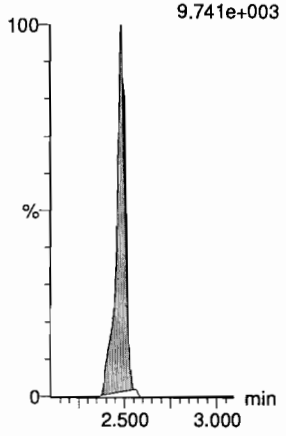
4:2 FTS



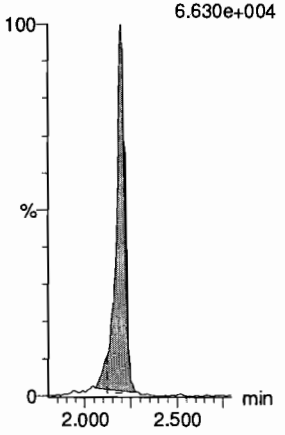
13C3-PFBA



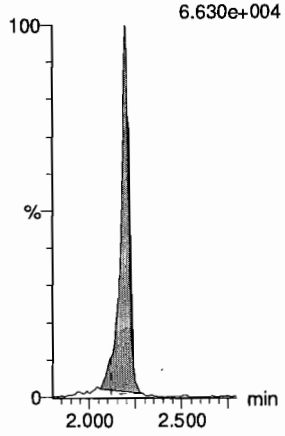
13C3-PFBS



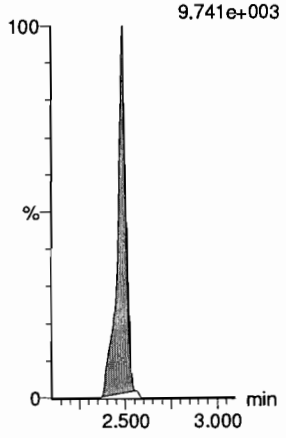
13C3-PFPeA



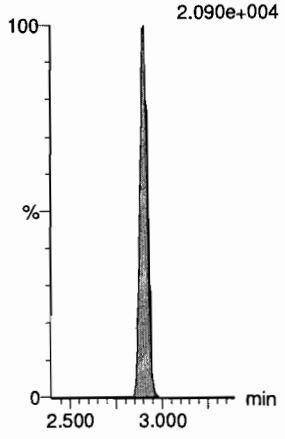
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

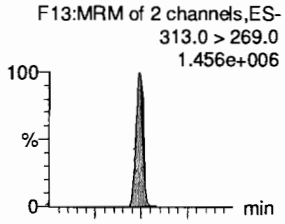


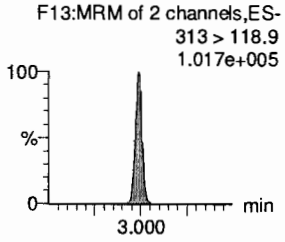
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

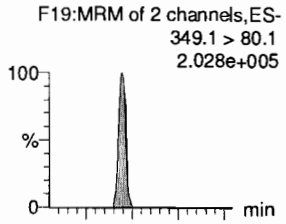
Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

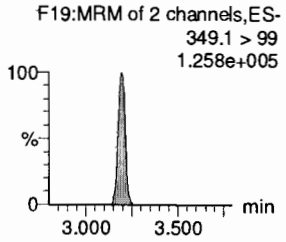
PFHxA



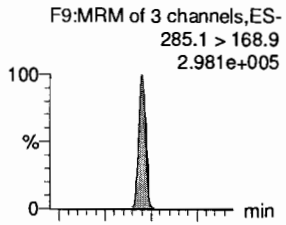


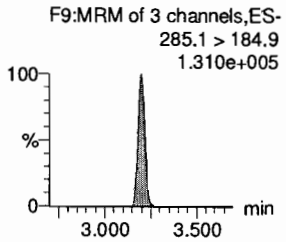
PFPeS



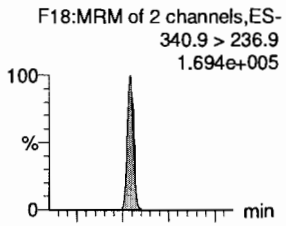


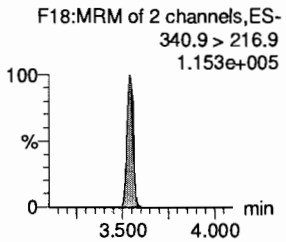
HFPO-DA



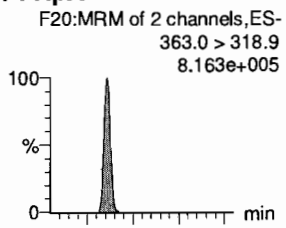


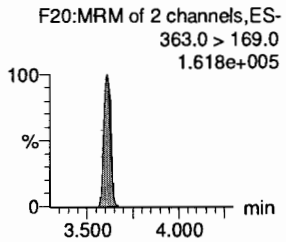
5:3 FTCA



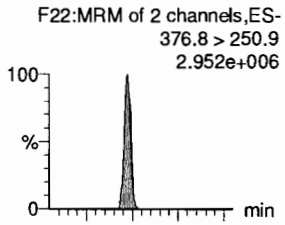


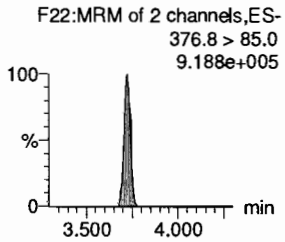
PFHpA



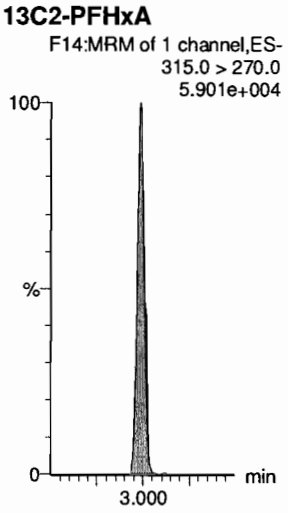


ADONA

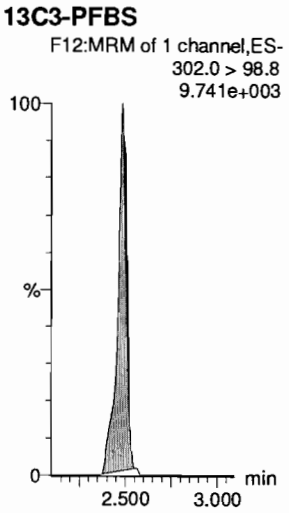




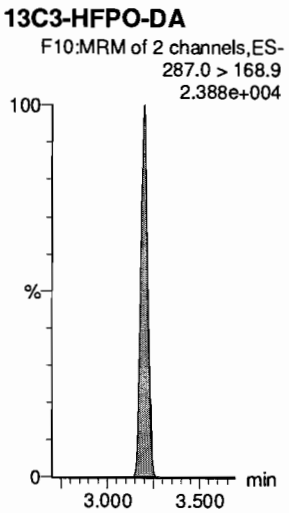
13C2-PFHxA



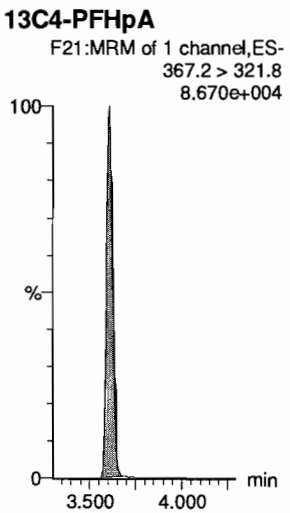
13C3-PFBS



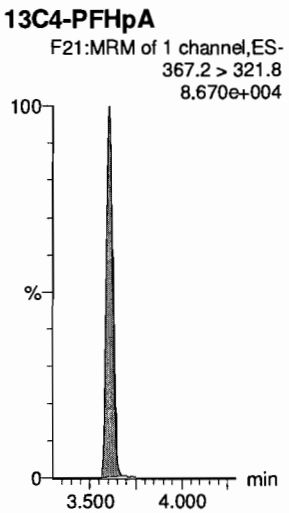
13C3-HFPO-DA



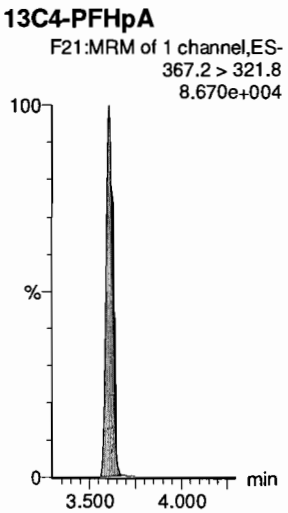
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

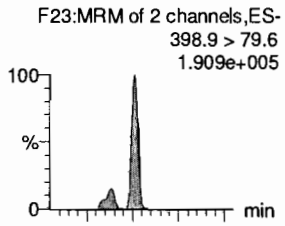


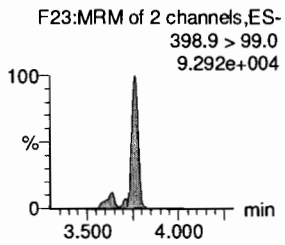
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

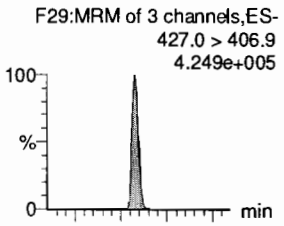
Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

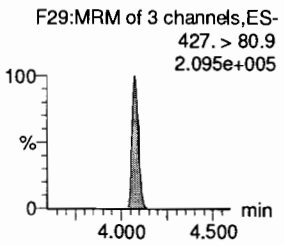
L-PFHxS



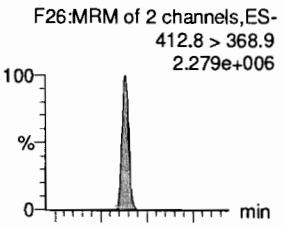


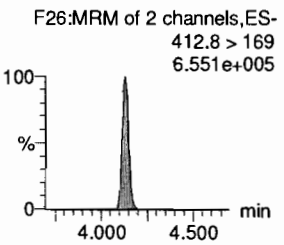
6:2 FTS



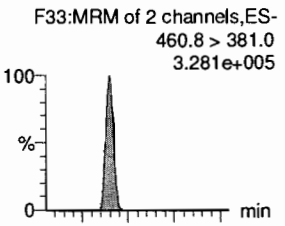


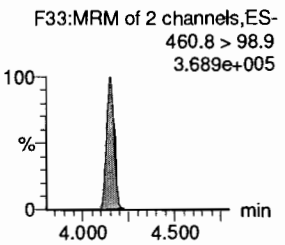
L-PFOA



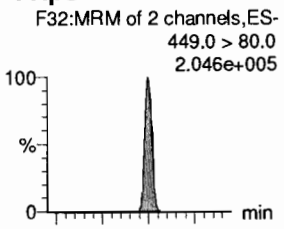


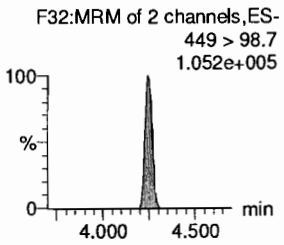
PFEChS



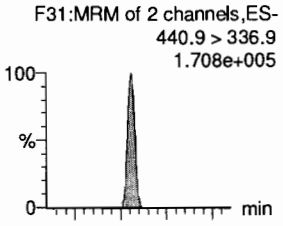


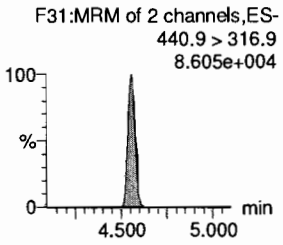
PFHpS



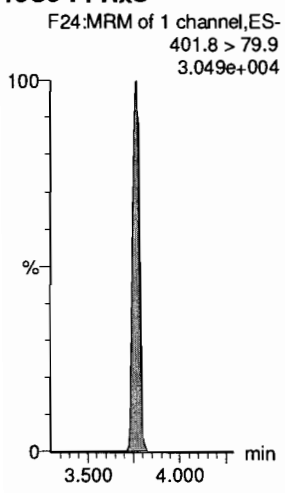


7:3 FTCA

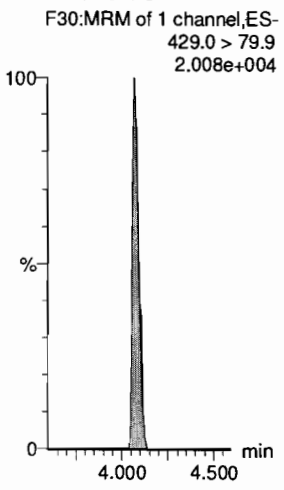




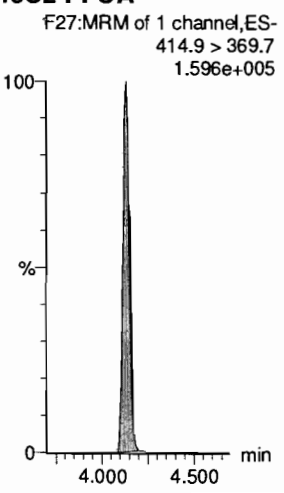
13C3-PFHxS



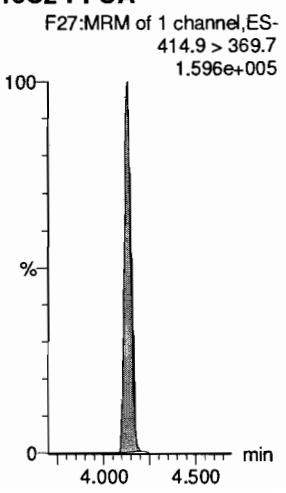
13C2-6:2 FTS



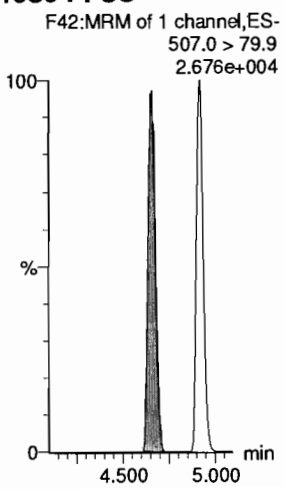
13C2-PFOA



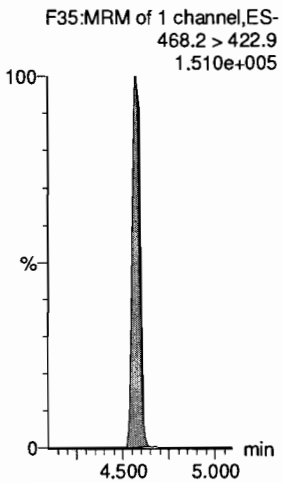
13C2-PFOA



13C8-PFOS



13C5-PFNA

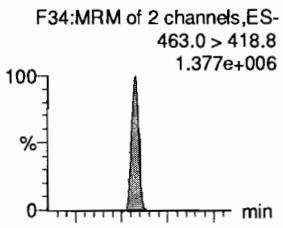


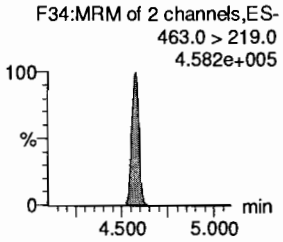
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

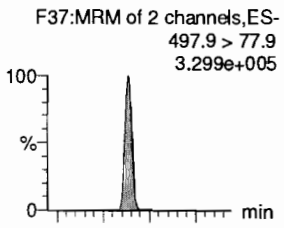
Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

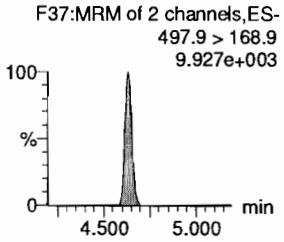
PFNA



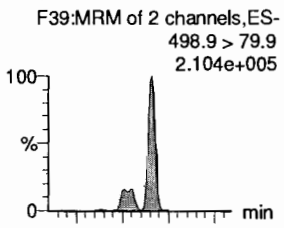


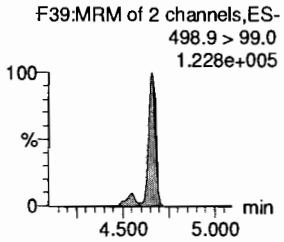
PFOSA



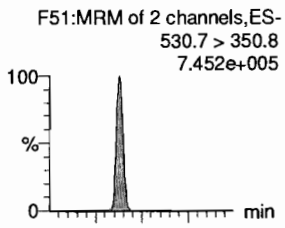


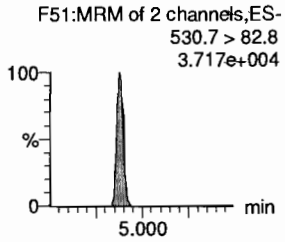
L-PFOS



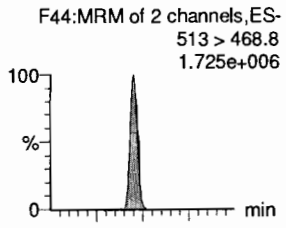


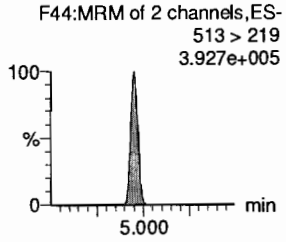
9Cl-PF30NS



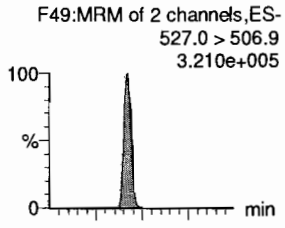


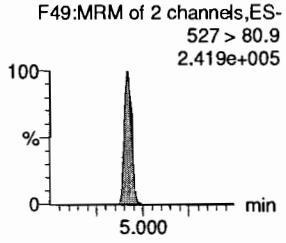
PFDA



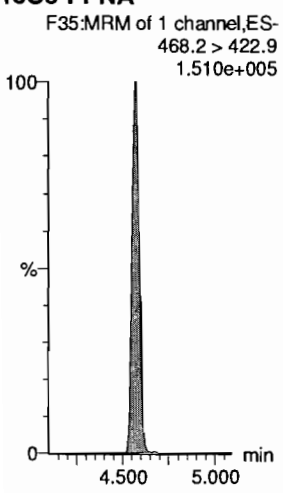


8:2 FTS

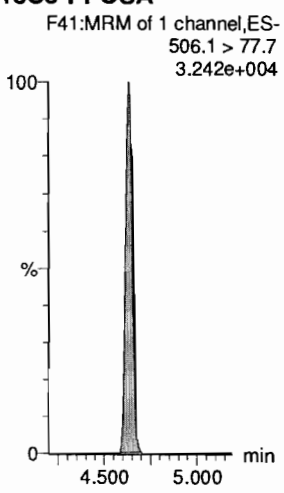




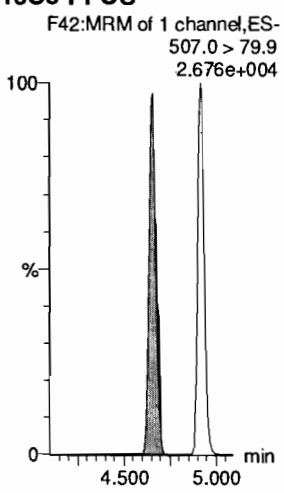
13C5-PFNA



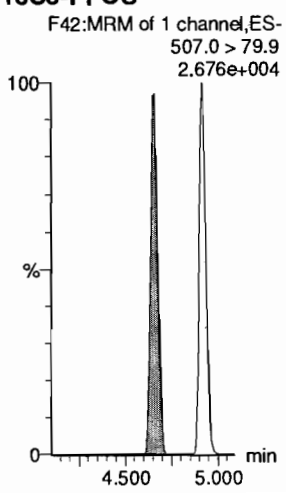
13C8-PFOSA



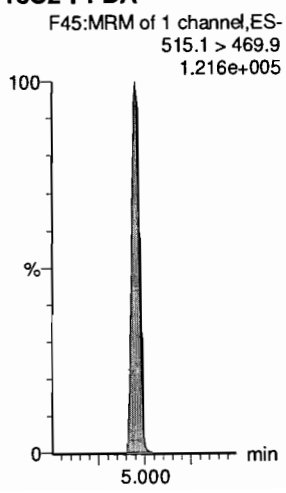
13C8-PFOS



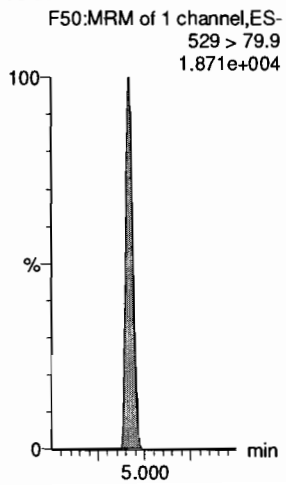
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

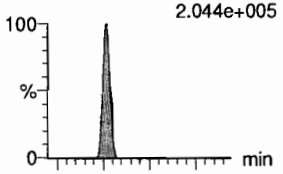


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

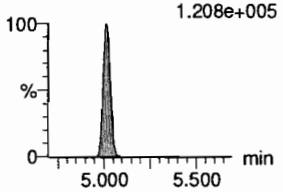
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

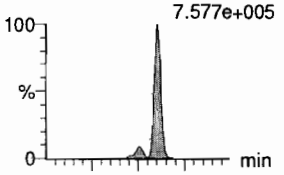
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
2.044e+005



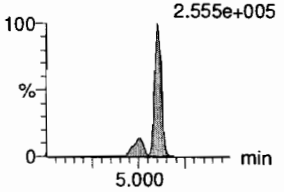
F53:MRM of 2 channels,ES-
549.1 > 99.1
1.208e+005



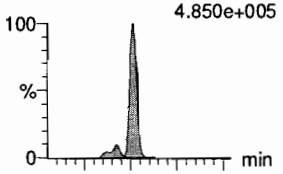
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
7.577e+005



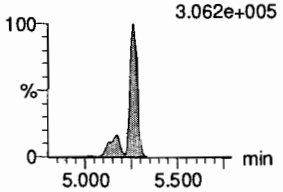
F56:MRM of 2 channels,ES-
570. > 512
2.555e+005



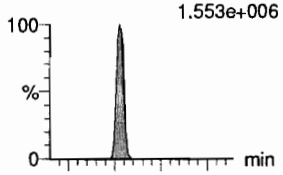
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
4.850e+005



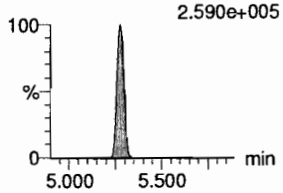
F59:MRM of 2 channels,ES-
584.1 > 526
3.062e+005



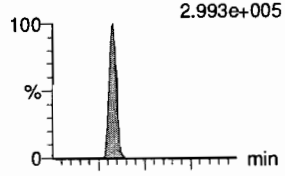
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
1.553e+006



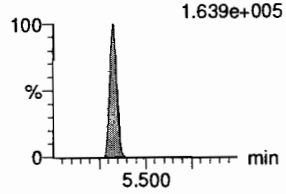
F54:MRM of 2 channels,ES-
563.0 > 269
2.590e+005



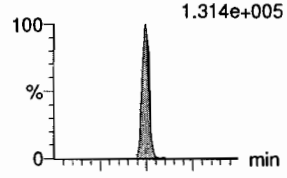
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
2.993e+005



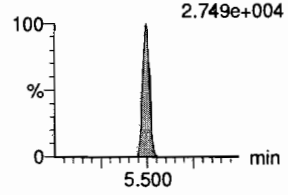
F61:MRM of 2 channels,ES-
598.8 > 98.9
1.639e+005



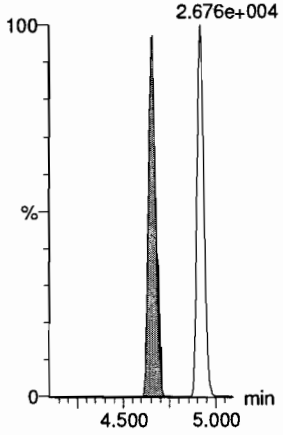
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
1.314e+005



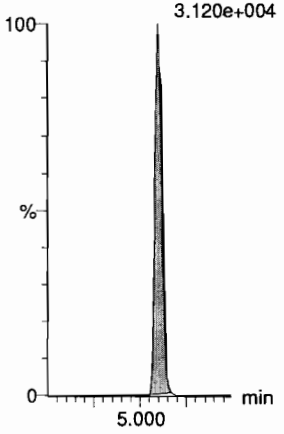
F68:MRM of 2 channels,ES-
632.6 > 450.7
2.749e+004



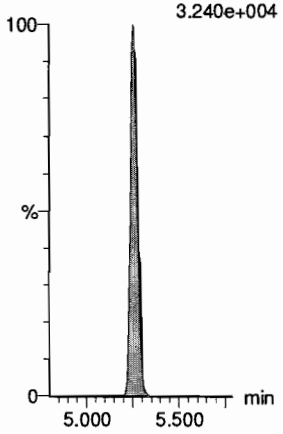
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
2.676e+004



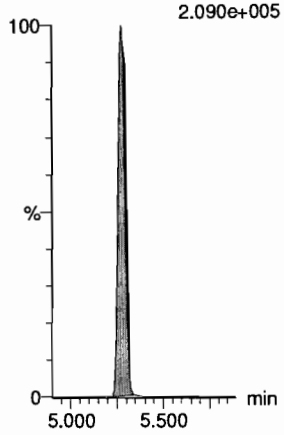
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
3.120e+004



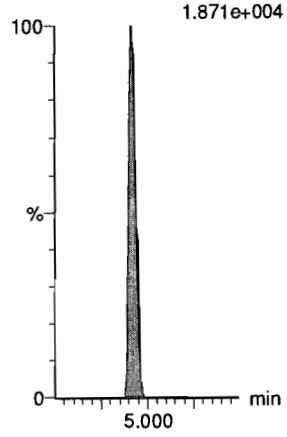
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
3.240e+004



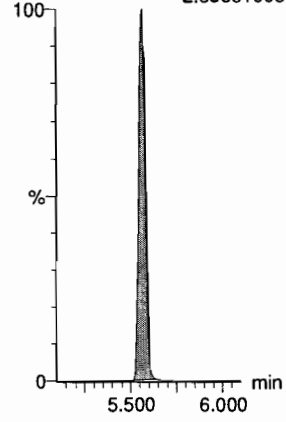
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
2.090e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
1.871e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
2.636e+005

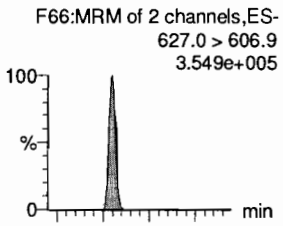


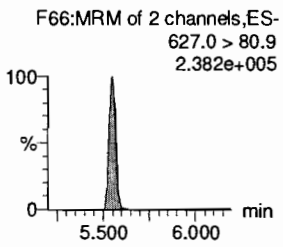
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

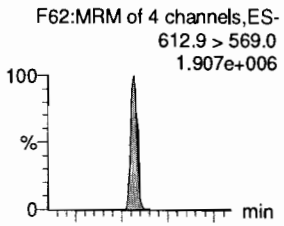
Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

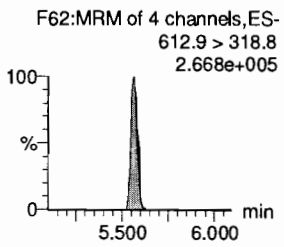
10:2 FTS



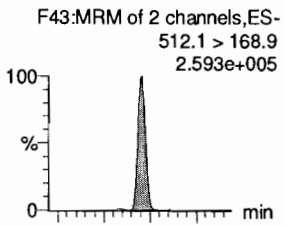


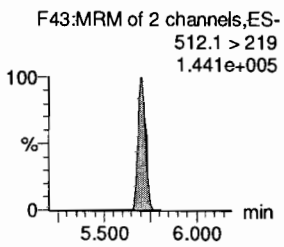
PFDoA



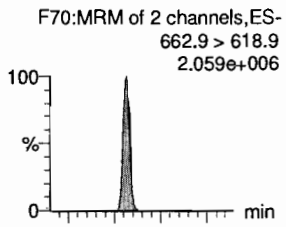


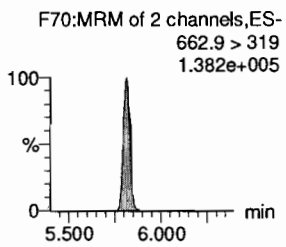
N-MeFOSA



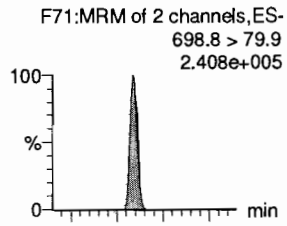


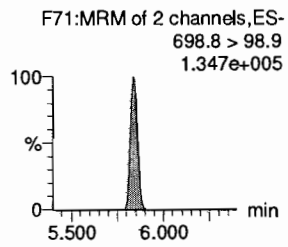
PFTrDA



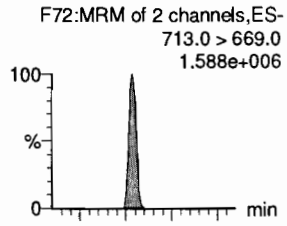


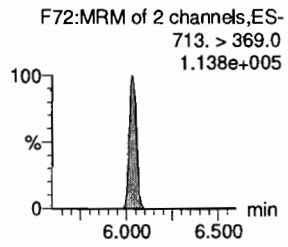
PFDoS



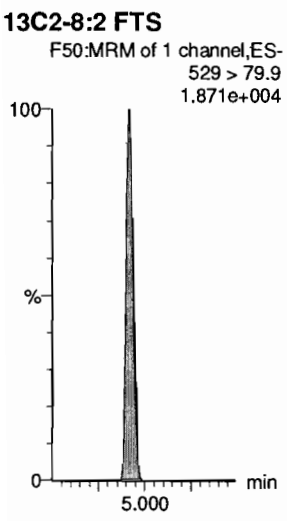


PFTeDA

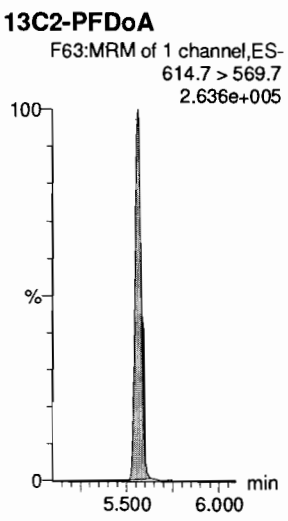




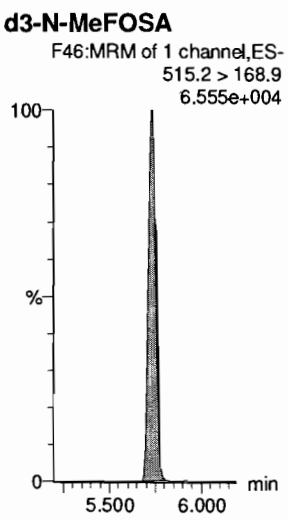
13C2-8:2 FTS



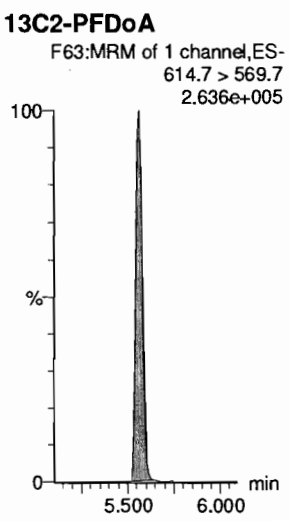
13C2-PFDoA



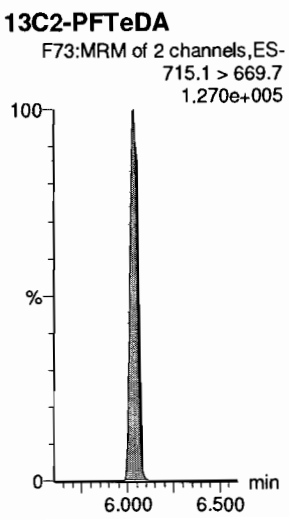
d3-N-MeFOSA



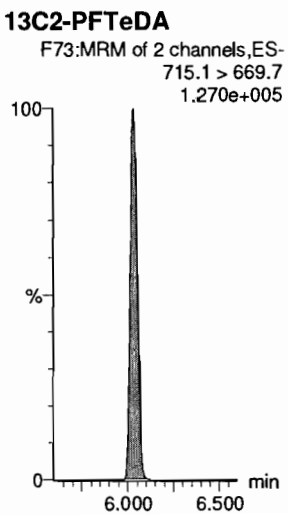
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

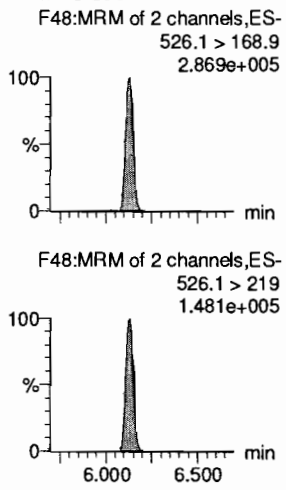


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

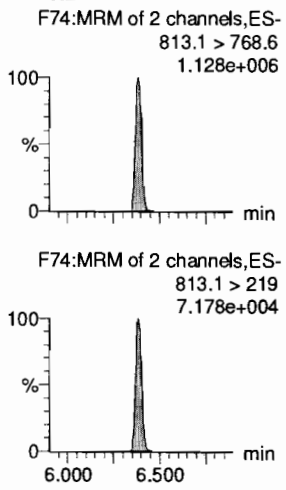
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

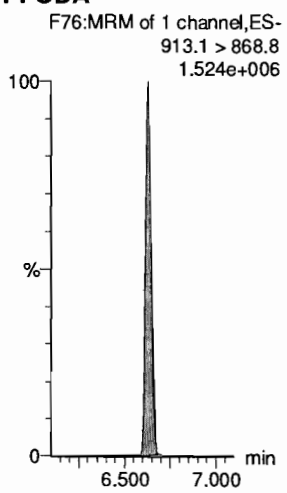
N-EtFOSA



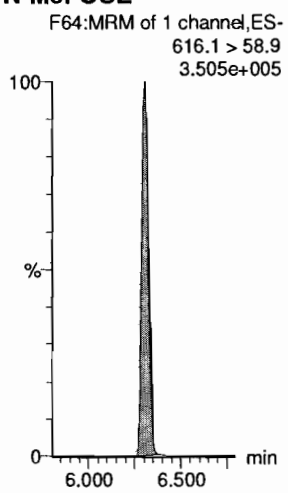
PFHxDA



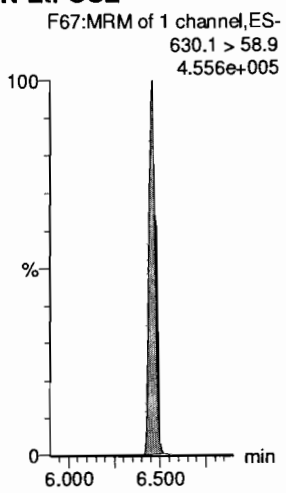
PFODA



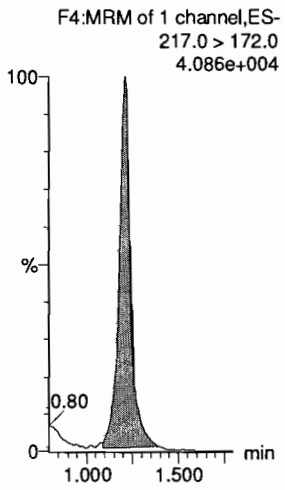
N-MeFOSE



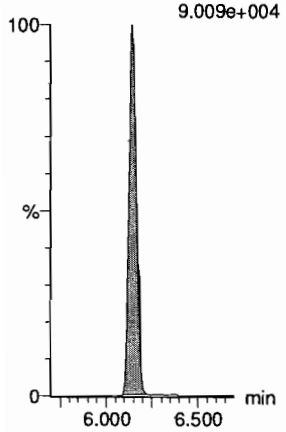
N-EtFOSE



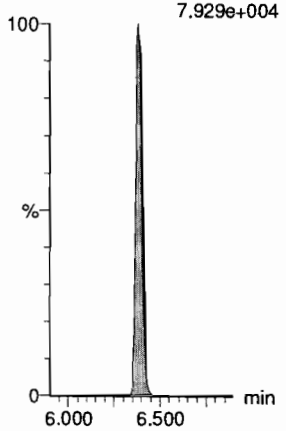
13C4-PFBA



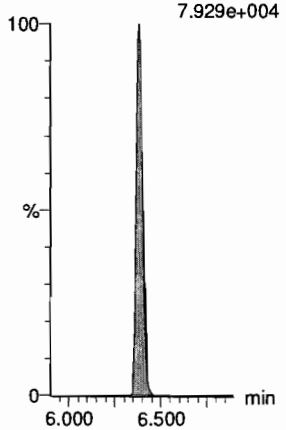
d5-N-ETFOSA



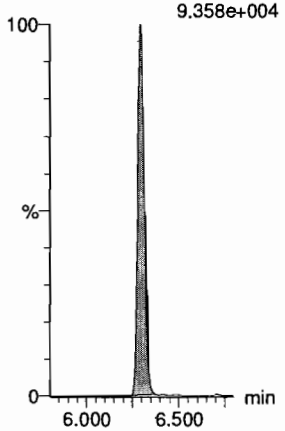
13C2-PFHxDA



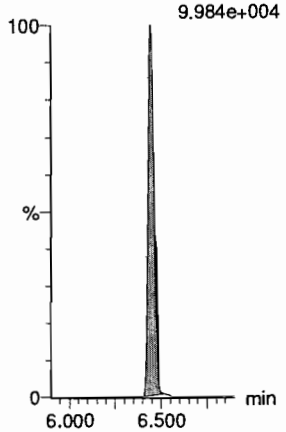
13C2-PFHxDA



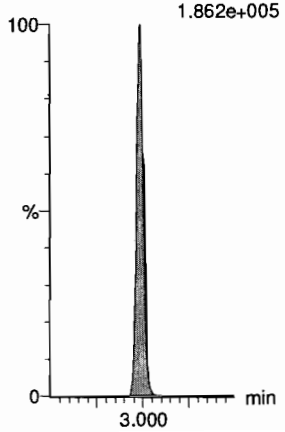
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

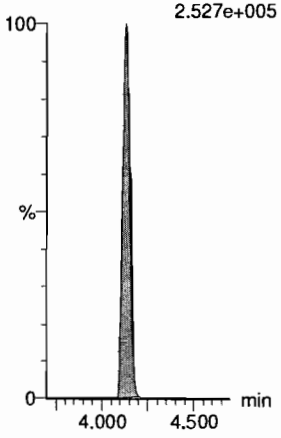


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-CRV.qld

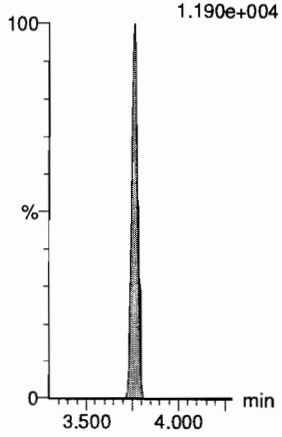
Last Altered: Thursday, July 11, 2019 10:22:28 Pacific Daylight Time
Printed: Thursday, July 11, 2019 10:25:24 Pacific Daylight Time

Name: 190710M2_13, Date: 10-Jul-2019, Time: 14:57:59, ID: ST190710M2-8 PFC CS5 19G0808, Description: PFC CS5 19G0808

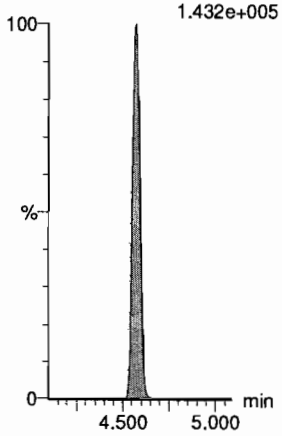
13C8-PFOA
F28:MRM of 1 channel,ES-
420.9 > 376.0
2.527e+005



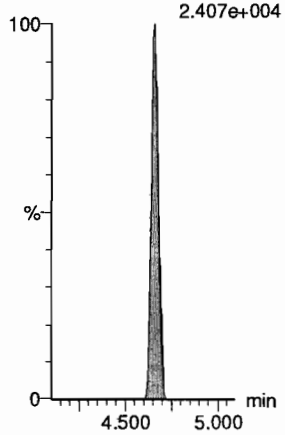
18O2-PFHxS
F25:MRM of 1 channel,ES-
403.0 > 102.6
1.190e+004



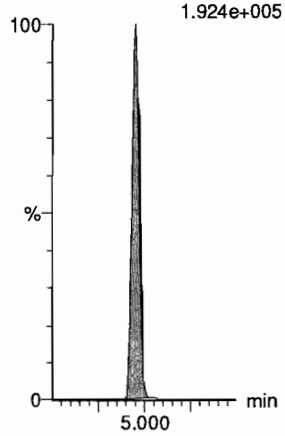
13C9-PFNA
F36:MRM of 1 channel,ES-
472.2 > 426.9
1.432e+005



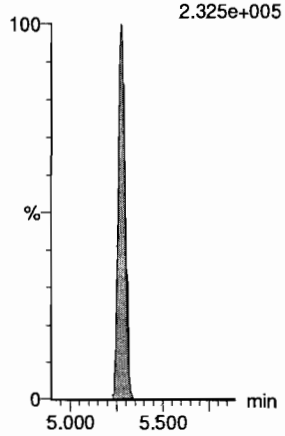
13C4-PFOS
F40:MRM of 1 channel,ES-
503 > 79.9
2.407e+004



13C6-PFDA
F47:MRM of 1 channel,ES-
519.1 > 473.7
1.924e+005



13C7-PFUdA
F57:MRM of 1 channel,ES-
570.1 > 524.8
2.325e+005



Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-ICV.qld

Last Altered: Thursday, July 11, 2019 11:22:53 Pacific Daylight Time
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6 Not in ICV. am 7/11/19

JK2 7/11/19

Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	1668.462	1979.732	1.00	1.22	10.535	7.4	74.3	NO		
2	2	PFPrS	248.9 > 79.9		594.434	1.00				(A)	NO		
3	3	3:3 FTCA	240.9 > 176.9		3999.152	1.00					NO		
4	4	PFPeA	263.1 > 218.9	2299.475	3999.152	1.00	2.20	7.187	7.6	75.6	NO		
5	5	PFBS	299.0 > 79.7	684.593	594.434	1.00	2.49	14.396	6.3	71.4	NO	3.133	NO
6	6	4:2 FTS	327.0 > 306.9	1799.142	1153.121	1.00	2.90	19.503	8.0	85.4	NO	1.947	NO
7	47	13C3-PFBA	216.1 > 171.8	1979.732	3078.759	1.00	1.21	8.038	12.4	98.9	NO		
8	49	13C3-PFBS	302.0 > 98.8	594.434	609.822	1.00	2.49	12.185	11.8	94.2	NO		
9	48	13C3-PFPeA	266.0 > 221.8	3999.152	9996.682	1.00	2.20	5.001	12.3	98.1	NO		
10	48	13C3-PFPeA	266.0 > 221.8	3999.152	9996.682	1.00	2.20	5.001	12.3	98.1	NO		
11	49	13C3-PFBS	302.0 > 98.8	594.434	609.822	1.00	2.49	12.185	11.8	94.2	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1153.121	609.822	1.00	2.90	23.636	10.6	84.5	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	5535.548	3122.938	1.00	2.99	8.863	7.6	76.3	NO	13.636	NO
15	8	PFPeS	349.1>80.1	722.210	594.434	1.00	3.19	15.187	7.1	71.2	NO	1.614	NO
16	9	HFPO-DA	285.1 > 168.9		1267.019	1.00				(B)	NO		
17	10	5:3 FTCA	340.9 > 236.9		3749.774	1.00					NO		
18	11	PFHpA	363.0 > 318.9	2999.219	3749.774	1.00	3.61	9.998	8.2	81.5	NO	5.748	NO
19	12	ADONA	376.8 > 250.9		3749.774	1.00				(4)	NO		
20	52	13C2-PFHxA	315.0 > 270.0	3122.938	9996.682	1.00	2.99	3.905	4.9	98.6	NO		
21	49	13C3-PFBS	302.0 > 98.8	594.434	609.822	1.00	2.49	12.185	11.8	94.2	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1267.019	9996.682	1.00	3.20	1.584	5.2	103.4	NO		
23	53	13C4-PFHpA	367.2 > 321.8	3749.774	9996.682	1.00	3.61	4.689	12.0	95.9	NO		
24	53	13C4-PFHpA	367.2 > 321.8	3749.774	9996.682	1.00	3.61	4.689	12.0	95.9	NO		
25	53	13C4-PFHpA	367.2 > 321.8	3749.774	9996.682	1.00	3.61	4.689	12.0	95.9	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	659.497	1329.815	1.00	3.76	6.199	7.5	81.7	NO	2.007	NO
28	15	6:2 FTS	427.0 > 406.9	1711.603	977.757	1.00	4.07	21.882	7.5	78.8	NO	2.088	NO
29	16	L-PFOA	412.8 > 368.9	8889.458	8278.422	1.00	4.13	13.423	7.2	72.4	NO	3.467	NO
30	18	PFecHS	460.8 > 381.0		8278.422	1.00				(6)	NO		
31	19	PFHpS	449.0 > 80.0	767.485	1319.405	1.00	4.25	7.271	8.4	87.7	NO	1.838	NO
32	20	7:3 FTCA	440.9 > 336.9		8161.165	1.00				(A)	NO		
33	54	13C3-PFHxS	401.8 > 79.9	1329.815	609.822	1.00	3.76	27.258	10.7	85.6	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	977.757	1316.567	1.00	4.07	9.283	12.6	100.9	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-ICV.qld

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Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
35	58	13C2-PFOA	414.9 > 369.7	8278.422	13940.201	1.00	4.13	7.423	13.2	105.2	NO		
36	58	13C2-PFOA	414.9 > 369.7	8278.422	13940.201	1.00	4.13	7.423	13.2	105.2	NO		
37	59	13C8-PFOS	507.0 > 79.9	1319.405	1316.567	1.00	4.66	12.527	11.8	94.5	NO		
38	56	13C5-PFNA	468.2 > 422.9	8161.165	8020.511	1.00	4.57	12.719	12.9	103.5	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	5668.871	8161.165	1.00	4.57	8.683	7.9	78.9	NO	2.991	NO
41	22	PFOSA	497.9 > 77.9	1183.944	1490.120	1.00	4.64	9.932	7.8	77.9	NO	47.923	YES
42	23	L-PFOS	498.9 > 79.9	1021.768	1319.405	1.00	4.66	9.680	7.8	84.0	NO	2.362	NO
43	25	9Cl-PF30NS	530.7 > 350.8		1319.405	1.00				(B)	NO		
44	26	PFDA	513 > 468.8	6402.301	6480.793	1.00	4.95	12.349	7.4	74.5	NO	4.349	NO
45	27	8:2 FTS	527.0 > 506.9	1172.854	885.406	1.00	4.92	16.558	7.4	76.6	NO	1.361	NO
46	56	13C5-PFNA	468.2 > 422.9	8161.165	8020.511	1.00	4.57	12.719	12.9	103.5	NO		
47	57	13C8-PFOSA	506.1 > 77.7	1490.120	12096.798	1.00	4.63	1.540	11.8	94.6	NO		
48	59	13C8-PFOS	507.0 > 79.9	1319.405	1316.567	1.00	4.66	12.527	11.8	94.5	NO		
49	59	13C8-PFOS	507.0 > 79.9	1319.405	1316.567	1.00	4.66	12.527	11.8	94.5	NO		
50	60	13C2-PFDA	515.1 > 469.9	6480.793	10100.407	1.00	4.95	8.020	12.1	96.9	NO		
51	61	13C2-8:2 FTS	529 > 79.9	885.406	1316.567	1.00	4.92	8.406	12.1	96.7	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	768.594	1319.405	1.00	5.01	7.282	8.4	83.5	NO	1.839	NO
54	29	L-MeFOSAA	570 > 419	3409.469	1586.602	1.00	5.10	26.861	9.0	90.1	NO	3.233	NO
55	31	L-EtFOSAA	584.1 > 419	2583.433	1652.211	1.00	5.26	19.545	9.9	98.7	NO	1.462	NO
56	33	PFUdA	563.0 > 518.9	5771.112	10913.939	1.00	5.28	6.610	7.1	70.9	NO	5.946	NO
57	34	PFDS	598.8 > 79.9	966.503	885.406	1.00	5.32	13.645	6.8	70.5	NO	1.813	NO
58	35	11Cl-PF30UdS	632.6 > 452.7		12242.979	1.00				(B)	NO		
59	59	13C8-PFOS	507.0 > 79.9	1319.405	1316.567	1.00	4.66	12.527	11.8	94.5	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1586.602	12096.798	1.00	5.10	1.639	12.7	101.6	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1652.211	12096.798	1.00	5.26	1.707	11.6	92.7	NO		
62	63	13C2-PFUdA	565 > 519.8	10913.939	12096.798	1.00	5.28	11.278	13.2	105.3	NO		
63	61	13C2-8:2 FTS	529 > 79.9	885.406	1316.567	1.00	4.92	8.406	12.1	96.7	NO		
64	65	13C2-PFDoA	614.7 > 569.7	12242.979	10100.407	1.00	5.56	15.152	12.3	98.6	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		885.406	1.00				(B)	NO		
67	37	PFDoA	612.9 > 569.0	6942.080	12242.979	1.00	5.56	7.088	7.4	74.3	NO	6.841	NO
68	38	N-MeFOSA	512.1 > 168.9		2961.543	1.00				(B)	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-ICV.qld

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Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
69	39	PFTrDA	662.9 > 618.9	7759.583	12242.979	1.00	5.82	7.922	7.5	74.8	NO	13.911	NO
70	40	PFDoS	698.8 > 79.9		6413.826	1.00					NO		
71	41	PFTeDA	713.0 > 669.0	5451.753	6413.826	1.00	6.03	10.625	7.1	71.0	NO	14.504	NO
72	65	13C2-PFDoA	614.7 > 569.7	12242.979	10100.407	1.00	5.56	15.152	12.3	98.6	NO		
73	65	13C2-PFDoA	614.7 > 569.7	12242.979	10100.407	1.00	5.56	15.152	12.3	98.6	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	2961.543	12096.798	1.00	5.73	3.060	138.1	92.1	NO		
75	65	13C2-PFDoA	614.7 > 569.7	12242.979	10100.407	1.00	5.56	15.152	12.3	98.6	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	6413.826	12096.798	1.00	6.03	6.628	13.0	103.7	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	6413.826	12096.798	1.00	6.03	6.628	13.0	103.7	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		4532.070	1.00					NO		
80	43	PFHxDA	813.1 > 768.6		3496.733	1.00					NO		
81	44	PFODA	913.1 > 868.8		3496.733	1.00					NO		
82	45	N-MeFOSE	616.1 > 58.9		4091.928	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		3846.295	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	3078.759	3078.759	1.00	1.21	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	4532.070	12096.798	1.00	6.15	4.683	150.3	100.2	NO		
86	69	13C2-PFHxDA	815 > 769.7	3496.733	12096.798	1.00	6.39	3.613	4.9	98.3	NO		
87	69	13C2-PFHxDA	815 > 769.7	3496.733	12096.798	1.00	6.39	3.613	4.9	98.3	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	4091.928	12096.798	1.00	6.30	4.228	151.3	100.8	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	3846.295	12096.798	1.00	6.45	3.974	144.5	96.3	NO		
90	73	13C5-PFHxA	318.0 > 272.9	9996.682	9996.682	1.00	2.99	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	13940.201	13940.201	1.00	4.13	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	609.822	609.822	1.00	3.76	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	8020.511	8020.511	1.00	4.57	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1316.567	1316.567	1.00	4.66	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	10100.407	10100.407	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	12096.798	12096.798	1.00	5.28	12.500	12.5	100.0	NO		

Vista Analytical Laboratory

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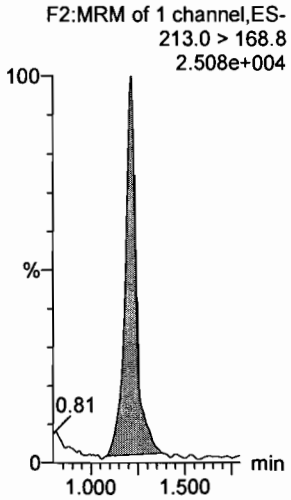
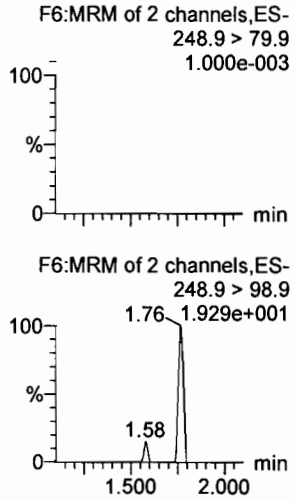
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019_ICV.mdb 11 Jul 2019 11:19:41
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

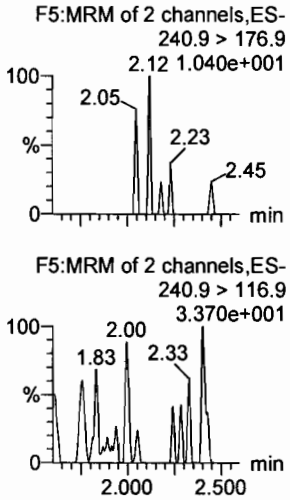
PFBA



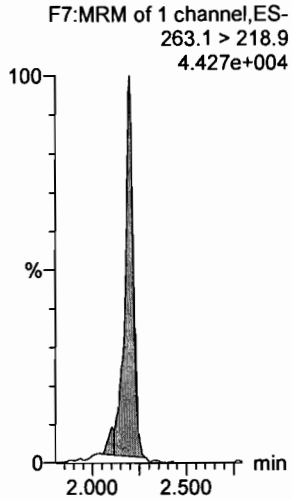
PFPrS



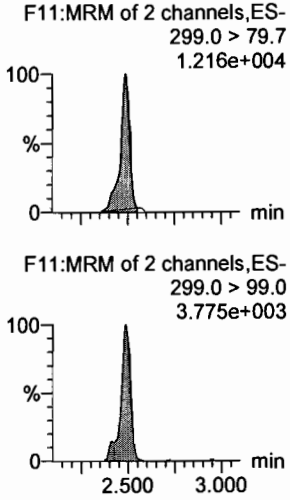
3:3 FTCA



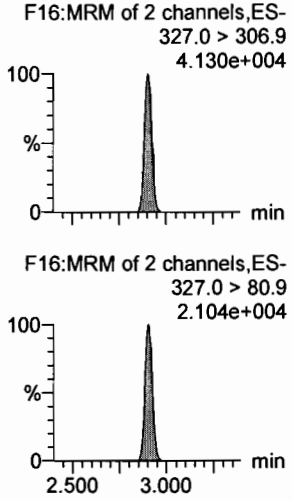
PFPeA



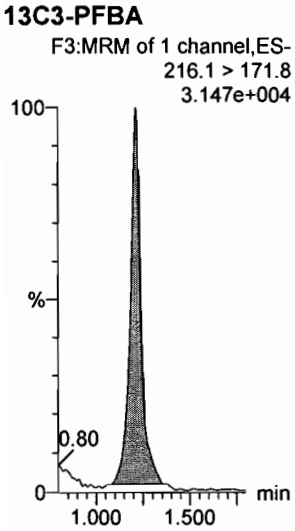
PFBS



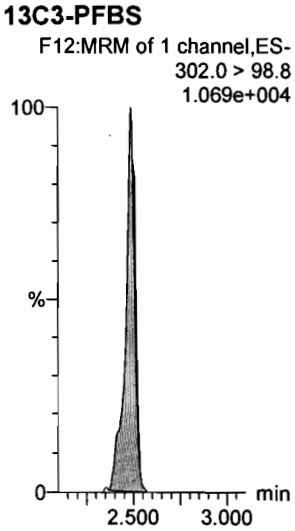
4:2 FTS



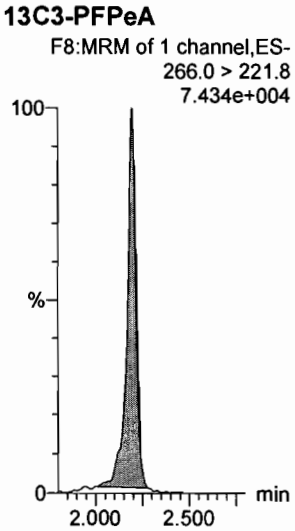
13C3-PFBA



13C3-PFBS



13C3-PFPeA



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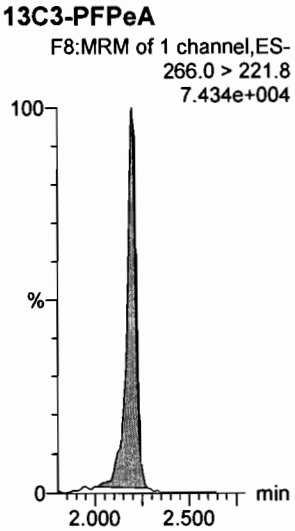

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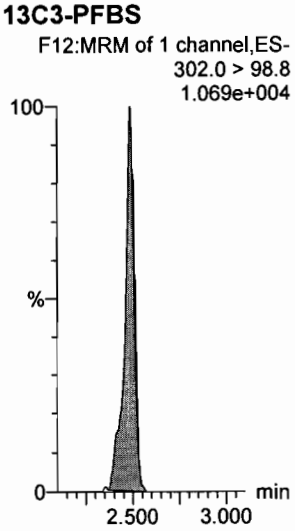
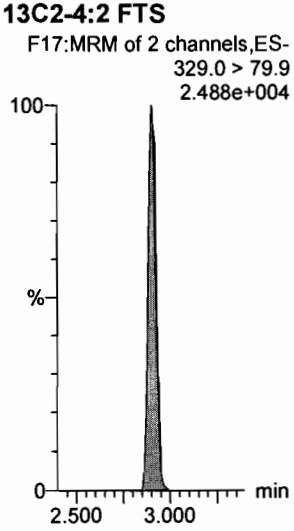


13C2-4:2 FTS



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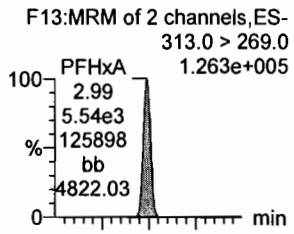
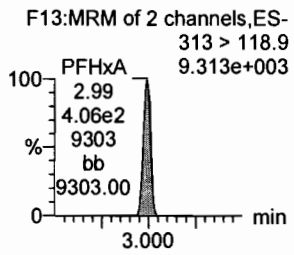
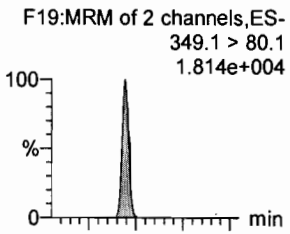
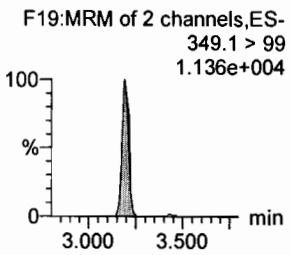
PFHxA



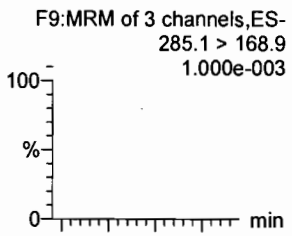


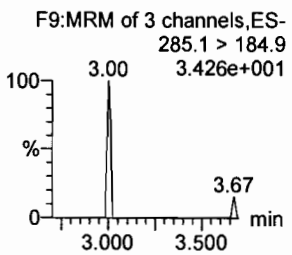
PFPeS



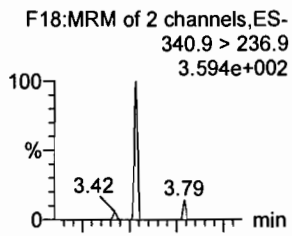


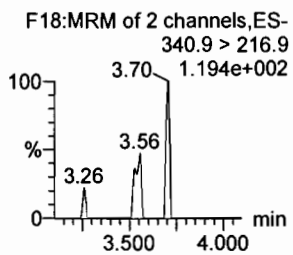
HFPO-DA



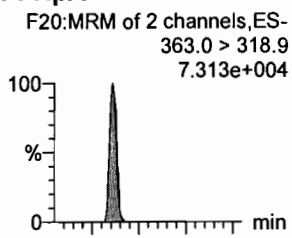


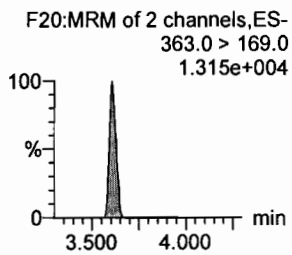
5:3 FTCA



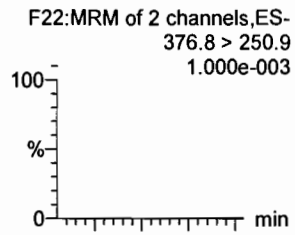


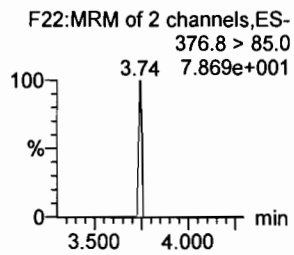
PFHpA



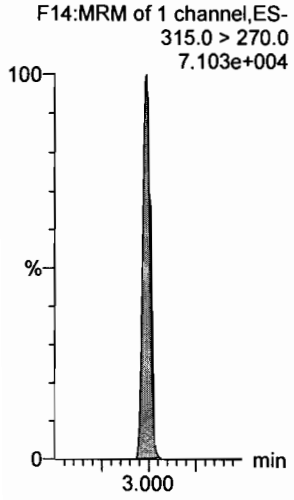


ADONA

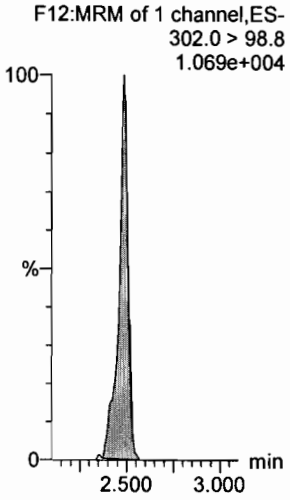




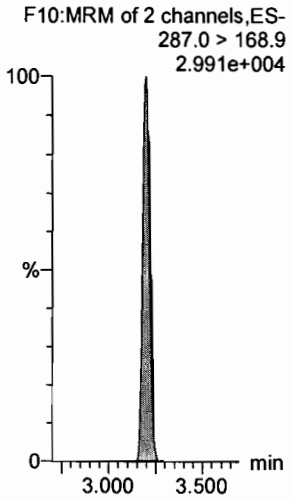
13C2-PFHxA



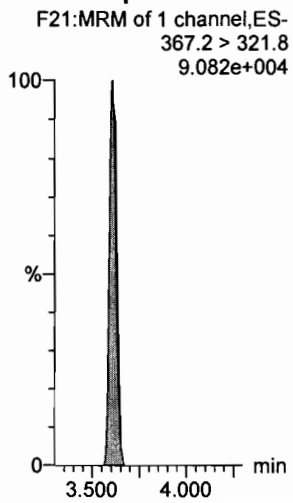
13C3-PFBS



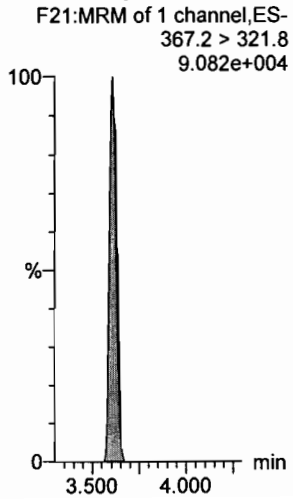
13C3-HFPO-DA



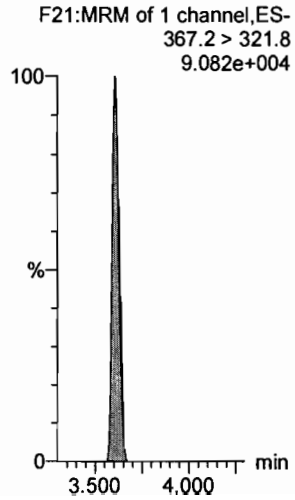
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA



Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-ICV.qld

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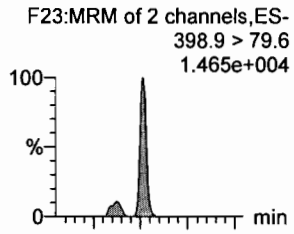
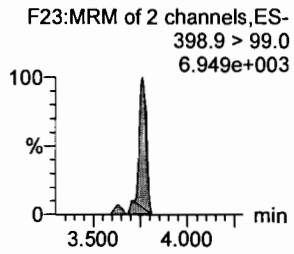
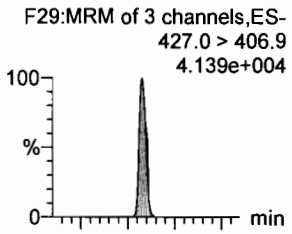
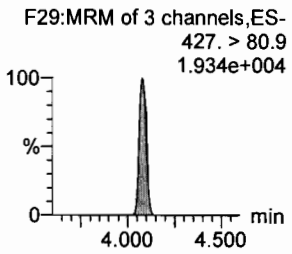
L-PFHxS



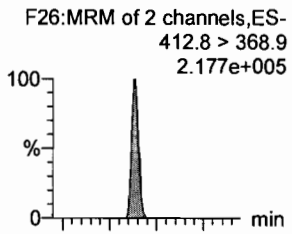


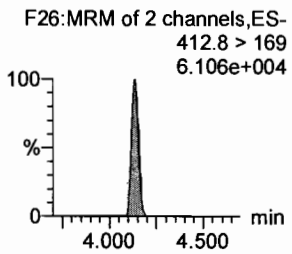
6:2 FTS





L-PFOA





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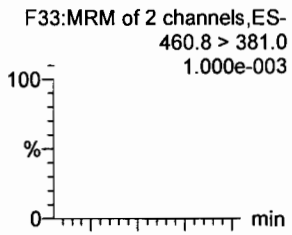

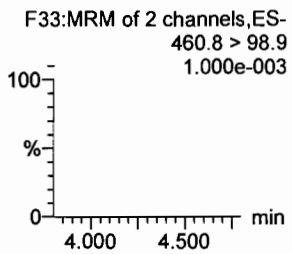

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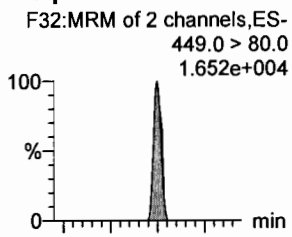
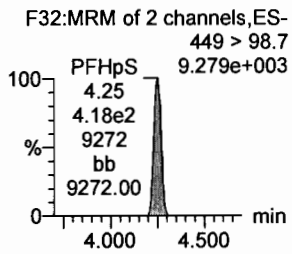
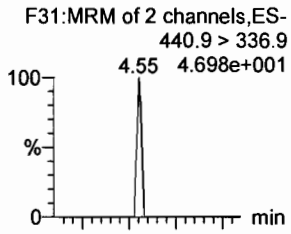
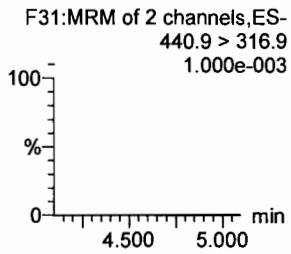


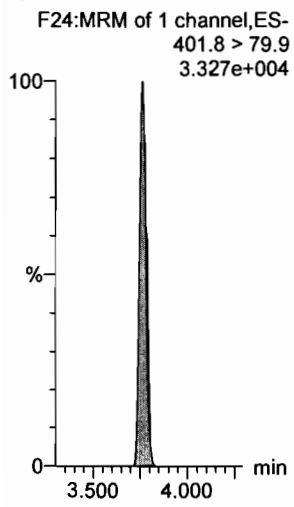


7:3 FTCA

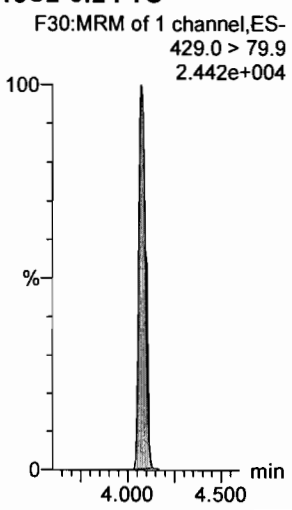




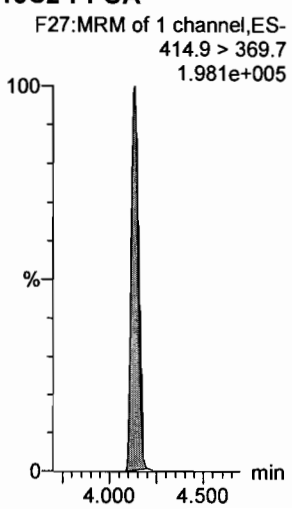
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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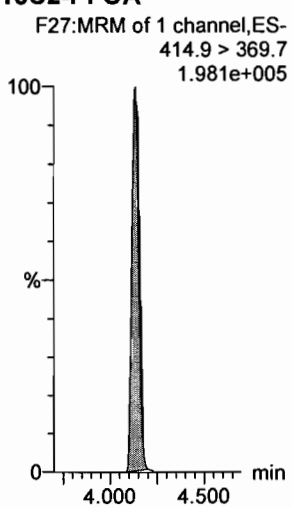
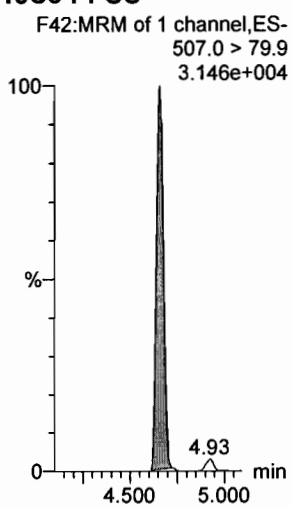
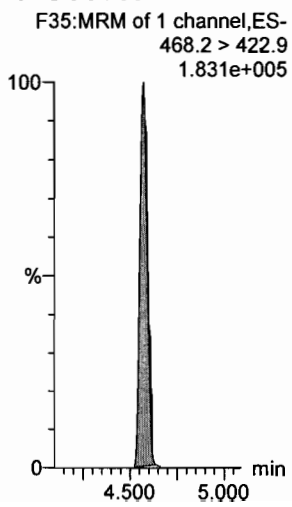


13C8-PFOS



13C5-PFNA

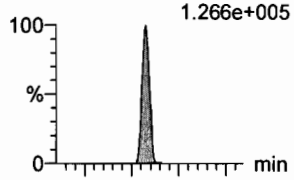


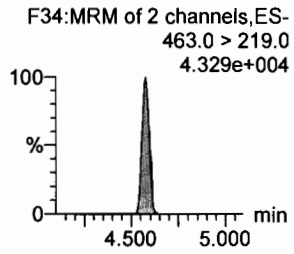
Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-ICV.qld

Last Altered: Thursday, July 11, 2019 11:22:53 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:22:57 Pacific Daylight Time

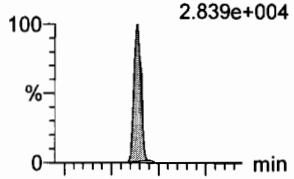
Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

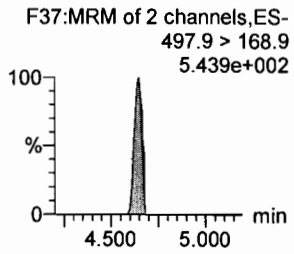
PFNA



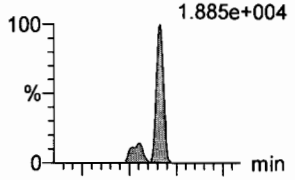


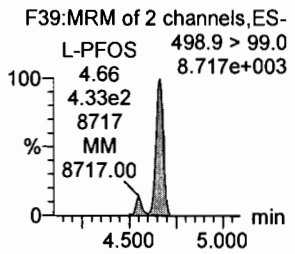
PFOSA





L-PFOS





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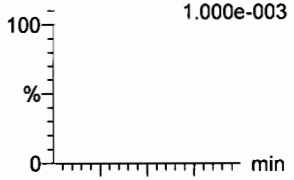

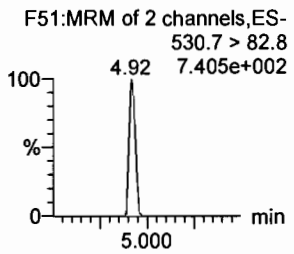

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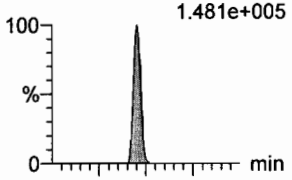
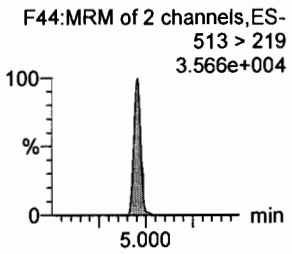
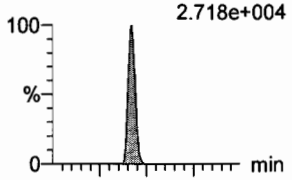
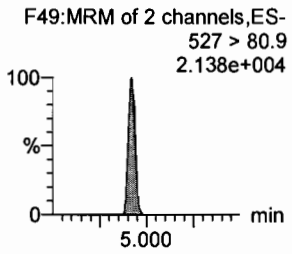


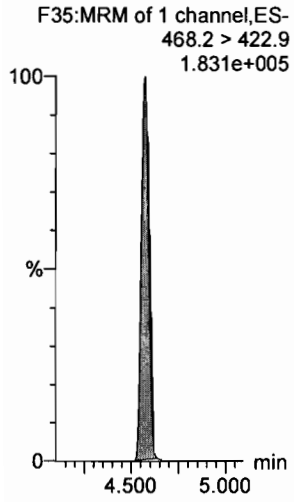


8:2 FTS





13C5-PFNA



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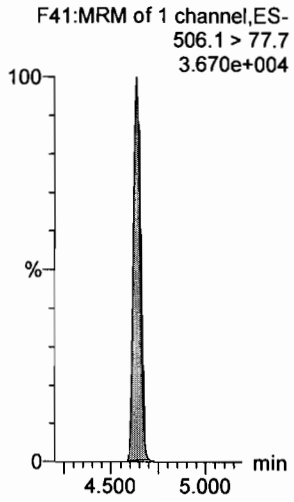

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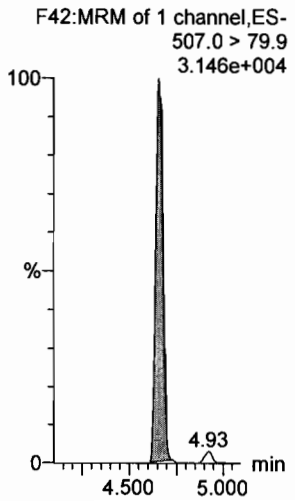

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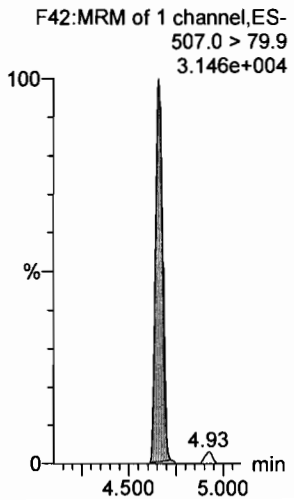

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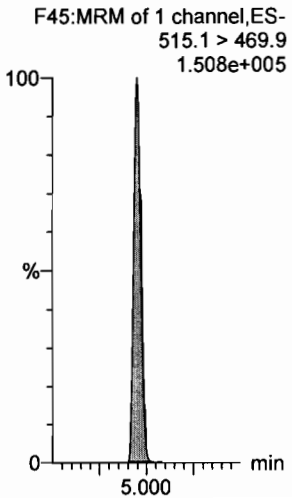

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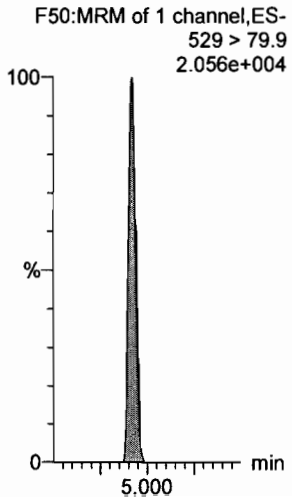

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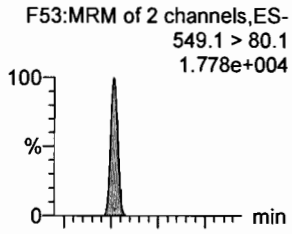
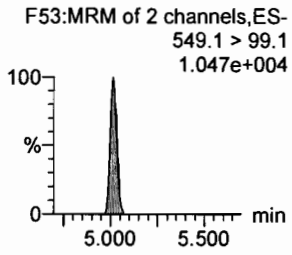
Printed: Thursday, July 11, 2019 11:22:57 Pacific Daylight Time

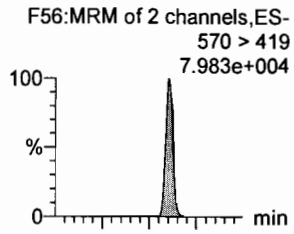
Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

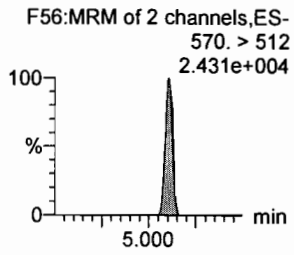
PFNS





L-MeFOSAA





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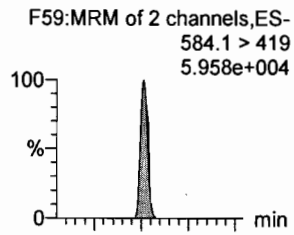
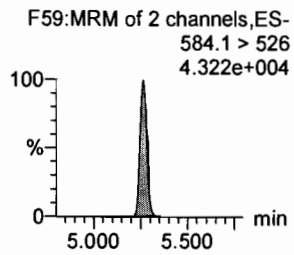
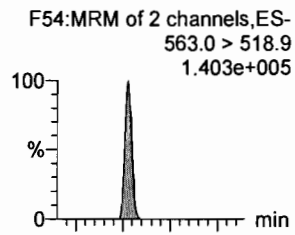
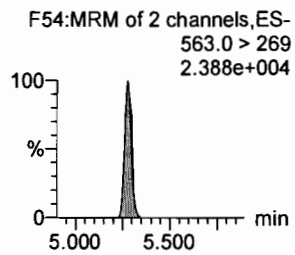


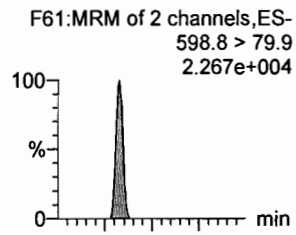


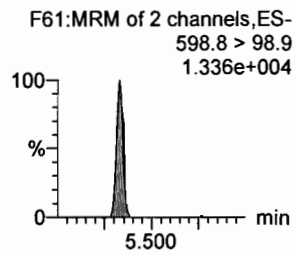
PFUdA



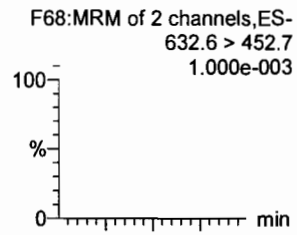


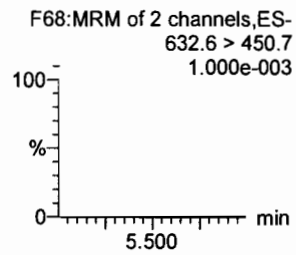
PFDS



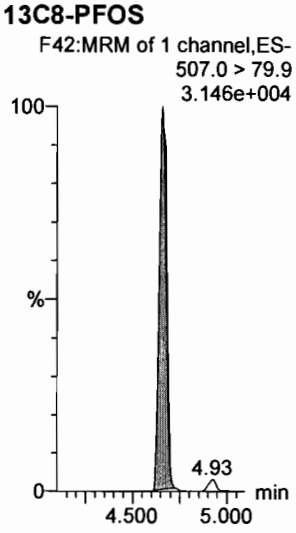


11Cl-PF30UdS

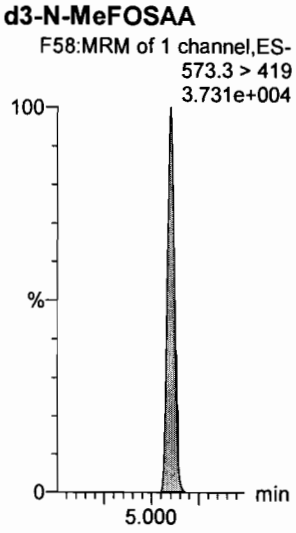




13C8-PFOS



d3-N-MeFOSAA



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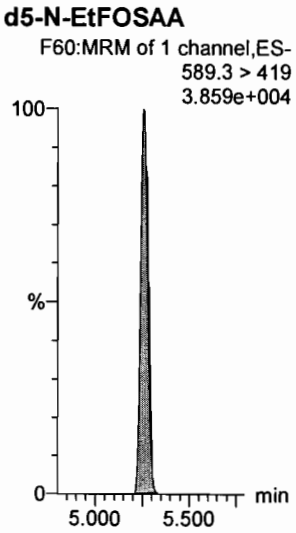
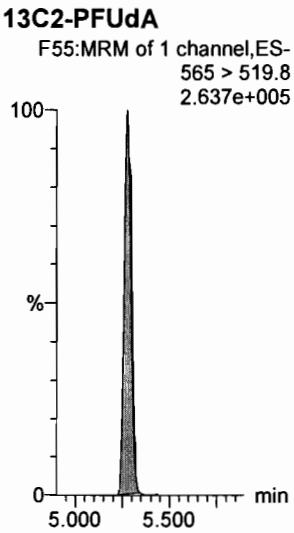
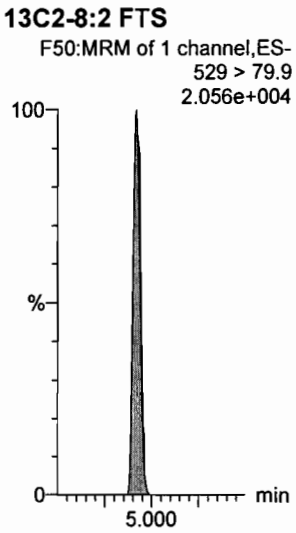


13C2-PFUdA



13C2-8:2 FTS



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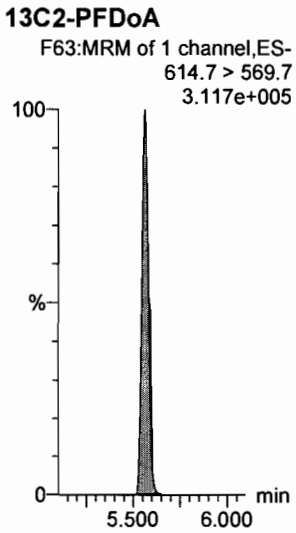

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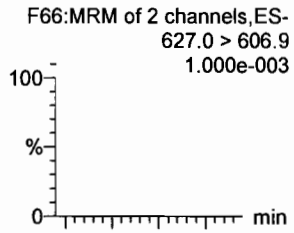
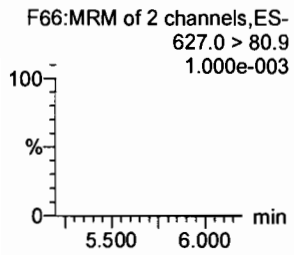
Printed: Thursday, July 11, 2019 11:22:57 Pacific Daylight Time

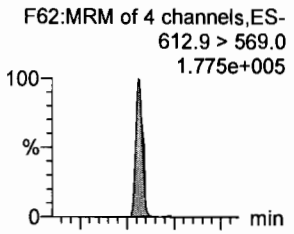
Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

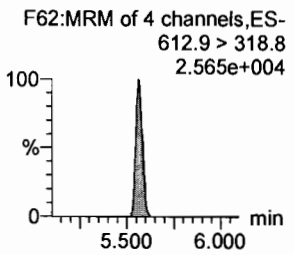
10:2 FTS



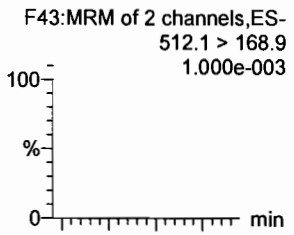


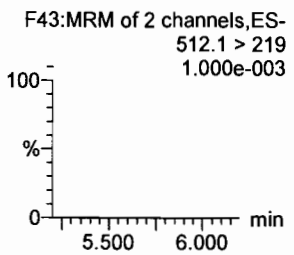
PFDoA



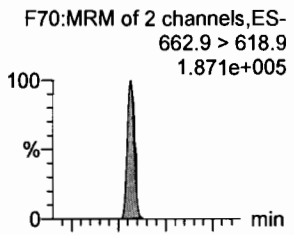


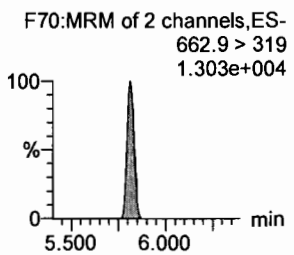
N-MeFOSA



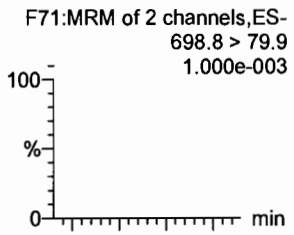


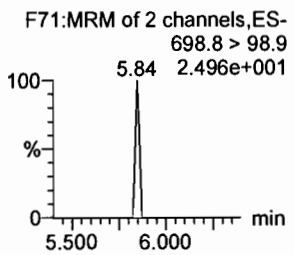
PFTrDA



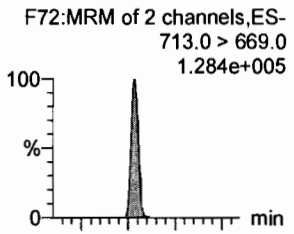


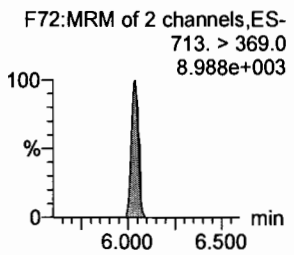
PFDoS



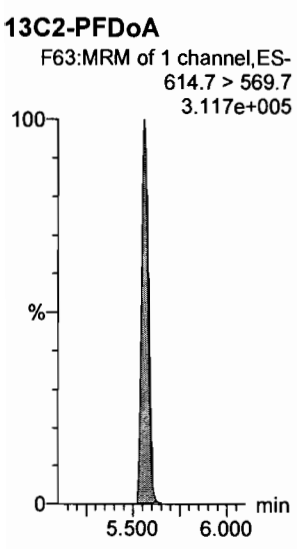


PFTeDA

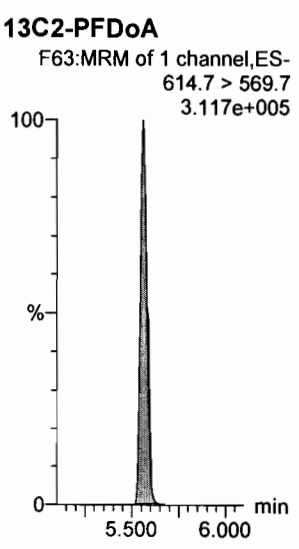




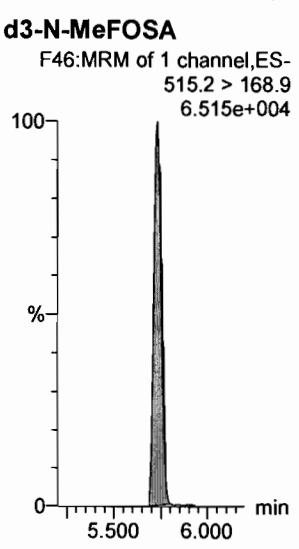
13C2-PFDoA



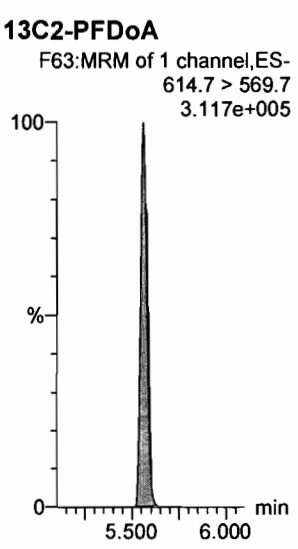
13C2-PFDoA



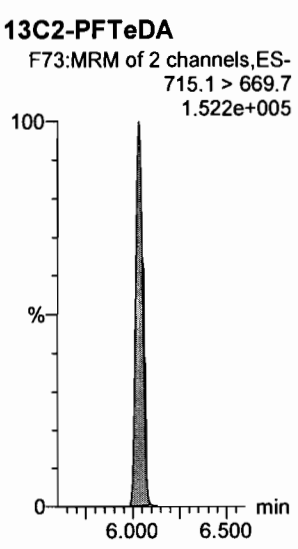
d3-N-MeFOSA



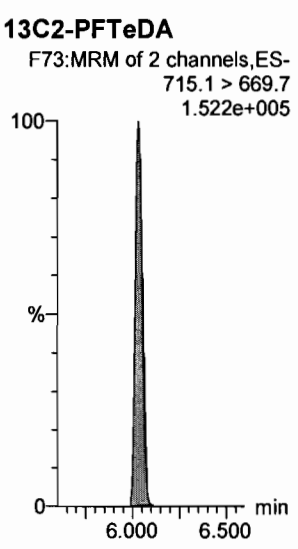
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

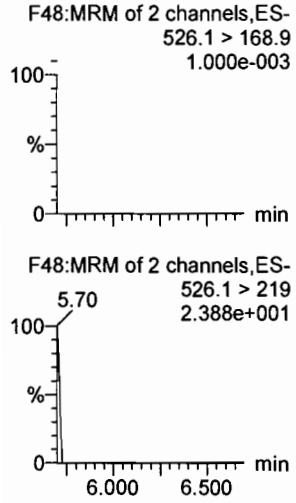


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-ICV.qld

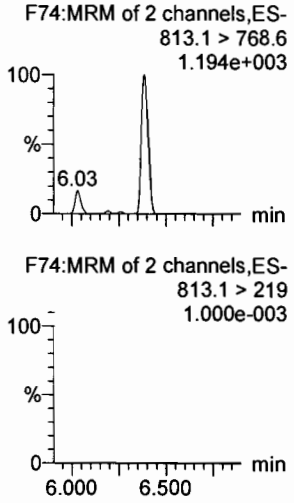
Last Altered: Thursday, July 11, 2019 11:22:53 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:22:57 Pacific Daylight Time

Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

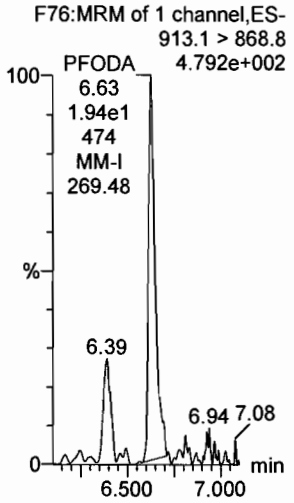
N-EtFOSA



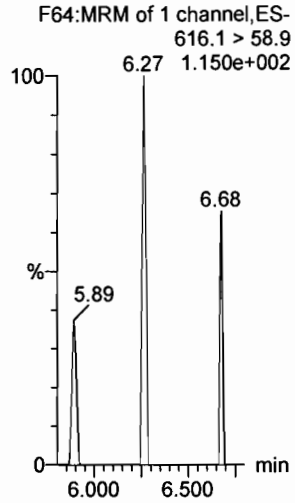
PFHxDA



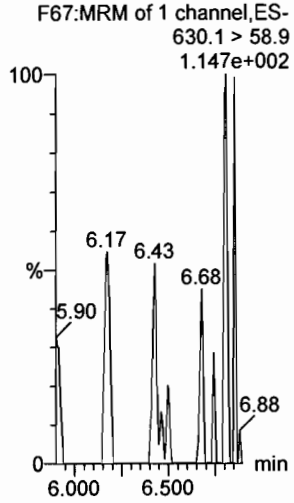
PFODA



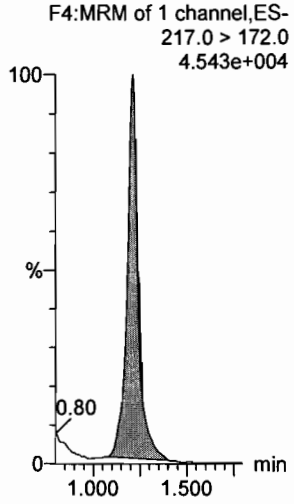
N-MeFOSE



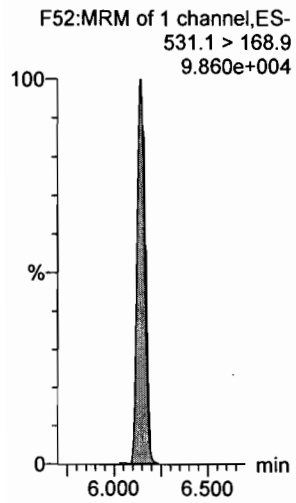
N-EtFOSE



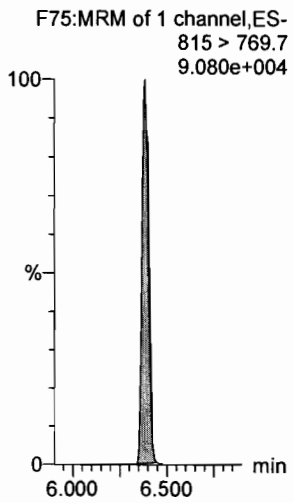
13C4-PFBA



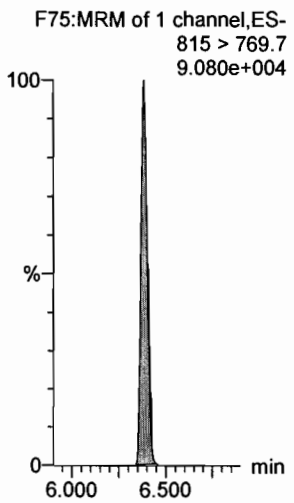
d5-N-ETFOSA



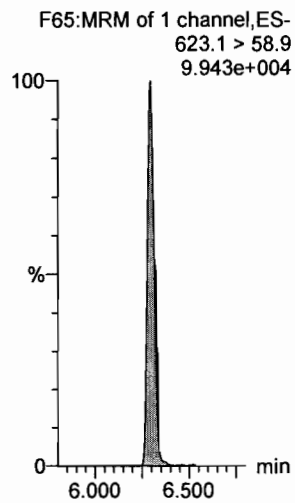
13C2-PFHxDA



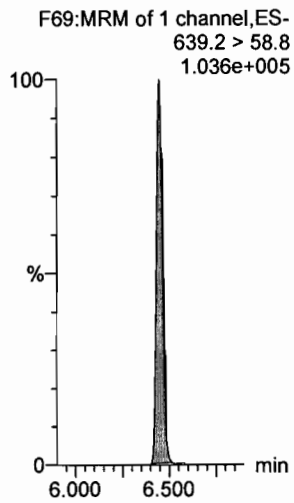
13C2-PFHxDA



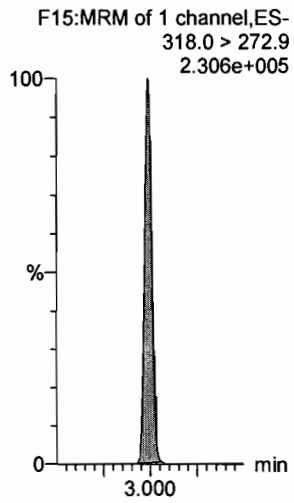
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

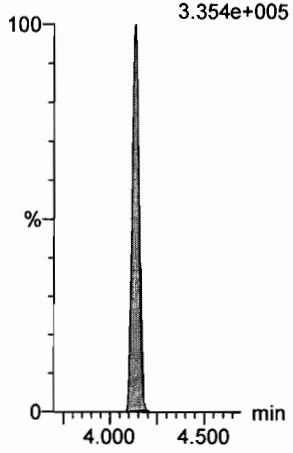


Dataset: F:\Projects\PFAS.PRO\Results\190710M2\190710M2-ICV.qld

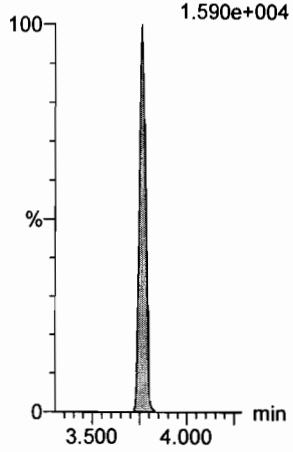
Last Altered: Thursday, July 11, 2019 11:22:53 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:22:57 Pacific Daylight Time

Name: 190710M2_17, Date: 10-Jul-2019, Time: 15:40:21, ID: ST190710M2-1 PFC ICV 19G0811, Description: PFC ICV 19G0811

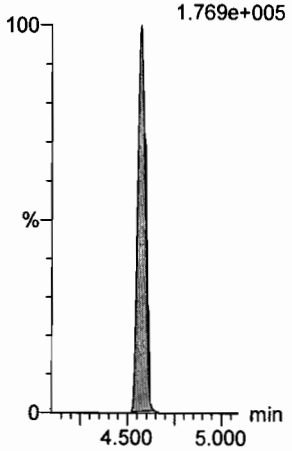
13C8-PFOA



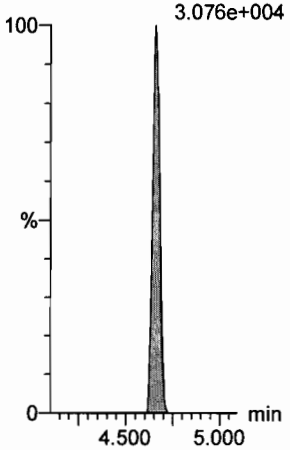
18O2-PFHxS



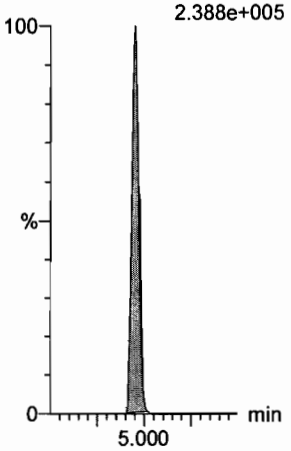
13C9-PFNA



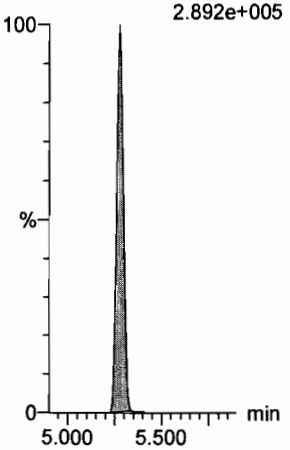
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, July 11, 2019 11:00:15 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:00:25 Pacific Daylight Time

Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8		3665.172	1.00					NO		
2	2	PFPrS	248.9 > 79.9		564.050	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		4395.620	1.00					NO		
4	4	PFPeA	263.1 > 218.9		4395.620	1.00					NO		
5	5	PFBS	299.0 > 79.7		564.050	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		1123.940	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	3665.172	5748.722	1.00	1.21	7.970	12.3	98.1	NO		
8	49	13C3-PFBS	302.0 > 98.8	564.050	553.194	1.00	2.49	12.745	12.3	98.5	NO		
9	48	13C3-PFPeA	266.0 > 221.8	4395.620	9796.685	1.00	2.20	5.609	13.8	110.1	NO		
10	48	13C3-PFPeA	266.0 > 221.8	4395.620	9796.685	1.00	2.20	5.609	13.8	110.1	NO		
11	49	13C3-PFBS	302.0 > 98.8	564.050	553.194	1.00	2.49	12.745	12.3	98.5	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	1123.940	553.194	1.00	2.91	25.397	11.3	90.8	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	7.800	3103.105	1.00	2.86	0.013	0.0		NO		
15	8	PFPeS	349.1>80.1		564.050	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1212.091	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		3834.397	1.00					NO		
18	11	PFHpA	363.0 > 318.9		3834.397	1.00					NO		
19	12	ADONA	376.8 > 250.9		3834.397	1.00					NO		
20	52	13C2-PFHxA	315.0 > 270.0	3103.105	9796.685	1.00	2.99	3.959	5.0	99.9	NO		
21	49	13C3-PFBS	302.0 > 98.8	564.050	553.194	1.00	2.49	12.745	12.3	98.5	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1212.091	9796.685	1.00	3.20	1.547	5.0	100.9	NO		
23	53	13C4-PFHpA	367.2 > 321.8	3834.397	9796.685	1.00	3.61	4.892	12.5	100.1	NO		
24	53	13C4-PFHpA	367.2 > 321.8	3834.397	9796.685	1.00	3.61	4.892	12.5	100.1	NO		
25	53	13C4-PFHpA	367.2 > 321.8	3834.397	9796.685	1.00	3.61	4.892	12.5	100.1	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6		1448.751	1.00					NO		
28	15	6:2 FTS	427.0 > 406.9		1044.706	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	37.351	8031.595	1.00	4.14	0.058	0.0		NO	4.911	NO
30	18	PFecHS	460.8 > 381.0		8031.595	1.00					NO		
31	19	PFHpS	449.0 > 80.0		1410.610	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		7616.705	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	1448.751	553.194	1.00	3.76	32.736	12.9	102.8	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1044.706	1293.104	1.00	4.08	10.099	13.7	109.7	NO		
35	58	13C2-PFOA	414.9 > 369.7	8031.595	13655.097	1.00	4.13	7.352	13.0	104.2	NO		
36	58	13C2-PFOA	414.9 > 369.7	8031.595	13655.097	1.00	4.13	7.352	13.0	104.2	NO		

JGM 7/11/2019

Dataset: Untitled

Last Altered: Thursday, July 11, 2019 11:00:15 Pacific Daylight Time
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Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	1410.610	1293.104	1.00	4.66	13.636	12.9	102.9	NO		
38	56	13C5-PFNA	468.2 > 422.9	7616.705	8145.557	1.00	4.57	11.688	11.9	95.2	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	8.783	7616.705	1.00	4.56	0.014			NO		
41	22	PFOSA	497.9 > 77.9		549.882	1.00					NO		
42	23	L-PFOS	498.9 > 79.9		1410.610	1.00					NO		
43	25	9Cl-PF30NS	530.7 > 350.8		1410.610	1.00					NO		
44	26	PFDA	513 > 468.8		6263.837	1.00					NO		
45	27	8:2 FTS	527.0 > 506.9		946.606	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	7616.705	8145.557	1.00	4.57	11.688	11.9	95.2	NO		
47	57	13C8-PFOSA	506.1 > 77.7	549.882	8175.738	1.00	4.63	0.841	6.5	51.6	NO		
48	59	13C8-PFOS	507.0 > 79.9	1410.610	1293.104	1.00	4.66	13.636	12.9	102.9	NO		
49	59	13C8-PFOS	507.0 > 79.9	1410.610	1293.104	1.00	4.66	13.636	12.9	102.9	NO		
50	60	13C2-PFDA	515.1 > 469.9	6263.837	9421.503	1.00	4.95	8.311	12.6	100.4	NO		
51	61	13C2-8:2 FTS	529 > 79.9	946.606	1293.104	1.00	4.92	9.151	13.2	105.3	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		1410.610	1.00					NO		
54	29	L-MeFOSAA	570 > 419		1235.898	1.00					NO		
55	31	L-EtFOSAA	584.1 > 419		1426.384	1.00					NO		
56	33	PFUdA	563.0 > 518.9	16.167	7494.523	1.00	5.27	0.027	0.0		NO		
57	34	PFDS	598.8 > 79.9		946.606	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		3698.353	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	1410.610	1293.104	1.00	4.66	13.636	12.9	102.9	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	1235.898	8175.738	1.00	5.10	1.890	14.6	117.1	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	1426.384	8175.738	1.00	5.26	2.181	14.8	118.4	NO		
62	63	13C2-PFUdA	565 > 519.8	7494.523	8175.738	1.00	5.28	11.458	13.4	107.0	NO		
63	61	13C2-8:2 FTS	529 > 79.9	946.606	1293.104	1.00	4.92	9.151	13.2	105.3	NO		
64	65	13C2-PFDoA	614.7 > 569.7	3698.353	9421.503	1.00	5.56	4.907	4.0	31.9	YES		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		946.606	1.00					NO		
67	37	PFDoA	612.9 > 569.0		3698.353	1.00					NO		
68	38	N-MeFOSA	512.1 > 168.9			1.00					NO		
69	39	PFTrDA	662.9 > 618.9	6.069	3698.353	1.00	5.89	0.021	0.1		NO		
70	40	PFDoS	698.8 > 79.9		362.476	1.00					NO		
71	41	PFTeDA	713.0 > 669.0		362.476	1.00					NO		
72	65	13C2-PFDoA	614.7 > 569.7	3698.353	9421.503	1.00	5.56	4.907	4.0	31.9	YES		

EGM 7/11/2019

Vista Analytical Laboratory

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Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	3698.353	9421.503	1.00	5.56	4.907	4.0	31.9	YES		
74	66	d3-N-MeFOSA	515.2 > 168.9		8175.738	1.00					NO		
75	65	13C2-PFDoA	614.7 > 569.7	3698.353	9421.503	1.00	5.56	4.907	4.0	31.9	YES		
76	67	13C2-PFTeDA	715.1 > 669.7	362.476	8175.738	1.00	6.04	0.554	1.1	8.7	YES		
77	67	13C2-PFTeDA	715.1 > 669.7	362.476	8175.738	1.00	6.04	0.554	1.1	8.7	YES		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9			1.00					NO		
80	43	PFHxDA	813.1 > 768.6	12.580	384.845	1.00	6.40	0.163	0.1		NO		
81	44	PFODA	913.1 > 868.8	20.252	384.845	1.00	6.63	0.263	0.3		NO		
82	45	N-MeFOSE	616.1 > 58.9		287.485	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9	9.122	214.581	1.00	6.56	6.377	4.7		NO		
84	72	13C4-PFBA	217.0 > 172.0	5748.722	5748.722	1.00	1.21	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9		8175.738	1.00					NO		
86	69	13C2-PFHxDA	815 > 769.7	384.845	8175.738	1.00	6.39	0.588	0.8	16.0	YES		
87	69	13C2-PFHxDA	815 > 769.7	384.845	8175.738	1.00	6.39	0.588	0.8	16.0	YES		
88	70	d7-N-MeFOSE	623.1 > 58.9	287.485	8175.738	1.00	6.30	0.440	15.7	10.5	YES		
89	71	d9-N-EtFOSE	639.2 > 58.8	214.581	8175.738	1.00	6.45	0.328	11.9	8.0	YES		
90	73	13C5-PFHxA	318.0 > 272.9	9796.685	9796.685	1.00	2.99	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	13655.097	13655.097	1.00	4.13	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	553.194	553.194	1.00	3.76	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	8145.557	8145.557	1.00	4.57	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	1293.104	1293.104	1.00	4.66	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	9421.503	9421.503	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	8175.738	8175.738	1.00	5.27	12.500	12.5	100.0	NO		

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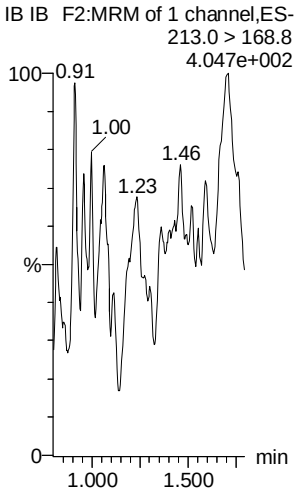
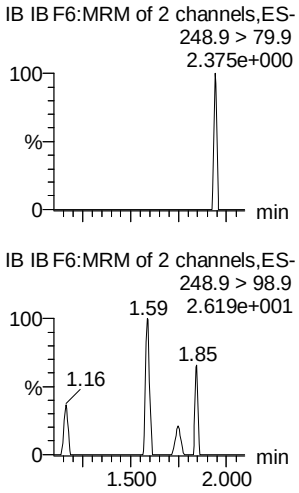
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071019.mdb 11 Jul 2019 10:07:19
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-19.cdb 11 Jul 2019 10:56:26

Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

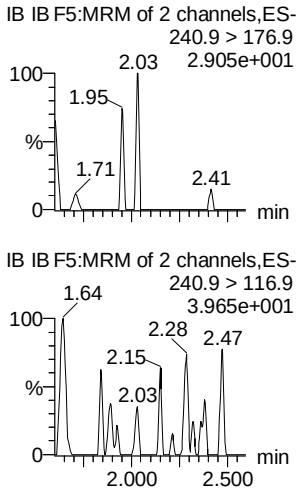
PFBA



PFPrS



3:3 FTCA



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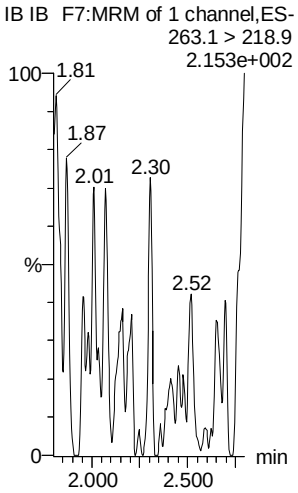
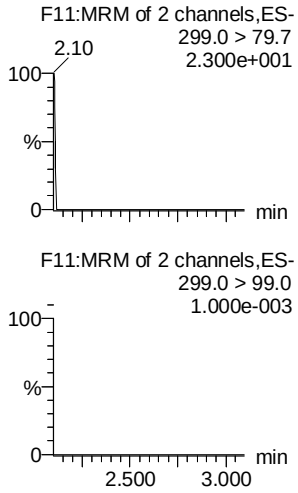
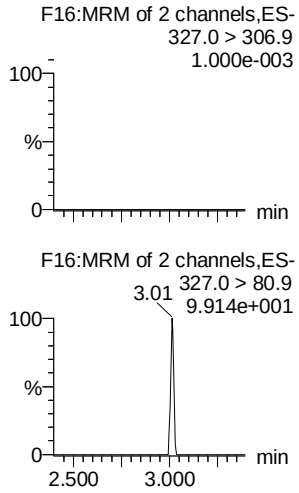


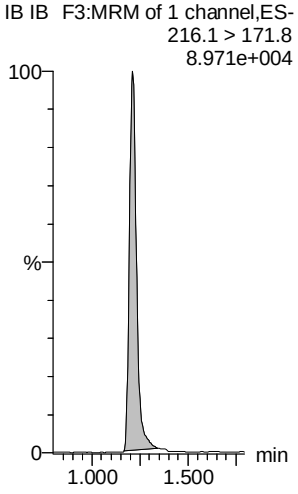
PFBS



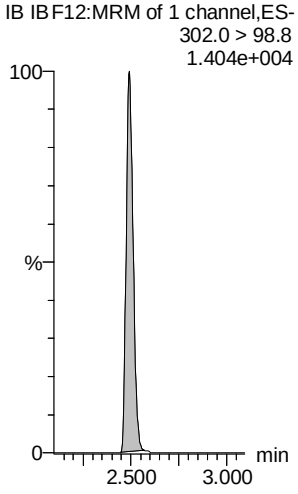
4:2 FTS



13C3-PFBA



13C3-PFBS



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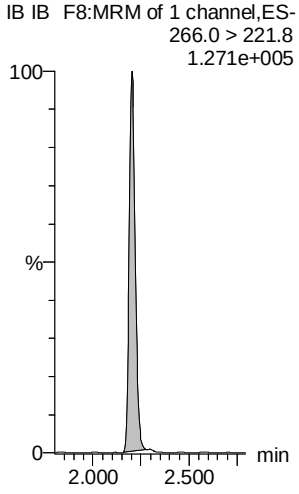

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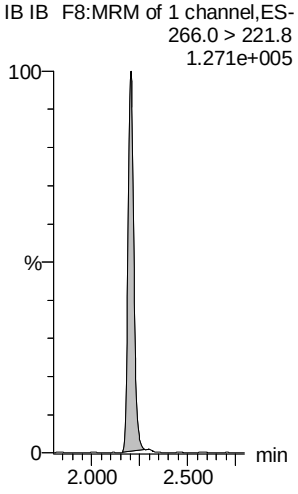

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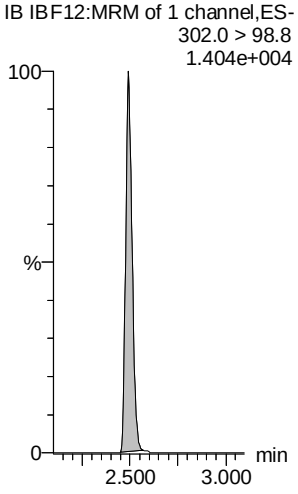
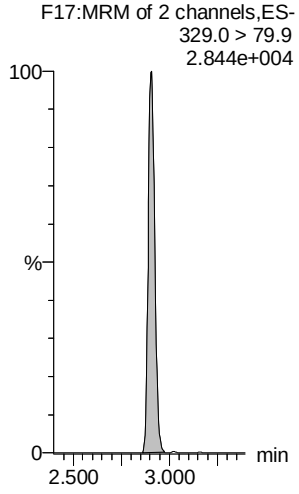


13C2-4:2 FTS



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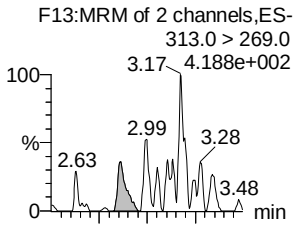
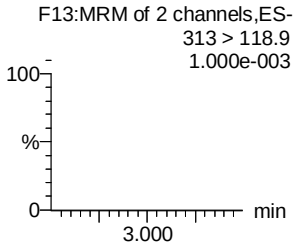
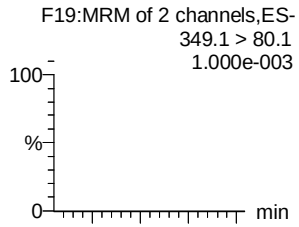
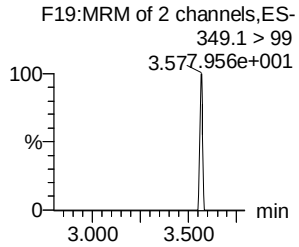
PFHxA



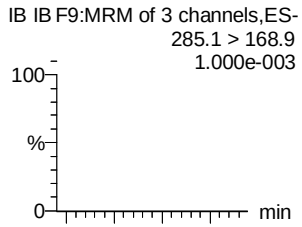


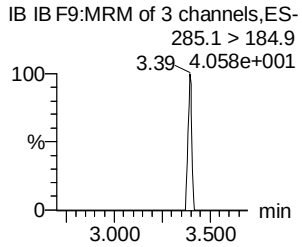
PFPeS



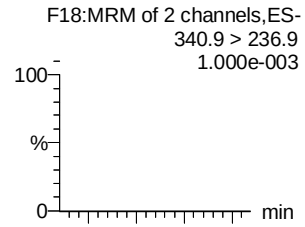


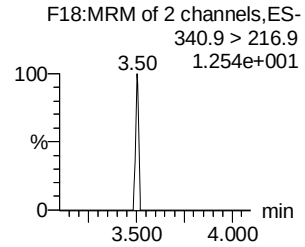
HFPO-DA





5:3 FTCA





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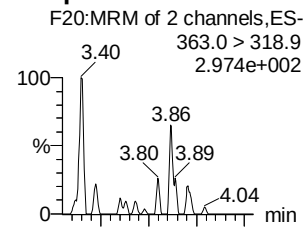
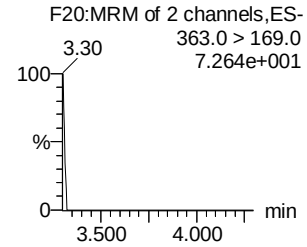
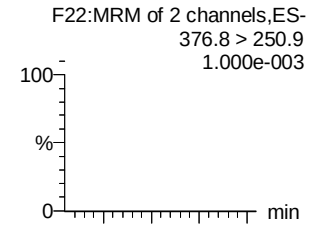
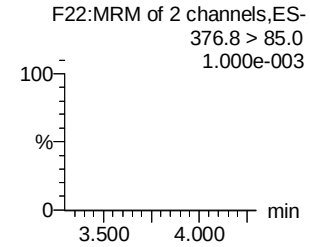


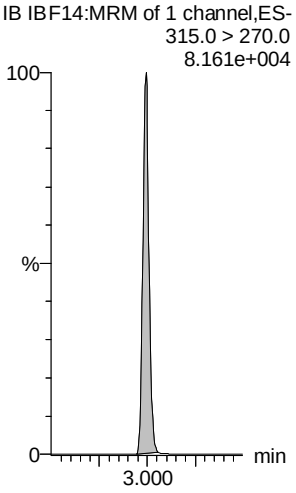


ADONA

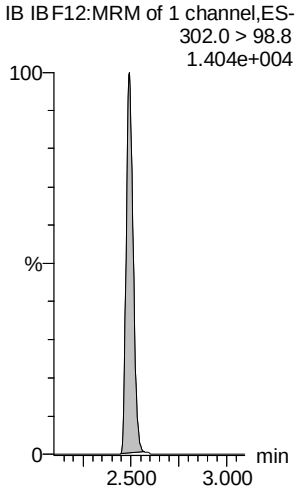




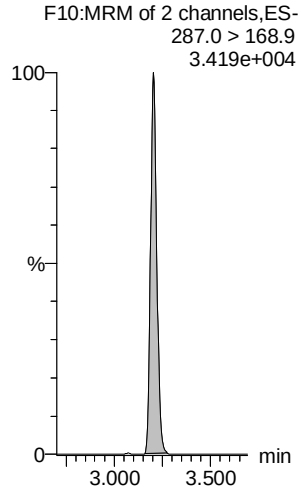
13C2-PFHxA



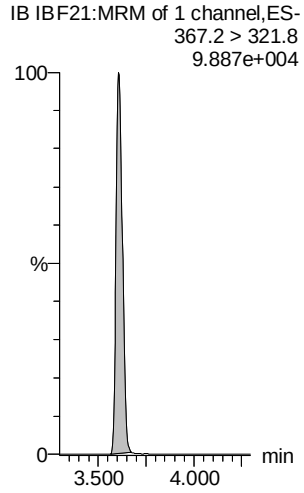
13C3-PFBS



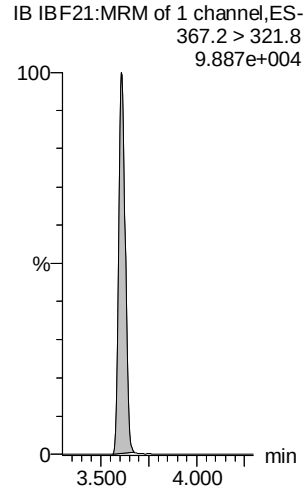
13C3-HFPO-DA



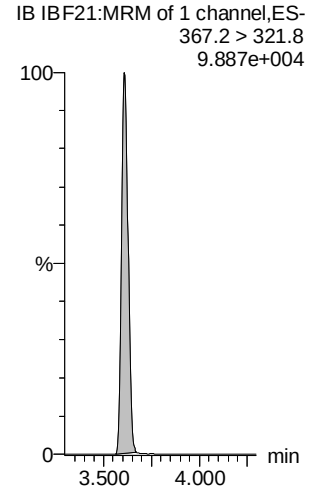
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA



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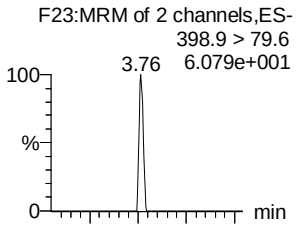
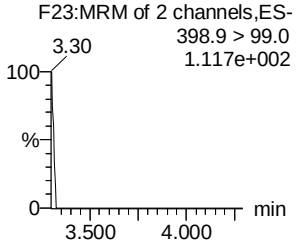
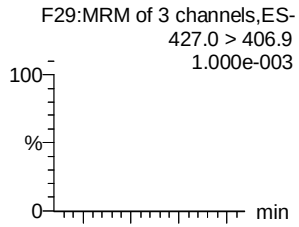
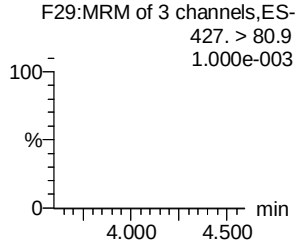
L-PFHxS



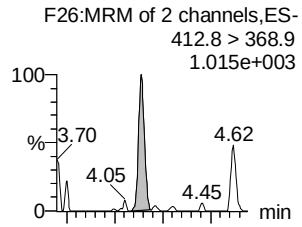


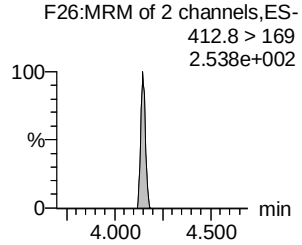
6:2 FTS





L-PFOA





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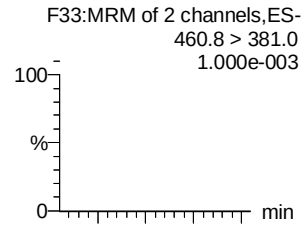
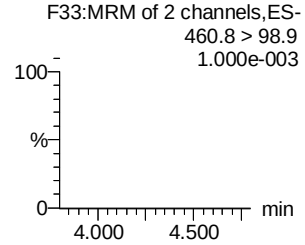
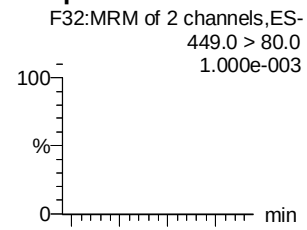
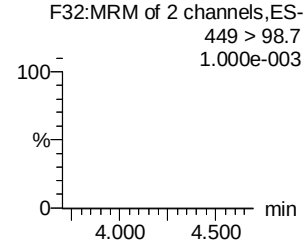


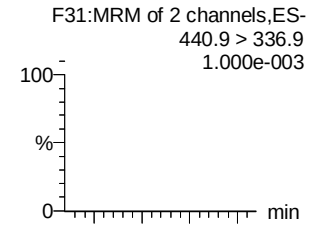


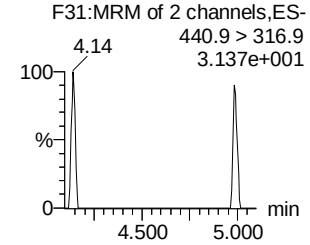
PFHpS



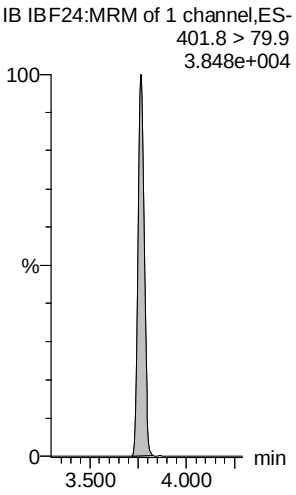


7:3 FTCA

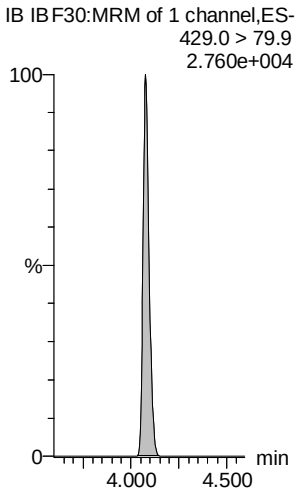




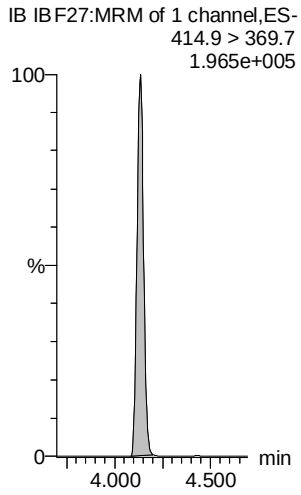
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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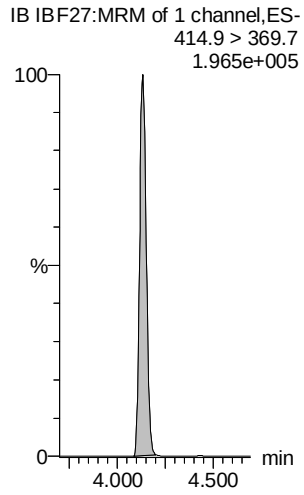

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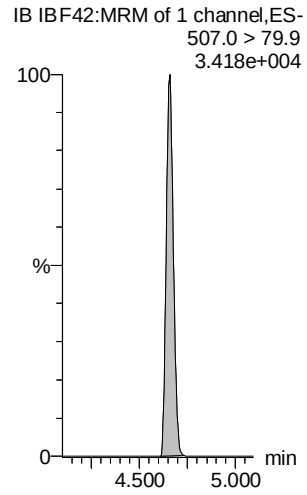
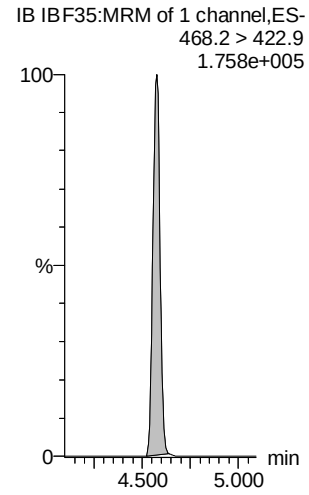


13C5-PFNA



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Printed: Thursday, July 11, 2019 11:00:25 Pacific Daylight Time

Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

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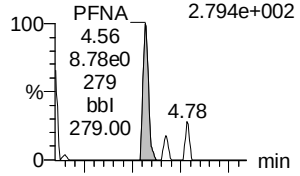

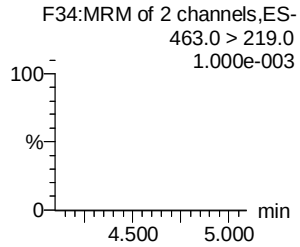

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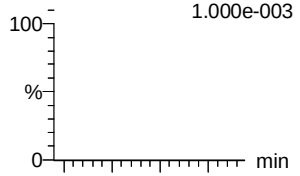

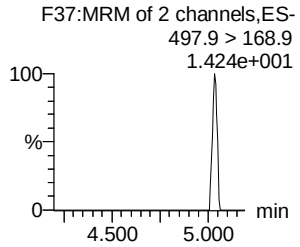

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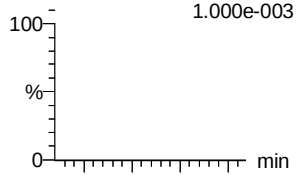

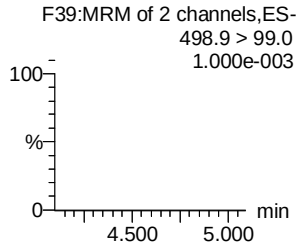

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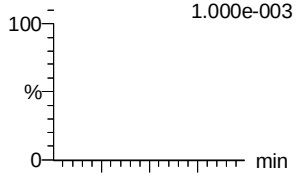

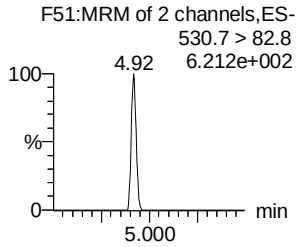

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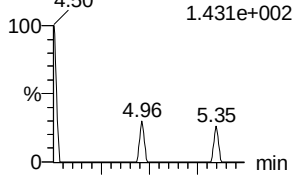

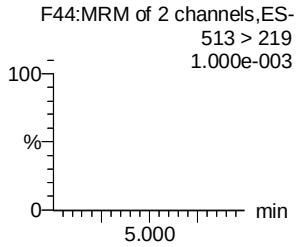

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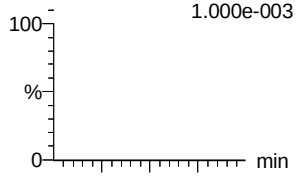

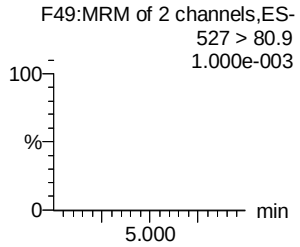

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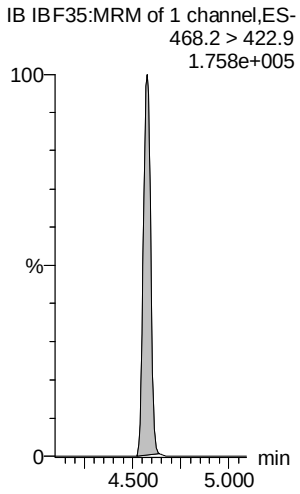

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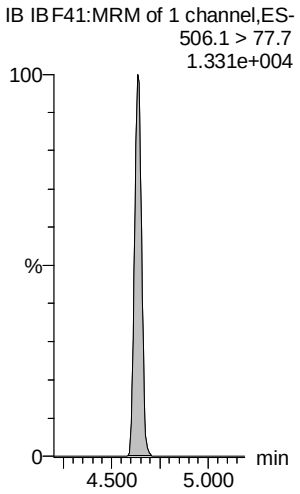

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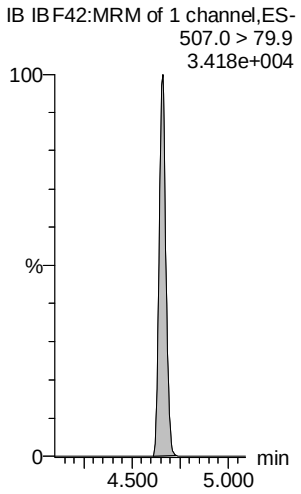

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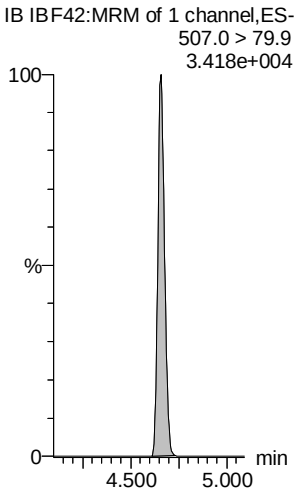

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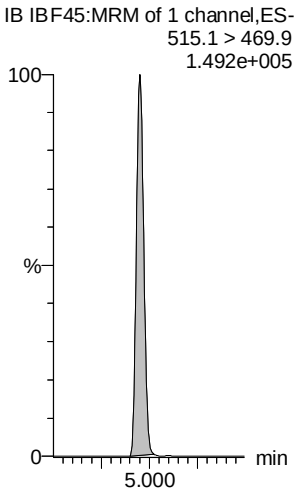

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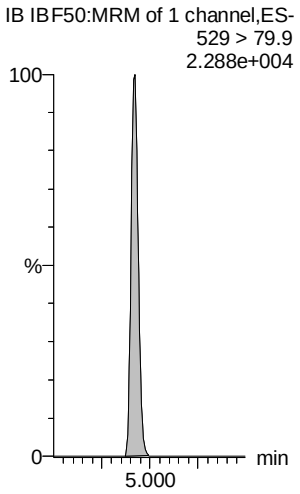

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Last Altered: Thursday, July 11, 2019 11:00:15 Pacific Daylight Time
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Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

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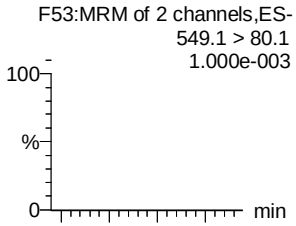

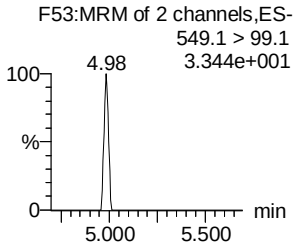

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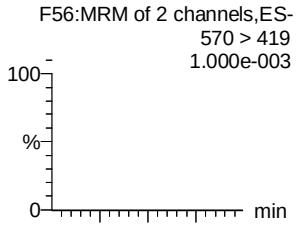

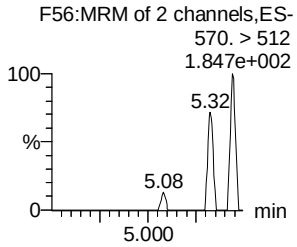

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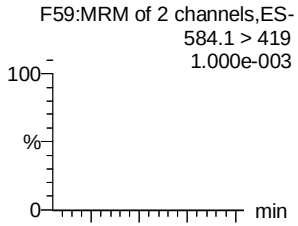

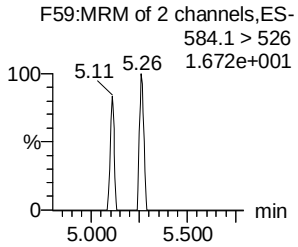

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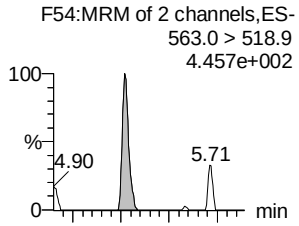

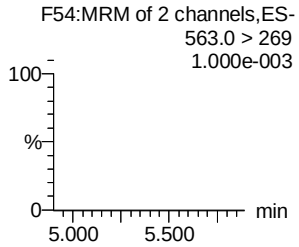

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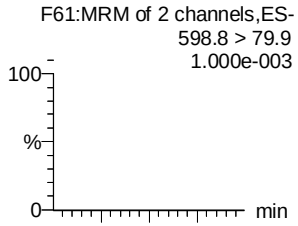

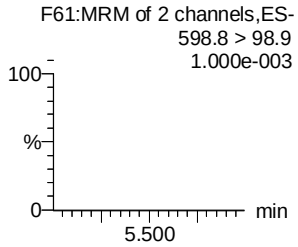

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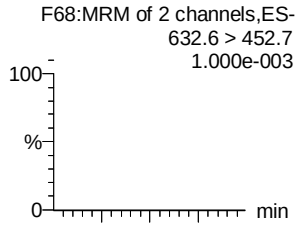

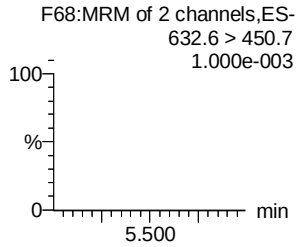

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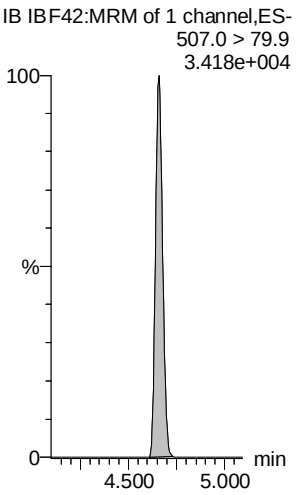

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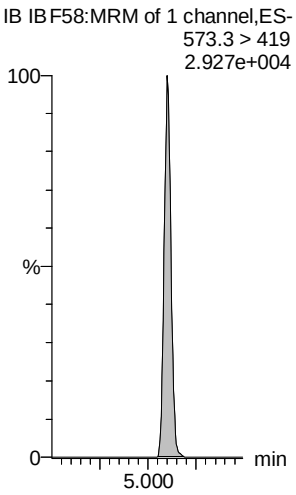

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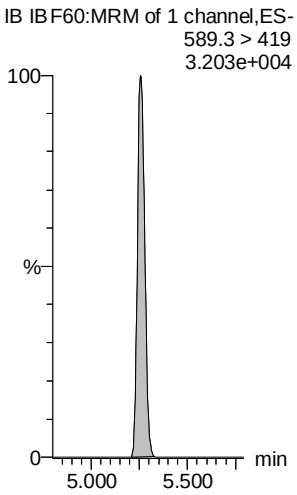

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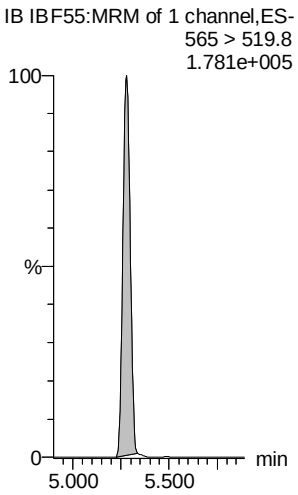

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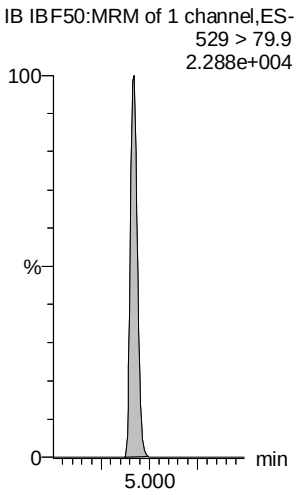

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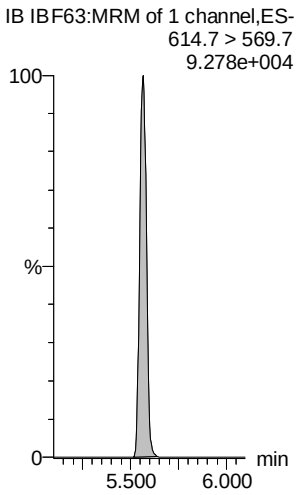

Vista Analytical Laboratory

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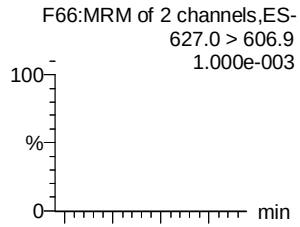
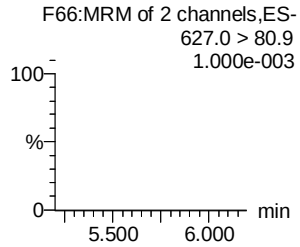
Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

10:2 FTS





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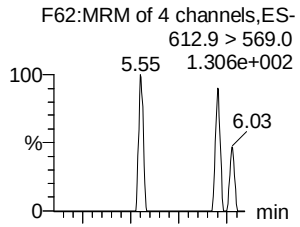

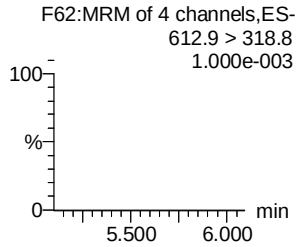

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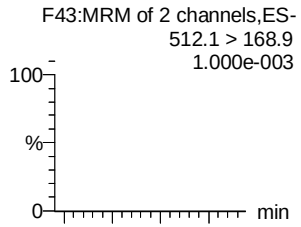

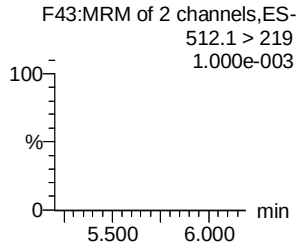

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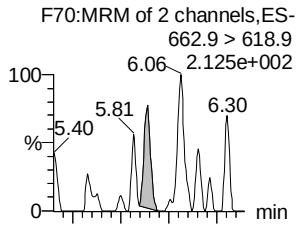

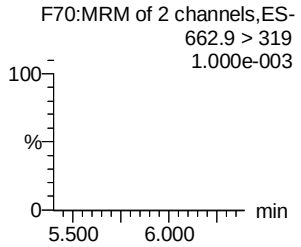

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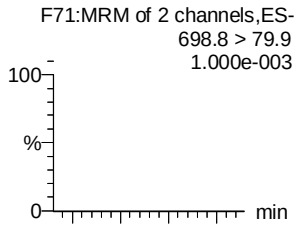

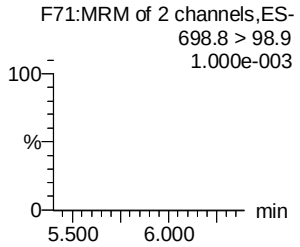

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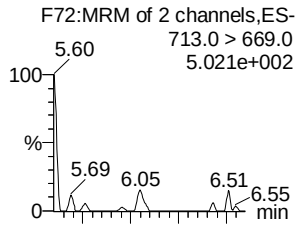

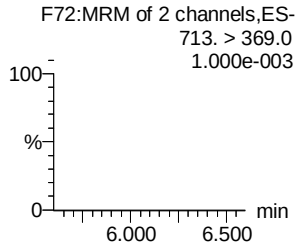

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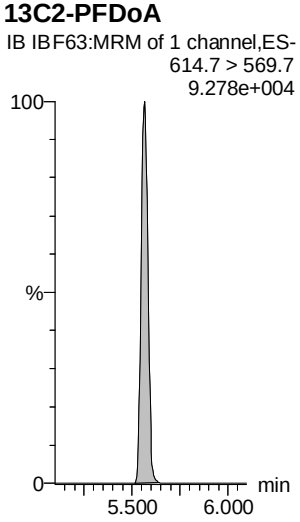

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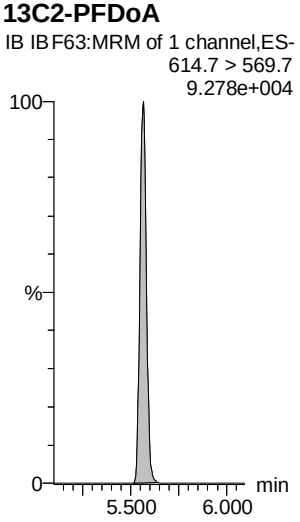
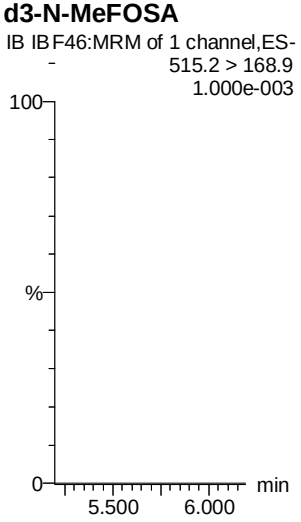
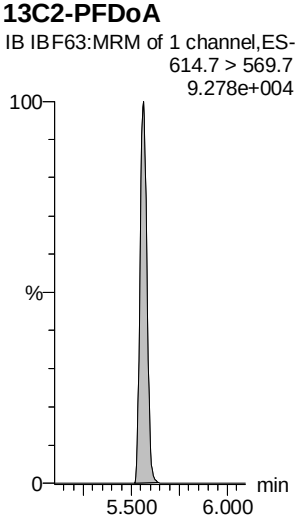


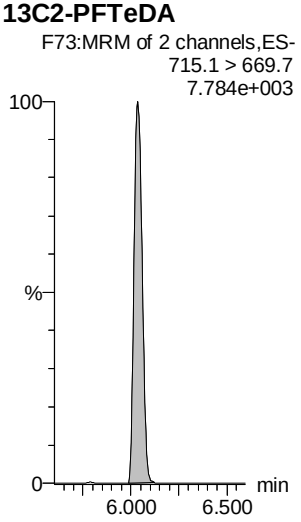
d3-N-MeFOSA



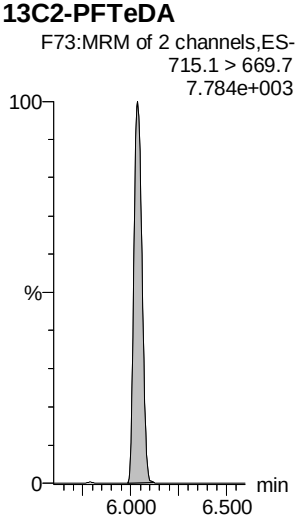
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA



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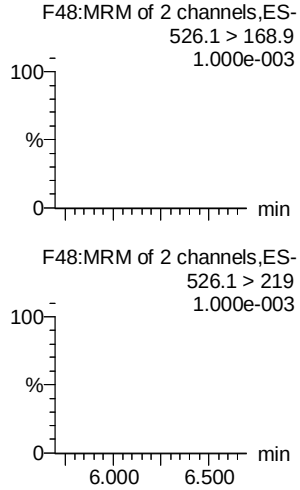
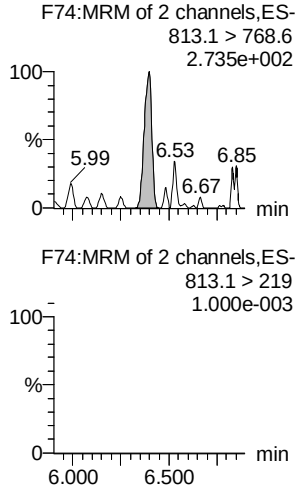
Last Altered: Thursday, July 11, 2019 11:00:15 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:00:25 Pacific Daylight Time

Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

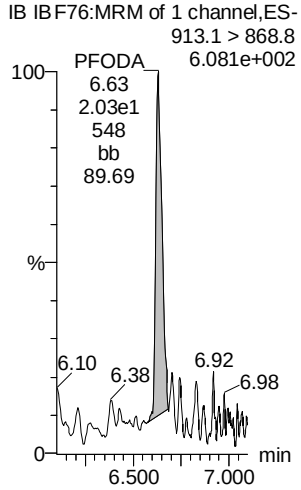
N-EtFOSA



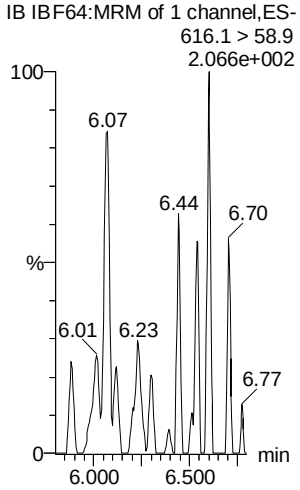
PFHxDA



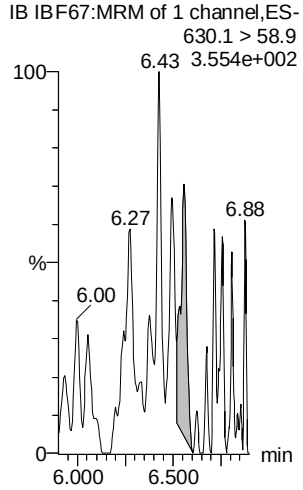
PFODA



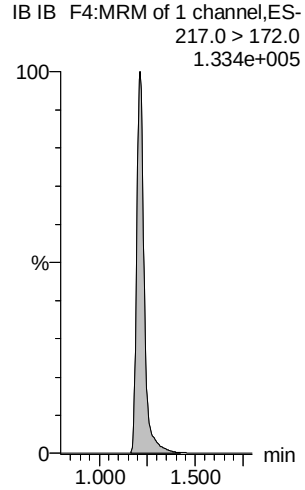
N-MeFOSE



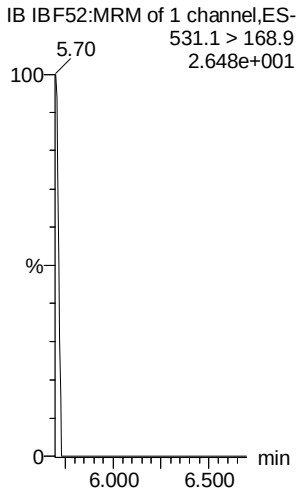
N-EtFOSE



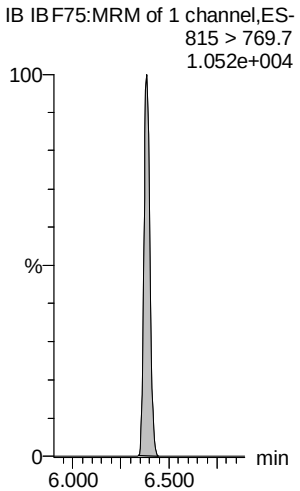
13C4-PFBA



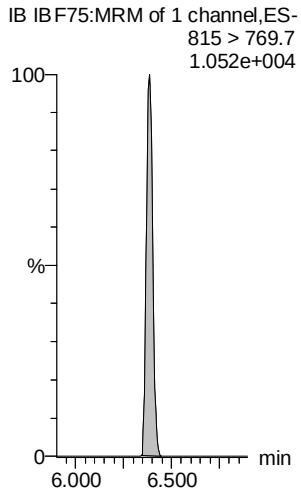
d5-N-ETFOSA



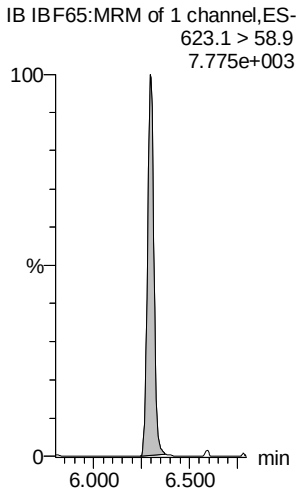
13C2-PFHxDA



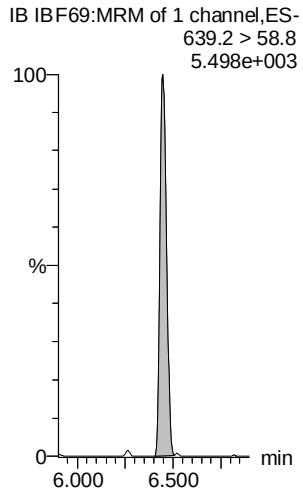
13C2-PFHxDA



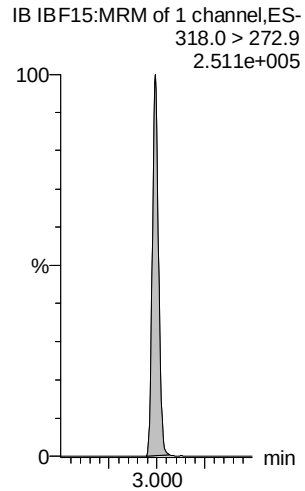
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

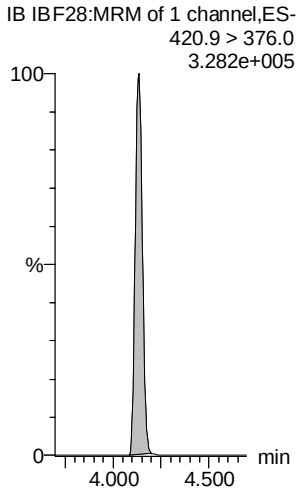


Dataset: Untitled

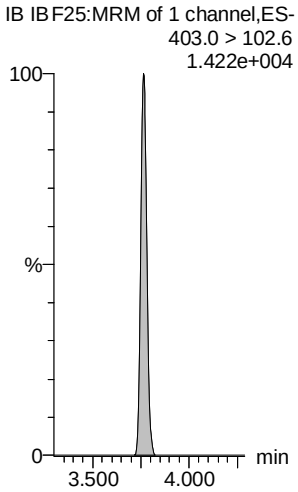
Last Altered: Thursday, July 11, 2019 11:00:15 Pacific Daylight Time
Printed: Thursday, July 11, 2019 11:00:25 Pacific Daylight Time

Name: 190710M2_16, Date: 10-Jul-2019, Time: 15:29:49, ID: IB, Description: IB

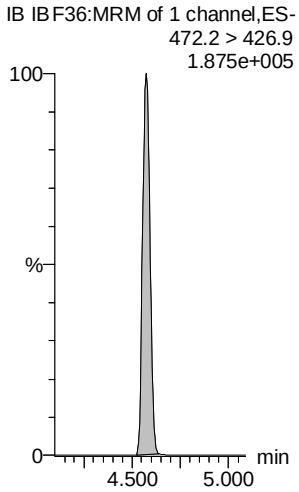
13C8-PFOA



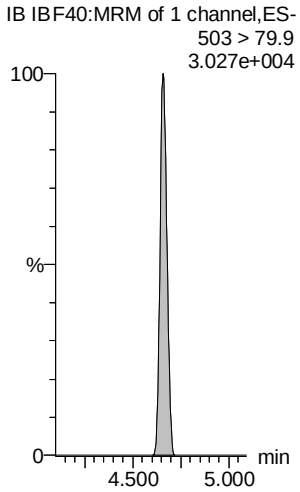
18O2-PFHxS



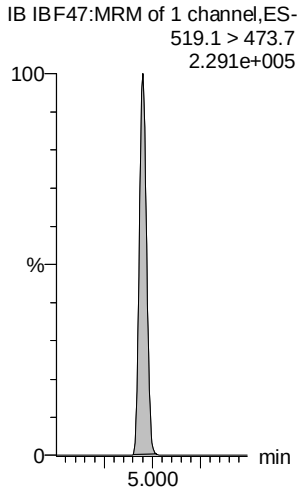
13C9-PFNA



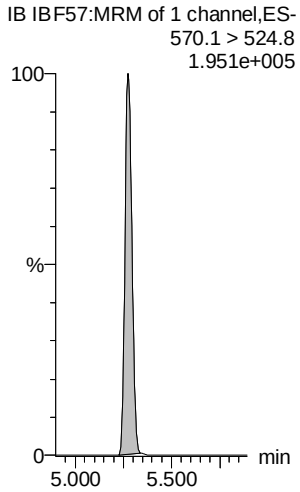
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:50:03 Pacific Daylight Time

low pt
PFDS = 0.5
PFDS ↓

high pt
3:3FTCA = 100
5:3FTCA ↓
7:3FTCA
4:2FTS = 250
PFPeS
6:2FTS ↓
8:2FTS

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

JAn 7/14/19
JM 7/14/19

Compound name: PFBA
Correlation coefficient: r = 0.999852, r^2 = 0.999704
Calibration curve: 1.24734 * x + -0.0353972
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	1.15	94.822	3951.750	0.300	0.3	7.5	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	1.15	188.493	4192.511	0.562	0.5	-4.2	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	1.14	392.103	4209.422	1.164	1.0	-3.8	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	1.15	933.950	4836.335	2.414	2.0	-1.8	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	1.15	2120.197	4277.267	6.196	5.0	-0.1	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	1.15	4182.155	4227.104	12.367	9.9	-0.6	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	1.15	21263.998	4201.730	63.260	50.7	1.5	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	1.15	43075.449	4297.443	125.294	100.5	0.5	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	1.15	104382.930	4085.317	319.384	256.1	2.4	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	1.15	205401.953	4176.878	614.699	492.8	-1.4	NO	1.000	NO	bb

Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999806
Calibration curve: 0.000283057 * x^2 + 0.936439 * x + -0.135279
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	1.50	14.697	1221.430	0.150	0.3	22.0	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	1.51	40.486	1289.349	0.393	0.6	12.7	NO	1.000	NO	MM
3	3	190712M2_8	Standard	1.000	1.50	69.668	1251.236	0.696	0.9	-11.3	NO	1.000	NO	MM
4	4	190712M2_9	Standard	2.000	1.51	197.064	1508.714	1.633	1.9	-5.7	NO	1.000	NO	MM
5	5	190712M2_10	Standard	5.000	1.51	401.312	1354.983	3.702	4.1	-18.1	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	1.51	903.143	1233.165	9.155	9.9	-1.1	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	1.50	4410.618	1151.665	47.872	50.5	1.0	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	1.51	8843.591	1145.725	96.485	100.1	0.1	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	1.50	21487.529	1063.064	252.660	250.9	0.4	NO	1.000	NO	MM
10	10	190712M2_15	Standard	500.000	1.51	40397.859	938.114	538.286	499.5	-0.1	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999737
Calibration curve: 2.87032e-005 * x^2 + 0.0324429 * x + -0.00531914
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	1.96	3.077	9174.475	0.004	0.3	17.2	NO	1.000	NO	MM
2	2	190712M2_7	Standard	0.500	1.98	8.735	9440.304	0.012	0.5	4.0	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	1.97	16.624	9506.008	0.022	0.8	-16.3	NO	1.000	NO	MM
4	4	190712M2_9	Standard	2.000	1.96	52.329	11499.399	0.057	1.9	-4.3	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	1.97	122.249	9992.066	0.153	4.9	-2.9	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	1.97	254.453	9709.080	0.328	10.2	1.7	NO	1.000	NO	MM
7	7	190712M2_12	Standard	50.000	1.97	1362.999	10026.567	1.699	50.3	0.6	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	1.97	2771.261	9839.865	3.520	99.9	-0.1	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	1.97	1437.050	9585.236	1.874	55.2	-77.9	YES	1.000	NO	bbX
10	10	190712M2_15	Standard	500.000	1.97	3036.498	9471.328	4.007	112.5	-77.5	YES	1.000	NO	bbX

Compound name: PFPeA
Correlation coefficient: r = 0.999910, r^2 = 0.999820
Calibration curve: 0.937411 * x + -0.00202089
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	2.12	177.115	9174.475	0.241	0.3	3.8	NO	1.000	NO	MM
2	2	190712M2_7	Standard	0.500	2.12	333.080	9440.304	0.441	0.5	-5.5	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	2.12	689.993	9506.008	0.907	1.0	-3.0	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	2.13	1684.657	11499.399	1.831	2.0	-2.2	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	2.13	3712.674	9992.066	4.645	5.0	-0.9	NO	1.000	NO	MM
6	6	190712M2_11	Standard	10.000	2.13	7540.332	9709.080	9.708	10.4	3.6	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	2.12	38428.668	10026.567	47.909	51.1	2.2	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	2.13	75489.242	9839.865	95.897	102.3	2.3	NO	1.000	NO	MM
9	9	190712M2_14	Standard	250.000	2.13	180923.969	9585.236	235.941	251.7	0.7	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	2.13	351352.781	9471.328	463.706	494.7	-1.1	NO	1.000	NO	bb

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Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: PFBS
Correlation coefficient: r = 0.999843, r^2 = 0.999687
Calibration curve: 2.37276 * x + -0.156245
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	2.42	52.828	1221.430	0.541	0.3	17.5	NO	1.000	NO	MM
2	2	190712M2_7	Standard	0.500	2.41	101.154	1289.349	0.981	0.5	-4.2	NO	1.000	NO	MM
3	3	190712M2_8	Standard	1.000	2.41	204.244	1251.236	2.040	0.9	-7.4	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	2.41	506.930	1508.714	4.200	1.8	-8.2	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	2.41	1186.275	1354.983	10.944	4.7	-6.4	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	2.41	2389.361	1233.165	24.220	10.3	2.7	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	2.41	11580.064	1151.665	125.688	53.0	6.1	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	2.41	22001.563	1145.725	240.040	101.2	1.2	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	2.41	49943.738	1063.064	587.262	247.6	-1.0	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	2.42	88744.938	938.114	1182.491	498.4	-0.3	NO	1.000	NO	bb

Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.998954
Calibration curve: 0.000308893 * x^2 + 2.23604 * x + -0.0376249
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	2.84	77.980	2220.376	0.439	0.2	-14.7	NO	0.999	NO	bb
2	2	190712M2_7	Standard	0.500	2.83	227.634	2303.805	1.235	0.6	13.8	NO	0.999	NO	bb
3	3	190712M2_8	Standard	1.000	2.84	369.987	2178.746	2.123	1.0	-3.4	NO	0.999	NO	bb
4	4	190712M2_9	Standard	2.000	2.84	944.357	2532.486	4.661	2.1	5.0	NO	0.999	NO	bb
5	5	190712M2_10	Standard	5.000	2.84	1953.536	2276.247	10.728	4.8	-3.8	NO	0.999	NO	bb
6	6	190712M2_11	Standard	10.000	2.84	4024.313	2244.131	22.416	10.0	0.3	NO	0.999	NO	bb
7	7	190712M2_12	Standard	50.000	2.84	17911.037	1865.145	120.038	53.3	6.6	NO	0.999	NO	bb
8	8	190712M2_13	Standard	100.000	2.84	32033.688	1846.296	216.878	95.7	-4.3	NO	0.999	NO	bb
9	9	190712M2_14	Standard	250.000	2.84	66282.375	1426.793	580.694	251.0	0.4	NO	0.999	NO	bb
10	10	190712M2_15	Standard	500.000	2.84	111218.945	1351.793	1028.439	433.9	-13.2	NO	0.999	NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: PFHxA
Correlation coefficient: r = 0.999691, r^2 = 0.999382
Calibration curve: 0.873244 * x + 0.0275135
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	2.92	401.529	7565.288	0.265	0.3	9.0	NO	0.999	NO	bb
2	2	190712M2_7	Standard	0.500	2.92	713.983	8089.753	0.441	0.5	-5.2	NO	0.999	NO	bb
3	3	190712M2_8	Standard	1.000	2.92	1459.485	8004.647	0.912	1.0	1.2	NO	0.999	NO	MM
4	4	190712M2_9	Standard	2.000	2.92	3148.470	9006.723	1.748	2.0	-1.5	NO	0.999	NO	bb
5	5	190712M2_10	Standard	5.000	2.92	7408.621	8408.540	4.405	5.0	0.3	NO	0.999	NO	bb
6	6	190712M2_11	Standard	10.000	2.92	15034.992	8293.517	9.064	10.3	3.5	NO	0.999	NO	bb
7	7	190712M2_12	Standard	50.000	2.92	70312.750	7870.440	44.669	51.1	2.2	NO	0.999	NO	bb
8	8	190712M2_13	Standard	100.000	2.92	135617.016	7574.628	89.521	102.5	2.5	NO	0.999	NO	bb
9	9	190712M2_14	Standard	250.000	2.92	313942.969	6988.033	224.629	257.2	2.9	NO	0.999	NO	bb
10	10	190712M2_15	Standard	500.000	2.92	555862.563	6510.241	426.914	488.9	-2.2	NO	0.999	NO	bb

Compound name: PFPeS
Correlation coefficient: r = 0.996561, r^2 = 0.993135
Calibration curve: 1.69347 * x + 0.0925013
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	3.12	41.187	1221.430	0.422	0.2	-22.3	NO	0.993	NO	bb
2	2	190712M2_7	Standard	0.500	3.12	83.739	1289.349	0.812	0.4	-15.0	NO	0.993	NO	bb
3	3	190712M2_8	Standard	1.000	3.13	174.310	1251.236	1.741	1.0	-2.6	NO	0.993	NO	bb
4	4	190712M2_9	Standard	2.000	3.12	416.237	1508.714	3.449	2.0	-0.9	NO	0.993	NO	bb
5	5	190712M2_10	Standard	5.000	3.13	1011.237	1354.983	9.329	5.5	9.1	NO	0.993	NO	bb
6	6	190712M2_11	Standard	10.000	3.13	1958.277	1233.165	19.850	11.7	16.7	NO	0.993	NO	bb
7	7	190712M2_12	Standard	50.000	3.13	9042.237	1151.665	98.143	57.9	15.8	NO	0.993	NO	bb
8	8	190712M2_13	Standard	100.000	3.13	16375.701	1145.725	178.661	105.4	5.4	NO	0.993	NO	bb
9	9	190712M2_14	Standard	250.000	3.13	33811.133	1063.064	397.567	234.7	-6.1	NO	0.993	NO	bb
10	10	190712M2_15	Standard	500.000	3.13	55092.953	938.114	734.092	433.4	-13.3	NO	0.993	NO	bbX

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Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.998577
Calibration curve: -3.60857e-005 * x^2 + 0.525117 * x + -0.051754
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	3.14	25.280	1374.330	0.092	0.3	9.5	NO	0.999	NO	bb
2	2	190712M2_7	Standard	0.500	3.13	50.375	1375.197	0.183	0.4	-10.5	NO	0.999	NO	bb
3	3	190712M2_8	Standard	1.000	3.14	125.082	1160.301	0.539	1.1	12.5	NO	0.999	NO	bb
4	4	190712M2_9	Standard	2.000	3.13	293.403	1672.864	0.877	1.8	-11.6	NO	0.999	NO	bb
5	5	190712M2_10	Standard	5.000	3.13	769.482	1358.388	2.832	5.5	9.9	NO	0.999	NO	bb
6	6	190712M2_11	Standard	10.000	3.14	1578.343	1615.177	4.886	9.4	-5.9	NO	0.999	NO	bb
7	7	190712M2_12	Standard	50.000	3.13	7270.841	1407.855	25.822	49.4	-1.1	NO	0.999	NO	bb
8	8	190712M2_13	Standard	100.000	3.13	13867.788	1427.484	48.574	93.2	-6.8	NO	0.999	NO	bb
9	9	190712M2_14	Standard	250.000	3.14	29953.539	1106.350	135.371	262.6	5.1	NO	0.999	NO	bb
10	10	190712M2_15	Standard	500.000	3.13	48116.719	958.410	251.024	495.0	-1.0	NO	0.999	NO	bb

Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.999853
Calibration curve: 0.000284581 * x^2 + 0.152498 * x + -0.00490294
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	3.47	27.663	10141.064	0.034	0.3	2.2	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	3.47	53.363	10552.625	0.063	0.4	-10.7	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	3.47	124.914	10601.032	0.147	1.0	-0.4	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	3.47	296.829	11779.045	0.315	2.1	4.5	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	3.47	678.548	10638.573	0.797	5.2	4.2	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	3.47	1344.921	10732.636	1.566	10.1	1.1	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	3.48	6859.149	10422.711	8.226	49.4	-1.2	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	3.47	13541.632	9331.513	18.140	100.2	0.2	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	3.48	6716.722	8275.448	10.146	59.9	-76.1	YES	1.000	NO	bbX
10	10	190712M2_15	Standard	500.000	3.48	14212.274	7291.069	24.366	128.8	-74.2	YES	1.000	NO	bbX

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Compound name: PFHpA
Correlation coefficient: r = 0.999931, r^2 = 0.999863
Calibration curve: 1.3101 * x + -0.0413598
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	3.54	243.872	10141.064	0.301	0.3	4.4	NO	1.000	NO	MM
2	2	190712M2_7	Standard	0.500	3.54	508.759	10552.625	0.603	0.5	-1.7	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	3.54	1072.376	10601.032	1.264	1.0	-0.3	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	3.54	2402.215	11779.045	2.549	2.0	-1.1	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	3.54	5468.718	10638.573	6.426	4.9	-1.3	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	3.54	11519.664	10732.636	13.417	10.3	2.7	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	3.54	52293.703	10422.711	62.716	47.9	-4.2	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	3.54	98595.070	9331.513	132.073	100.8	0.8	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	3.54	218647.484	8275.448	330.265	252.1	0.8	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	3.55	381252.875	7291.069	653.630	498.9	-0.2	NO	1.000	NO	bb

Compound name: ADONA
Correlation coefficient: r = 0.999288, r^2 = 0.998576
Calibration curve: 3.20131 * x + -0.268884
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	3.66	609.356	10141.064	0.751	0.3	27.4	NO	0.999	NO	bb
2	2	190712M2_7	Standard	0.500	3.66	1189.608	10552.625	1.409	0.5	4.8	NO	0.999	NO	bb
3	3	190712M2_8	Standard	1.000	3.66	2515.798	10601.032	2.966	1.0	1.1	NO	0.999	NO	bb
4	4	190712M2_9	Standard	2.000	3.66	5459.274	11779.045	5.793	1.9	-5.3	NO	0.999	NO	bb
5	5	190712M2_10	Standard	5.000	3.66	12444.935	10638.573	14.622	4.7	-7.0	NO	0.999	NO	bb
6	6	190712M2_11	Standard	10.000	3.66	25052.098	10732.636	29.177	9.2	-8.0	NO	0.999	NO	bb
7	7	190712M2_12	Standard	50.000	3.66	121691.219	10422.711	145.945	45.7	-8.7	NO	0.999	NO	bb
8	8	190712M2_13	Standard	100.000	3.66	220903.219	9331.513	295.910	92.5	-7.5	NO	0.999	NO	bb
9	9	190712M2_14	Standard	250.000	3.66	534971.313	8275.448	808.070	252.5	1.0	NO	0.999	NO	bb
10	10	190712M2_15	Standard	500.000	3.66	953010.125	7291.069	1633.866	510.5	2.1	NO	0.999	NO	bb

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Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999823
Calibration curve: 0.000138177 * x^2 + 0.948867 * x + -0.0687586
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	3.70	34.792	2713.482	0.160	0.2	-3.5	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	3.71	86.091	2471.737	0.435	0.5	6.3	NO	1.000	NO	MM
3	3	190712M2_8	Standard	1.000	3.70	155.926	2745.598	0.710	0.8	-17.9	NO	1.000	NO	MM
4	4	190712M2_9	Standard	2.000	3.70	398.081	3034.427	1.640	1.8	-10.0	NO	1.000	NO	MM
5	5	190712M2_10	Standard	5.000	3.70	955.509	2651.179	4.505	4.8	-3.7	NO	1.000	NO	MM
6	6	190712M2_11	Standard	10.000	3.70	1965.460	2562.264	9.588	10.2	1.6	NO	1.000	NO	MM
7	7	190712M2_12	Standard	50.000	3.70	9516.059	2581.445	46.079	48.3	-3.4	NO	1.000	NO	MM
8	8	190712M2_13	Standard	100.000	3.70	18233.701	2346.975	97.113	100.9	0.9	NO	1.000	NO	MM
9	9	190712M2_14	Standard	250.000	3.70	40323.063	2032.473	247.993	252.2	0.9	NO	1.000	NO	MM
10	10	190712M2_15	Standard	500.000	3.70	72963.156	1796.111	507.786	499.0	-0.2	NO	1.000	NO	MM

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.999832
Calibration curve: -4.8036e-005 * x^2 + 3.06357 * x + -0.156613
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	4.01	66.437	1716.675	0.484	0.2	-16.4	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	4.02	215.183	1820.051	1.478	0.5	6.7	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	4.01	380.283	1854.420	2.563	0.9	-11.2	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	4.01	912.420	1971.665	5.785	1.9	-3.0	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	4.02	2262.664	1772.810	15.954	5.3	5.2	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	4.01	4595.169	1907.899	30.106	9.9	-1.2	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	4.01	20989.408	1740.232	150.766	49.3	-1.4	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	4.02	37321.570	1510.867	308.776	101.0	1.0	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	4.02	78983.742	1295.766	761.941	249.7	-0.1	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	4.02	133926.188	1216.533	1376.105	452.4	-9.5	NO	1.000	NO	bbX

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Compound name: L-PFOA
Correlation coefficient: r = 0.999945, r^2 = 0.999890
Calibration curve: 1.36486 * x + 0.0739172
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	4.07	585.039	18136.037	0.403	0.2	-3.5	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	4.07	1109.363	18106.699	0.766	0.5	1.4	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	4.07	1996.596	17908.924	1.394	1.0	-3.3	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	4.07	4449.107	19910.906	2.793	2.0	-0.4	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	4.07	10432.041	18881.467	6.906	5.0	0.1	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	4.07	21096.107	18604.402	14.174	10.3	3.3	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	4.07	96155.797	17063.852	70.438	51.6	3.1	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	4.07	180848.500	16506.775	136.950	100.3	0.3	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	4.07	376138.000	13944.007	337.186	247.0	-1.2	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	4.07	644388.063	11781.346	683.695	500.9	0.2	NO	1.000	NO	bb

Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999965
Calibration curve: 6.23843e-005 * x^2 + 0.198261 * x + -0.0178896
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	4.10	39.104	18136.037	0.027	0.2	-9.5	NO	1.000	NO	MM
2	2	190712M2_7	Standard	0.500	4.09	125.990	18106.699	0.087	0.5	5.8	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	4.08	279.501	17908.924	0.195	1.1	7.4	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	4.09	609.282	19910.906	0.383	2.0	0.9	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	4.09	1397.538	18881.467	0.925	4.7	-5.0	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	4.09	2936.792	18604.402	1.973	10.0	0.1	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	4.09	13680.303	17063.852	10.021	49.9	-0.3	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	4.09	27256.561	16506.775	20.640	101.0	1.0	NO	1.000	NO	bd
9	9	190712M2_14	Standard	250.000	4.09	59370.730	13944.007	53.222	249.0	-0.4	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	4.09	108183.523	11781.346	114.783	500.3	0.1	NO	1.000	NO	bd

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Compound name: PFHpS
Correlation coefficient: r = 0.999877, r^2 = 0.999755
Calibration curve: 0.947743 * x + -0.026999
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	4.19	50.755	2972.283	0.213	0.3	1.5	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	4.19	91.514	2979.653	0.384	0.4	-13.3	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	4.19	197.187	2962.104	0.832	0.9	-9.4	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	4.19	555.597	3382.259	2.053	2.2	9.8	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	4.19	1147.909	3037.856	4.723	5.0	0.2	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	4.19	2452.509	3050.850	10.048	10.6	6.3	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	4.19	11601.761	2935.979	49.395	52.1	4.3	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	4.19	21903.088	2846.372	96.189	101.5	1.5	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	4.19	47567.078	2514.789	236.437	249.5	-0.2	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	4.19	81830.555	2175.448	470.194	496.1	-0.8	NO	1.000	NO	bb

Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999265
Calibration curve: 3.2948e-005 * x^2 + 0.106989 * x + -0.0203978
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	4.49	18.883	17521.201	0.013	0.3	26.6	NO	0.999	NO	bb
2	2	190712M2_7	Standard	0.500	4.50	47.378	17772.717	0.033	0.5	0.4	NO	0.999	NO	bb
3	3	190712M2_8	Standard	1.000	4.49	87.296	19065.916	0.057	0.7	-27.5	NO	0.999	NO	bb
4	4	190712M2_9	Standard	2.000	4.50	318.424	19756.031	0.201	2.1	3.6	NO	0.999	NO	bb
5	5	190712M2_10	Standard	5.000	4.50	743.764	18412.686	0.505	4.9	-1.9	NO	0.999	NO	bb
6	6	190712M2_11	Standard	10.000	4.50	1471.912	17960.967	1.024	9.7	-2.6	NO	0.999	NO	bb
7	7	190712M2_12	Standard	50.000	4.50	7461.382	16924.672	5.511	50.9	1.8	NO	0.999	NO	bb
8	8	190712M2_13	Standard	100.000	4.50	14625.477	16677.789	10.962	99.6	-0.4	NO	0.999	NO	bb
9	9	190712M2_14	Standard	250.000	4.50	7239.446	15113.572	5.988	55.2	-77.9	YES	0.999	NO	bbX
10	10	190712M2_15	Standard	500.000	4.50	14770.366	13397.055	13.781	124.2	-75.2	YES	0.999	NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: PFNA
Correlation coefficient: r = 0.999957, r^2 = 0.999913
Calibration curve: 1.22879 * x + -0.0175663
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	4.52	373.809	17521.201	0.267	0.2	-7.5	NO	1.000	NO	bb
2	2 190712M2_7	Standard	0.500	4.52	820.820	17772.717	0.577	0.5	-3.2	NO	1.000	NO	bb
3	3 190712M2_8	Standard	1.000	4.52	1830.222	19065.916	1.200	1.0	-0.9	NO	1.000	NO	bb
4	4 190712M2_9	Standard	2.000	4.52	4088.445	19756.031	2.587	2.1	6.0	NO	1.000	NO	bb
5	5 190712M2_10	Standard	5.000	4.52	8961.922	18412.686	6.084	5.0	-0.7	NO	1.000	NO	bb
6	6 190712M2_11	Standard	10.000	4.52	18470.594	17960.967	12.855	10.5	4.8	NO	1.000	NO	bb
7	7 190712M2_12	Standard	50.000	4.52	84570.766	16924.672	62.461	50.8	1.7	NO	1.000	NO	bb
8	8 190712M2_13	Standard	100.000	4.52	163371.344	16677.789	122.447	99.7	-0.3	NO	1.000	NO	bb
9	9 190712M2_14	Standard	250.000	4.52	374212.156	15113.572	309.500	251.9	0.8	NO	1.000	NO	bb
10	10 190712M2_15	Standard	500.000	4.52	654631.688	13397.055	610.798	497.1	-0.6	NO	1.000	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.999717, r^2 = 0.999434
Calibration curve: 1.17513 * x + -0.106628
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	4.58	62.905	3208.497	0.245	0.3	19.7	NO	0.999	NO	bb
2	2 190712M2_7	Standard	0.500	4.58	130.625	3163.173	0.516	0.5	6.0	NO	0.999	NO	bb
3	3 190712M2_8	Standard	1.000	4.58	294.306	3352.661	1.097	1.0	2.4	NO	0.999	NO	bb
4	4 190712M2_9	Standard	2.000	4.58	576.167	3765.844	1.912	1.7	-14.1	NO	0.999	NO	bb
5	5 190712M2_10	Standard	5.000	4.58	1451.686	3432.385	5.287	4.6	-8.2	NO	0.999	NO	bb
6	6 190712M2_11	Standard	10.000	4.58	2955.703	3533.940	10.455	9.0	-10.1	NO	0.999	NO	bb
7	7 190712M2_12	Standard	50.000	4.58	15362.730	3125.368	61.444	52.4	4.8	NO	0.999	NO	bb
8	8 190712M2_13	Standard	100.000	4.58	28660.381	3109.574	115.210	98.1	-1.9	NO	0.999	NO	bb
9	9 190712M2_14	Standard	250.000	4.58	67262.352	2798.268	300.464	255.8	2.3	NO	0.999	NO	bb
10	10 190712M2_15	Standard	500.000	4.58	126445.766	2715.979	581.953	495.3	-0.9	NO	0.999	NO	bb

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Compound name: L-PFOS
Correlation coefficient: r = 0.999549, r^2 = 0.999099
Calibration curve: 1.1152 * x + -0.160592
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	4.60	80.691	2972.283	0.339	0.4	79.3	YES	0.999	NO	MMX
2	2 190712M2_7	Standard	0.500	4.61	81.887	2979.653	0.344	0.5	-9.6	NO	0.999	NO	MM
3	3 190712M2_8	Standard	1.000	4.61	227.483	2962.104	0.960	1.0	0.5	NO	0.999	NO	MM
4	4 190712M2_9	Standard	2.000	4.61	503.222	3382.259	1.860	1.8	-9.4	NO	0.999	NO	MM
5	5 190712M2_10	Standard	5.000	4.61	1339.280	3037.856	5.511	5.1	1.7	NO	0.999	NO	MM
6	6 190712M2_11	Standard	10.000	4.61	2622.468	3050.850	10.745	9.8	-2.2	NO	0.999	NO	MM
7	7 190712M2_12	Standard	50.000	4.61	12363.208	2935.979	52.637	47.3	-5.3	NO	0.999	NO	MM
8	8 190712M2_13	Standard	100.000	4.61	23626.637	2846.372	103.758	93.2	-6.8	NO	0.999	NO	MM
9	9 190712M2_14	Standard	250.000	4.61	56492.207	2514.789	280.800	251.9	0.8	NO	0.999	NO	MM
10	10 190712M2_15	Standard	500.000	4.61	98547.961	2175.448	566.251	507.9	1.6	NO	0.999	NO	MM

Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999757
Calibration curve: -1.64188e-005 * x^2 + 1.92142 * x + -0.163446
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	4.82	88.061	2972.283	0.370	0.3	11.1	NO	1.000	NO	bb
2	2 190712M2_7	Standard	0.500	4.83	215.620	2979.653	0.905	0.6	11.2	NO	1.000	NO	bb
3	3 190712M2_8	Standard	1.000	4.83	383.858	2962.104	1.620	0.9	-7.2	NO	1.000	NO	bb
4	4 190712M2_9	Standard	2.000	4.82	875.243	3382.259	3.235	1.8	-11.6	NO	1.000	NO	bb
5	5 190712M2_10	Standard	5.000	4.83	2300.924	3037.856	9.468	5.0	0.3	NO	1.000	NO	bb
6	6 190712M2_11	Standard	10.000	4.82	4535.295	3050.850	18.582	9.8	-2.4	NO	1.000	NO	bb
7	7 190712M2_12	Standard	50.000	4.83	22351.365	2935.979	95.161	49.6	-0.7	NO	1.000	NO	bb
8	8 190712M2_13	Standard	100.000	4.83	42678.406	2846.372	187.425	97.7	-2.3	NO	1.000	NO	bb
9	9 190712M2_14	Standard	250.000	4.83	98412.086	2514.789	489.167	255.2	2.1	NO	1.000	NO	bb
10	10 190712M2_15	Standard	500.000	4.83	165752.172	2175.448	952.403	497.9	-0.4	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: PFDA
Correlation coefficient: r = 0.999262, r^2 = 0.998524
Calibration curve: 1.36294 * x + 0.0573661
Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	4.89	475.465	17047.721	0.349	0.2	-14.5	NO	0.999	NO	bb
2	2 190712M2_7	Standard	0.500	4.90	989.614	17841.223	0.693	0.5	-6.7	NO	0.999	NO	bb
3	3 190712M2_8	Standard	1.000	4.89	2194.601	18656.340	1.470	1.0	3.7	NO	0.999	NO	bb
4	4 190712M2_9	Standard	2.000	4.89	4470.009	19772.314	2.826	2.0	1.6	NO	0.999	NO	bb
5	5 190712M2_10	Standard	5.000	4.90	9935.964	18107.758	6.859	5.0	-0.2	NO	0.999	NO	bb
6	6 190712M2_11	Standard	10.000	4.90	20185.570	17124.600	14.734	10.8	7.7	NO	0.999	NO	bb
7	7 190712M2_12	Standard	50.000	4.90	94920.453	16425.102	72.237	53.0	5.9	NO	0.999	NO	bb
8	8 190712M2_13	Standard	100.000	4.90	186723.406	16912.354	138.008	101.2	1.2	NO	0.999	NO	bb
9	9 190712M2_14	Standard	250.000	4.90	410970.250	14407.154	356.568	261.6	4.6	NO	0.999	NO	bb
10	10 190712M2_15	Standard	500.000	4.90	686057.563	13012.556	659.034	483.5	-3.3	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.999124
Calibration curve: -0.000508701 * x^2 + 1.8517 * x + -0.11439
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	4.86	53.390	1760.670	0.379	0.3	6.6	NO	0.999	NO	bb
2	2 190712M2_7	Standard	0.500	4.86	116.981	1777.674	0.823	0.5	1.2	NO	0.999	NO	bb
3	3 190712M2_8	Standard	1.000	4.87	238.405	1910.545	1.560	0.9	-9.6	NO	0.999	NO	bb
4	4 190712M2_9	Standard	2.000	4.87	474.505	2112.955	2.807	1.6	-21.1	NO	0.999	NO	bb
5	5 190712M2_10	Standard	5.000	4.87	1294.922	1922.851	8.418	4.6	-7.7	NO	0.999	NO	bb
6	6 190712M2_11	Standard	10.000	4.87	2638.689	1743.825	18.915	10.3	3.1	NO	0.999	NO	bb
7	7 190712M2_12	Standard	50.000	4.87	12029.235	1570.813	95.725	52.5	5.0	NO	0.999	NO	bb
8	8 190712M2_13	Standard	100.000	4.87	21715.582	1544.820	175.713	97.6	-2.4	NO	0.999	NO	bb
9	9 190712M2_14	Standard	250.000	4.87	45977.840	1330.954	431.813	250.5	0.2	NO	0.999	NO	bb
10	10 190712M2_15	Standard	500.000	4.87	73978.094	1274.003	725.843	446.9	-10.6	NO	0.999	NO	bbX

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Compound name: PFNS
Correlation coefficient: r = 0.999570, r^2 = 0.999140
Calibration curve: 0.737712 * x + 0.034269
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	4.96	55.155	2972.283	0.232	0.3	7.2	NO	0.999	NO	bb
2	2 190712M2_7	Standard	0.500	4.97	83.650	2979.653	0.351	0.4	-14.2	NO	0.999	NO	bb
3	3 190712M2_8	Standard	1.000	4.97	181.577	2962.104	0.766	1.0	-0.8	NO	0.999	NO	bb
4	4 190712M2_9	Standard	2.000	4.96	349.905	3382.259	1.293	1.7	-14.7	NO	0.999	NO	bb
5	5 190712M2_10	Standard	5.000	4.97	964.469	3037.856	3.969	5.3	6.7	NO	0.999	NO	bb
6	6 190712M2_11	Standard	10.000	4.96	1964.084	3050.850	8.047	10.9	8.6	NO	0.999	NO	bb
7	7 190712M2_12	Standard	50.000	4.96	9268.895	2935.979	39.463	53.4	6.9	NO	0.999	NO	bb
8	8 190712M2_13	Standard	100.000	4.97	17383.520	2846.372	76.341	103.4	3.4	NO	0.999	NO	bb
9	9 190712M2_14	Standard	250.000	4.97	35885.918	2514.789	178.374	241.7	-3.3	NO	0.999	NO	bb
10	10 190712M2_15	Standard	500.000	4.97	64267.875	2175.448	369.280	500.5	0.1	NO	0.999	NO	bb

Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999147
Calibration curve: -0.000920396 * x^2 + 2.94574 * x + -0.277912
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	5.05	153.535	3140.943	0.611	0.3	20.7	NO	0.999	NO	MM
2	2 190712M2_7	Standard	0.500	5.05	277.972	3131.604	1.110	0.5	-5.8	NO	0.999	NO	MM
3	3 190712M2_8	Standard	1.000	5.05	715.792	3164.304	2.828	1.1	5.5	NO	0.999	NO	MM
4	4 190712M2_9	Standard	2.000	5.05	1520.353	3540.984	5.367	1.9	-4.1	NO	0.999	NO	MM
5	5 190712M2_10	Standard	5.000	5.05	3317.217	3220.702	12.875	4.5	-10.6	NO	0.999	NO	MM
6	6 190712M2_11	Standard	10.000	5.05	7270.233	3173.772	28.634	9.8	-1.5	NO	0.999	NO	MM
7	7 190712M2_12	Standard	50.000	5.06	33154.375	3016.586	137.384	47.4	-5.1	NO	0.999	NO	MM
8	8 190712M2_13	Standard	100.000	5.05	64010.949	2868.771	278.913	97.8	-2.2	NO	0.999	NO	MM
9	9 190712M2_14	Standard	250.000	5.05	140951.422	2496.669	705.697	260.9	4.4	NO	0.999	NO	MM
10	10 190712M2_15	Standard	500.000	5.06	251990.438	2558.889	1230.956	494.3	-1.1	NO	0.999	NO	MM

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Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Compound name: L-EtFOSAA
Correlation coefficient: r = 0.998470, r^2 = 0.996943
Calibration curve: 1.62608 * x + 0.0226238
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	5.22	109.113	3754.324	0.363	0.2	-16.2	NO	0.997	NO	bb
2	2	190712M2_7	Standard	0.500	5.22	287.114	3927.580	0.914	0.5	9.6	NO	0.997	NO	MM
3	3	190712M2_8	Standard	1.000	5.22	501.278	3851.082	1.627	1.0	-1.3	NO	0.997	NO	MM
4	4	190712M2_9	Standard	2.000	5.21	1085.053	4298.146	3.156	1.9	-3.7	NO	0.997	NO	MM
5	5	190712M2_10	Standard	5.000	5.22	2592.861	4017.538	8.067	4.9	-1.1	NO	0.997	NO	MM
6	6	190712M2_11	Standard	10.000	5.22	5622.646	3963.581	17.732	10.9	8.9	NO	0.997	NO	MM
7	7	190712M2_12	Standard	50.000	5.21	24916.367	3704.807	84.068	51.7	3.4	NO	0.997	NO	MM
8	8	190712M2_13	Standard	100.000	5.22	46920.309	3486.810	168.206	103.4	3.4	NO	0.997	NO	MM
9	9	190712M2_14	Standard	250.000	5.22	100726.875	2885.221	436.392	268.4	7.3	NO	0.997	NO	MM
10	10	190712M2_15	Standard	500.000	5.21	167814.344	2711.365	773.662	475.8	-4.8	NO	0.997	NO	MM

Compound name: PFUdA
Correlation coefficient: r = 0.999588, r^2 = 0.999177
Calibration curve: 0.918609 * x + 0.0387869
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	5.23	436.680	22627.100	0.241	0.2	-11.8	NO	0.999	NO	bb
2	2	190712M2_7	Standard	0.500	5.23	889.983	24092.484	0.462	0.5	-7.9	NO	0.999	NO	bb
3	3	190712M2_8	Standard	1.000	5.23	1978.550	24449.457	1.012	1.1	5.9	NO	0.999	NO	bb
4	4	190712M2_9	Standard	2.000	5.23	4077.467	27236.840	1.871	2.0	-0.3	NO	0.999	NO	bb
5	5	190712M2_10	Standard	5.000	5.23	9389.325	25159.160	4.665	5.0	0.7	NO	0.999	NO	bb
6	6	190712M2_11	Standard	10.000	5.23	18674.277	24154.344	9.664	10.5	4.8	NO	0.999	NO	bb
7	7	190712M2_12	Standard	50.000	5.23	87614.898	23002.064	47.613	51.8	3.6	NO	0.999	NO	bb
8	8	190712M2_13	Standard	100.000	5.23	168086.063	21352.746	98.398	107.1	7.1	NO	0.999	NO	bb
9	9	190712M2_14	Standard	250.000	5.23	362783.031	19808.254	228.934	249.2	-0.3	NO	0.999	NO	bb
10	10	190712M2_15	Standard	500.000	5.23	616744.438	17074.875	451.500	491.5	-1.7	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: PFDS
Correlation coefficient: r = 0.997550, r^2 = 0.995106
Calibration curve: 1.74852 * x + 0.127653
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	5.28	18.043	1760.670	0.128	0.0	-99.9	YES	0.995	NO	bbX
2	2 190712M2_7	Standard	0.500	5.28	124.412	1777.674	0.875	0.4	-14.5	NO	0.995	NO	bb
3	3 190712M2_8	Standard	1.000	5.28	313.144	1910.545	2.049	1.1	9.9	NO	0.995	NO	bb
4	4 190712M2_9	Standard	2.000	5.28	542.608	2112.955	3.210	1.8	-11.9	NO	0.995	NO	bb
5	5 190712M2_10	Standard	5.000	5.28	1308.321	1922.851	8.505	4.8	-4.2	NO	0.995	NO	bb
6	6 190712M2_11	Standard	10.000	5.28	2507.062	1743.825	17.971	10.2	2.0	NO	0.995	NO	bb
7	7 190712M2_12	Standard	50.000	5.28	12351.143	1570.813	98.286	56.1	12.3	NO	0.995	NO	bb
8	8 190712M2_13	Standard	100.000	5.28	22597.455	1544.820	182.849	104.5	4.5	NO	0.995	NO	bb
9	9 190712M2_14	Standard	250.000	5.28	50244.586	1330.954	471.885	269.8	7.9	NO	0.995	NO	bb
10	10 190712M2_15	Standard	500.000	5.28	83731.242	1274.003	821.537	469.8	-6.0	NO	0.995	NO	bb

Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.998877
Calibration curve: -3.59269e-006 * x^2 + 0.0688991 * x + -0.00478901
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	5.45	13.946	21827.584	0.008	0.2	-25.8	NO	0.999	NO	bb
2	2 190712M2_7	Standard	0.500	5.45	69.606	22589.061	0.039	0.6	25.7	NO	0.999	NO	bb
3	3 190712M2_8	Standard	1.000	5.45	118.710	22921.080	0.065	1.0	0.9	NO	0.999	NO	bb
4	4 190712M2_9	Standard	2.000	5.45	289.303	24988.051	0.145	2.2	8.5	NO	0.999	NO	bb
5	5 190712M2_10	Standard	5.000	5.45	622.563	23146.453	0.336	5.0	-1.0	NO	0.999	NO	bb
6	6 190712M2_11	Standard	10.000	5.45	1200.050	22535.000	0.666	9.7	-2.6	NO	0.999	NO	bb
7	7 190712M2_12	Standard	50.000	5.45	5675.775	21772.752	3.259	47.5	-5.0	NO	0.999	NO	bb
8	8 190712M2_13	Standard	100.000	5.45	11095.830	21188.383	6.546	95.6	-4.4	NO	0.999	NO	bb
9	9 190712M2_14	Standard	250.000	5.45	26725.578	18767.543	17.800	262.0	4.8	NO	0.999	NO	bb
10	10 190712M2_15	Standard	500.000	5.45	47244.031	17775.680	33.222	495.0	-1.0	NO	0.999	NO	bb

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Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999126
Calibration curve: -0.00146773 * x^2 + 2.46 * x + 0.0547691
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	5.50	88.878	1760.670	0.631	0.2	-6.3	NO	0.999	NO	bb
2	2 190712M2_7	Standard	0.500	5.50	184.502	1777.674	1.297	0.5	1.1	NO	0.999	NO	bb
3	3 190712M2_8	Standard	1.000	5.50	371.906	1910.545	2.433	1.0	-3.3	NO	0.999	NO	bb
4	4 190712M2_9	Standard	2.000	5.50	812.401	2112.955	4.806	1.9	-3.3	NO	0.999	NO	bb
5	5 190712M2_10	Standard	5.000	5.50	1966.991	1922.851	12.787	5.2	3.8	NO	0.999	NO	bb
6	6 190712M2_11	Standard	10.000	5.50	3599.107	1743.825	25.799	10.5	5.3	NO	0.999	NO	bb
7	7 190712M2_12	Standard	50.000	5.51	16121.602	1570.813	128.290	53.9	7.7	NO	0.999	NO	bb
8	8 190712M2_13	Standard	100.000	5.50	27255.758	1544.820	220.542	95.0	-5.0	NO	0.999	NO	bb
9	9 190712M2_14	Standard	250.000	5.50	55549.199	1330.954	521.705	249.1	-0.4	NO	0.999	NO	bb
10	10 190712M2_15	Standard	500.000	5.50	88178.742	1274.003	865.174	502.1	0.4	NO	0.999	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999981
Calibration curve: -0.000303859 * x^2 + 1.04937 * x + -0.00738853
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	5.52	419.439	21827.584	0.240	0.2	-5.6	NO	1.000	NO	bb
2	2 190712M2_7	Standard	0.500	5.52	931.957	22589.061	0.516	0.5	-0.3	NO	1.000	NO	bb
3	3 190712M2_8	Standard	1.000	5.52	1867.922	22921.080	1.019	1.0	-2.2	NO	1.000	NO	bb
4	4 190712M2_9	Standard	2.000	5.52	4367.755	24988.051	2.185	2.1	4.5	NO	1.000	NO	bb
5	5 190712M2_10	Standard	5.000	5.52	9871.675	23146.453	5.331	5.1	1.9	NO	1.000	NO	bb
6	6 190712M2_11	Standard	10.000	5.52	19198.826	22535.000	10.649	10.2	1.9	NO	1.000	NO	bb
7	7 190712M2_12	Standard	50.000	5.52	90383.875	21772.752	51.890	50.2	0.4	NO	1.000	NO	bb
8	8 190712M2_13	Standard	100.000	5.52	171898.172	21188.383	101.411	99.5	-0.5	NO	1.000	NO	bb
9	9 190712M2_14	Standard	250.000	5.52	364967.594	18767.543	243.084	249.7	-0.1	NO	1.000	NO	bb
10	10 190712M2_15	Standard	500.000	5.52	638378.000	17775.680	448.913	500.3	0.1	NO	1.000	NO	bb

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Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999823
Calibration curve: -0.000171568 * x^2 + 1.34961 * x + -0.35958
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	1.250	5.66	77.538	9270.478	1.255	1.2	-4.3	NO	1.000	NO	bb
2	2	190712M2_7	Standard	2.500	5.66	167.230	9596.727	2.614	2.2	-11.8	NO	1.000	NO	bb
3	3	190712M2_8	Standard	5.000	5.66	419.282	9964.387	6.312	4.9	-1.1	NO	1.000	NO	bb
4	4	190712M2_9	Standard	10.000	5.66	919.957	10643.908	12.965	9.9	-1.1	NO	1.000	NO	bb
5	5	190712M2_10	Standard	25.000	5.66	2154.550	9850.780	32.808	24.7	-1.4	NO	1.000	NO	bb
6	6	190712M2_11	Standard	50.000	5.66	4306.411	9862.311	65.498	49.1	-1.8	NO	1.000	NO	bb
7	7	190712M2_12	Standard	250.000	5.66	20989.877	9523.072	330.616	253.4	1.4	NO	1.000	NO	bb
8	8	190712M2_13	Standard	500.000	5.66	39148.156	9494.082	618.514	488.9	-2.2	NO	1.000	NO	bb
9	9	190712M2_14	Standard	1250.000	5.66	88123.031	9202.735	1436.362	1269.4	1.6	NO	1.000	NO	bb
10	10	190712M2_15	Standard	2500.000	5.66	150217.063	9819.486	2294.678	2486.5	-0.5	NO	1.000	NO	bb

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999906
Calibration curve: -0.000467463 * x^2 + 1.20461 * x + -0.0179675
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	5.77	502.529	21827.584	0.288	0.3	1.5	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	5.77	1043.126	22589.061	0.577	0.5	-1.2	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	5.77	2163.518	22921.080	1.180	1.0	-0.5	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	5.77	4886.679	24988.051	2.445	2.0	2.3	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	5.77	10791.761	23146.453	5.828	4.9	-2.8	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	5.77	21848.492	22535.000	12.119	10.1	1.2	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	5.77	103319.789	21772.752	59.317	50.2	0.5	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	5.77	192600.297	21188.383	113.624	98.1	-1.9	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	5.77	412621.719	18767.543	274.824	253.0	1.2	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	5.77	688801.125	17775.680	484.370	498.6	-0.3	NO	1.000	NO	bb

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Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999567
Calibration curve: -2.24391e-005 * x^2 + 0.176956 * x + -0.0107261
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	5.80	46.119	15139.587	0.038	0.3	10.3	NO	1.000	NO	bb
2	2	190712M2_7	Standard	0.500	5.80	87.588	15161.746	0.072	0.5	-6.3	NO	1.000	NO	bb
3	3	190712M2_8	Standard	1.000	5.80	205.905	16127.418	0.160	1.0	-3.7	NO	1.000	NO	bb
4	4	190712M2_9	Standard	2.000	5.80	512.499	17316.654	0.370	2.2	7.6	NO	1.000	NO	bb
5	5	190712M2_10	Standard	5.000	5.80	1092.260	16085.099	0.849	4.9	-2.8	NO	1.000	NO	bb
6	6	190712M2_11	Standard	10.000	5.80	2187.819	15841.613	1.726	9.8	-1.7	NO	1.000	NO	bb
7	7	190712M2_12	Standard	50.000	5.80	10164.704	14974.800	8.485	48.3	-3.4	NO	1.000	NO	bb
8	8	190712M2_13	Standard	100.000	5.80	20417.590	14973.014	17.045	97.6	-2.4	NO	1.000	NO	bb
9	9	190712M2_14	Standard	250.000	5.80	45166.656	12804.417	44.093	257.7	3.1	NO	1.000	NO	bb
10	10	190712M2_15	Standard	500.000	5.80	76855.805	11667.836	82.337	496.6	-0.7	NO	1.000	NO	bb

Compound name: PFTeDA
Correlation coefficient: r = 0.999546, r^2 = 0.999093
Calibration curve: 1.33064 * x + 0.0105238
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	0.250	5.99	422.060	15139.587	0.348	0.3	1.6	NO	0.999	NO	bb
2	2	190712M2_7	Standard	0.500	6.00	764.290	15161.746	0.630	0.5	-6.9	NO	0.999	NO	bb
3	3	190712M2_8	Standard	1.000	5.99	1681.579	16127.418	1.303	1.0	-2.8	NO	0.999	NO	bb
4	4	190712M2_9	Standard	2.000	5.99	3769.051	17316.654	2.721	2.0	1.8	NO	0.999	NO	bb
5	5	190712M2_10	Standard	5.000	5.99	8332.091	16085.099	6.475	4.9	-2.8	NO	0.999	NO	bb
6	6	190712M2_11	Standard	10.000	5.99	16971.832	15841.613	13.392	10.1	0.6	NO	0.999	NO	bb
7	7	190712M2_12	Standard	50.000	5.99	85848.430	14974.800	71.661	53.8	7.7	NO	0.999	NO	bb
8	8	190712M2_13	Standard	100.000	6.00	159485.422	14973.014	133.144	100.1	0.1	NO	0.999	NO	bb
9	9	190712M2_14	Standard	250.000	6.00	351484.594	12804.417	343.128	257.9	3.1	NO	0.999	NO	bb
10	10	190712M2_15	Standard	500.000	6.00	606563.188	11667.836	649.824	488.3	-2.3	NO	0.999	NO	bb

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Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999426
Calibration curve: -7.21463e-005 * x^2 + 1.02352 * x + -0.257314
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	1.250	6.09	92.771	13789.952	1.009	1.2	-1.0	NO	0.999	NO	bb
2	2 190712M2_7	Standard	2.500	6.10	246.228	14292.511	2.584	2.8	11.1	NO	0.999	NO	bb
3	3 190712M2_8	Standard	5.000	6.09	416.565	14300.545	4.369	4.5	-9.6	NO	0.999	NO	bb
4	4 190712M2_9	Standard	10.000	6.09	1086.668	15698.592	10.383	10.4	4.0	NO	0.999	NO	bd
5	5 190712M2_10	Standard	25.000	6.09	2419.596	14789.742	24.540	24.3	-2.9	NO	0.999	NO	bb
6	6 190712M2_11	Standard	50.000	6.09	4871.395	14185.052	51.513	50.8	1.5	NO	0.999	NO	bb
7	7 190712M2_12	Standard	250.000	6.09	22793.146	13893.367	246.087	244.9	-2.0	NO	0.999	NO	bb
8	8 190712M2_13	Standard	500.000	6.09	42453.563	13394.135	475.435	481.1	-3.8	NO	0.999	NO	bb
9	9 190712M2_14	Standard	1250.000	6.09	97573.578	12157.304	1203.888	1294.6	3.6	NO	0.999	NO	bb
10	10 190712M2_15	Standard	2500.000	6.09	168668.875	12088.109	2092.993	2478.0	-0.9	NO	0.999	NO	bb

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999903
Calibration curve: -0.000336432 * x^2 + 0.750379 * x + 0.0191383
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	6.35	356.603	7736.784	0.230	0.3	12.7	NO	1.000	NO	bb
2	2 190712M2_7	Standard	0.500	6.35	657.287	8031.846	0.409	0.5	4.0	NO	1.000	NO	bb
3	3 190712M2_8	Standard	1.000	6.35	1189.417	8085.707	0.736	1.0	-4.5	NO	1.000	NO	bb
4	4 190712M2_9	Standard	2.000	6.35	2521.725	8837.436	1.427	1.9	-6.1	NO	1.000	NO	bb
5	5 190712M2_10	Standard	5.000	6.35	5957.216	8122.378	3.667	4.9	-2.6	NO	1.000	NO	bb
6	6 190712M2_11	Standard	10.000	6.35	11880.400	8149.342	7.289	9.7	-2.7	NO	1.000	NO	bb
7	7 190712M2_12	Standard	50.000	6.35	56573.383	7833.486	36.110	49.2	-1.6	NO	1.000	NO	bb
8	8 190712M2_13	Standard	100.000	6.35	103556.219	7221.900	71.696	100.0	0.0	NO	1.000	NO	bb
9	9 190712M2_14	Standard	250.000	6.35	236002.344	7007.512	168.392	253.1	1.2	NO	1.000	NO	bb
10	10 190712M2_15	Standard	500.000	6.35	396968.188	6838.119	290.261	498.0	-0.4	NO	1.000	NO	bb

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Compound name: PFODA
Correlation coefficient: r = 0.997921, r^2 = 0.995847
Calibration curve: 0.67714 * x + 0.0513513
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	0.250	6.60	298.135	7736.784	0.193	0.2	-16.5	NO	0.996	NO	bb
2	2 190712M2_7	Standard	0.500	6.60	653.333	8031.846	0.407	0.5	5.0	NO	0.996	NO	bb
3	3 190712M2_8	Standard	1.000	6.60	1174.926	8085.707	0.727	1.0	-0.3	NO	0.996	NO	bb
4	4 190712M2_9	Standard	2.000	6.60	2625.667	8837.436	1.486	2.1	5.9	NO	0.996	NO	bb
5	5 190712M2_10	Standard	5.000	6.60	6073.330	8122.378	3.739	5.4	8.9	NO	0.996	NO	bb
6	6 190712M2_11	Standard	10.000	6.60	12066.627	8149.342	7.403	10.9	8.6	NO	0.996	NO	bb
7	7 190712M2_12	Standard	50.000	6.60	58025.434	7833.486	37.037	54.6	9.2	NO	0.996	NO	bb
8	8 190712M2_13	Standard	100.000	6.60	108238.211	7221.900	74.937	110.6	10.6	NO	0.996	NO	bb
9	9 190712M2_14	Standard	250.000	6.60	248175.922	7007.512	177.078	261.4	4.6	NO	0.996	NO	bb
10	10 190712M2_15	Standard	500.000	6.60	437132.781	6838.119	319.629	472.0	-5.6	NO	0.996	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999687, r^2 = 0.999374
Calibration curve: 1.11151 * x + -0.31262
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	1.250	6.29	65.942	8501.867	1.163	1.3	6.2	NO	0.999	NO	MM
2	2 190712M2_7	Standard	2.500	6.29	151.610	8975.147	2.534	2.6	2.4	NO	0.999	NO	bb
3	3 190712M2_8	Standard	5.000	6.28	297.989	9314.944	4.799	4.6	-8.0	NO	0.999	NO	bb
4	4 190712M2_9	Standard	10.000	6.28	691.691	9663.702	10.736	9.9	-0.6	NO	0.999	NO	bb
5	5 190712M2_10	Standard	25.000	6.29	1623.697	9103.208	26.755	24.4	-2.6	NO	0.999	NO	bb
6	6 190712M2_11	Standard	50.000	6.28	3339.660	8988.615	55.732	50.4	0.8	NO	0.999	NO	bb
7	7 190712M2_12	Standard	250.000	6.28	16428.535	9051.299	272.257	245.2	-1.9	NO	0.999	NO	bb
8	8 190712M2_13	Standard	500.000	6.29	32555.070	8613.932	566.903	510.3	2.1	NO	0.999	NO	bb
9	9 190712M2_14	Standard	1250.000	6.29	81866.102	8541.824	1437.622	1293.7	3.5	NO	0.999	NO	bb
10	10 190712M2_15	Standard	2500.000	6.29	163840.047	9020.852	2724.355	2451.3	-1.9	NO	0.999	NO	bb

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Compound name: N-EtFOSE
Correlation coefficient: r = 0.999975, r^2 = 0.999950
Calibration curve: 1.42969 * x + -0.1022
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	1.250	6.44	106.503	8049.390	1.985	1.5	16.8	NO	1.000	NO	bb
2	2 190712M2_7	Standard	2.500	6.44	199.344	8351.787	3.580	2.6	3.0	NO	1.000	NO	bb
3	3 190712M2_8	Standard	5.000	6.44	366.475	8505.161	6.463	4.6	-8.2	NO	1.000	NO	bb
4	4 190712M2_9	Standard	10.000	6.44	857.780	9396.786	13.693	9.6	-3.5	NO	1.000	NO	bb
5	5 190712M2_10	Standard	25.000	6.44	1903.737	8485.407	33.653	23.6	-5.6	NO	1.000	NO	bb
6	6 190712M2_11	Standard	50.000	6.44	3909.385	8481.641	69.138	48.4	-3.1	NO	1.000	NO	bb
7	7 190712M2_12	Standard	250.000	6.44	20059.340	8363.979	359.745	251.7	0.7	NO	1.000	NO	bb
8	8 190712M2_13	Standard	500.000	6.44	40403.539	8505.054	712.580	498.5	-0.3	NO	1.000	NO	bb
9	9 190712M2_14	Standard	1250.000	6.44	97518.898	8176.127	1789.091	1251.5	0.1	NO	1.000	NO	bb
10	10 190712M2_15	Standard	2500.000	6.44	202110.422	8476.127	3576.700	2501.8	0.1	NO	1.000	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.73215
RRF SD: 0.0149698, Relative SD: 2.04463
Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	1.14	3951.750	5538.102	8.919	12.2	-2.5	NO		NO	bd
2	2 190712M2_7	Standard	12.500	1.15	4192.511	5557.770	9.429	12.9	3.0	NO		NO	db
3	3 190712M2_8	Standard	12.500	1.14	4209.422	5772.425	9.115	12.5	-0.4	NO		NO	bb
4	4 190712M2_9	Standard	12.500	1.15	4836.335	6414.388	9.425	12.9	3.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	1.15	4277.267	5944.043	8.995	12.3	-1.7	NO		NO	bb
6	6 190712M2_11	Standard	12.500	1.15	4227.104	5801.056	9.108	12.4	-0.5	NO		NO	bb
7	7 190712M2_12	Standard	12.500	1.14	4201.730	5810.840	9.039	12.3	-1.2	NO		NO	bb
8	8 190712M2_13	Standard	12.500	1.15	4297.443	5814.471	9.239	12.6	0.9	NO		NO	db
9	9 190712M2_14	Standard	12.500	1.14	4085.317	5704.754	8.952	12.2	-2.2	NO		NO	MM
10	10 190712M2_15	Standard	12.500	1.15	4176.878	5615.494	9.298	12.7	1.6	NO		NO	bb

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Compound name: 13C3-PFPeA
Response Factor: 0.509115
RRF SD: 0.0486164, Relative SD: 9.5492
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	2.12	9174.475	20187.811	5.681	11.2	-10.7	NO		NO	MM
2	2	190712M2_7	Standard	12.500	2.12	9440.304	20042.258	5.888	11.6	-7.5	NO		NO	bb
3	3	190712M2_8	Standard	12.500	2.12	9506.008	20693.125	5.742	11.3	-9.8	NO		NO	bb
4	4	190712M2_9	Standard	12.500	2.12	11499.399	21459.996	6.698	13.2	5.3	NO		NO	bb
5	5	190712M2_10	Standard	12.500	2.12	9992.066	20133.777	6.204	12.2	-2.5	NO		NO	bb
6	6	190712M2_11	Standard	12.500	2.12	9709.080	20274.980	5.986	11.8	-5.9	NO		NO	MM
7	7	190712M2_12	Standard	12.500	2.12	10026.567	19365.455	6.472	12.7	1.7	NO		NO	bb
8	8	190712M2_13	Standard	12.500	2.13	9839.865	19302.855	6.372	12.5	0.1	NO		NO	MM
9	9	190712M2_14	Standard	12.500	2.12	9585.236	17168.412	6.979	13.7	9.7	NO		NO	bb
10	10	190712M2_15	Standard	12.500	2.13	9471.328	15540.355	7.618	15.0	19.7	NO		NO	bb

Compound name: 13C3-PFBS
Response Factor: 1.07282
RRF SD: 0.0572674, Relative SD: 5.33802
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	2.41	1221.430	1140.059	13.392	12.5	-0.1	NO		NO	bb
2	2	190712M2_7	Standard	12.500	2.41	1289.349	1183.238	13.621	12.7	1.6	NO		NO	MM
3	3	190712M2_8	Standard	12.500	2.41	1251.236	1201.364	13.019	12.1	-2.9	NO		NO	bb
4	4	190712M2_9	Standard	12.500	2.41	1508.714	1278.431	14.752	13.8	10.0	NO		NO	bb
5	5	190712M2_10	Standard	12.500	2.41	1354.983	1226.969	13.804	12.9	2.9	NO		NO	bb
6	6	190712M2_11	Standard	12.500	2.41	1233.165	1157.986	13.312	12.4	-0.7	NO		NO	bb
7	7	190712M2_12	Standard	12.500	2.41	1151.665	1072.143	13.427	12.5	0.1	NO		NO	bb
8	8	190712M2_13	Standard	12.500	2.41	1145.725	1192.504	12.010	11.2	-10.4	NO		NO	bb
9	9	190712M2_14	Standard	12.500	2.41	1063.064	957.621	13.876	12.9	3.5	NO		NO	bb
10	10	190712M2_15	Standard	12.500	2.42	938.114	909.726	12.890	12.0	-3.9	NO		NO	bb

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Compound name: 13C3-HFPO-DA
Response Factor: 0.172653
RRF SD: 0.0182002, Relative SD: 10.5415
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	5.000	3.13	1374.330	20187.811	0.851	4.9	-1.4	NO		NO	bb
2	2 190712M2_7	Standard	5.000	3.13	1375.197	20042.258	0.858	5.0	-0.6	NO		NO	bb
3	3 190712M2_8	Standard	5.000	3.13	1160.301	20693.125	0.701	4.1	-18.8	NO		NO	bb
4	4 190712M2_9	Standard	5.000	3.13	1672.864	21459.996	0.974	5.6	12.9	NO		NO	bb
5	5 190712M2_10	Standard	5.000	3.13	1358.388	20133.777	0.843	4.9	-2.3	NO		NO	bb
6	6 190712M2_11	Standard	5.000	3.13	1615.177	20274.980	0.996	5.8	15.4	NO		NO	bb
7	7 190712M2_12	Standard	5.000	3.13	1407.855	19365.455	0.909	5.3	5.3	NO		NO	bb
8	8 190712M2_13	Standard	5.000	3.13	1427.484	19302.855	0.924	5.4	7.1	NO		NO	bb
9	9 190712M2_14	Standard	5.000	3.14	1106.350	17168.412	0.806	4.7	-6.7	NO		NO	bb
10	10 190712M2_15	Standard	5.000	3.14	958.410	15540.355	0.771	4.5	-10.7	NO		NO	bb

Compound name: 13C2-4:2 FTS
Response Factor: 1.7746
RRF SD: 0.198256, Relative SD: 11.1719
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	2.84	2220.376	1140.059	24.345	13.7	9.7	NO		NO	bb
2	2 190712M2_7	Standard	12.500	2.84	2303.805	1183.238	24.338	13.7	9.7	NO		NO	MM
3	3 190712M2_8	Standard	12.500	2.84	2178.746	1201.364	22.670	12.8	2.2	NO		NO	bb
4	4 190712M2_9	Standard	12.500	2.84	2532.486	1278.431	24.762	14.0	11.6	NO		NO	bb
5	5 190712M2_10	Standard	12.500	2.84	2276.247	1226.969	23.190	13.1	4.5	NO		NO	bb
6	6 190712M2_11	Standard	12.500	2.84	2244.131	1157.986	24.225	13.7	9.2	NO		NO	bb
7	7 190712M2_12	Standard	12.500	2.84	1865.145	1072.143	21.746	12.3	-2.0	NO		NO	bb
8	8 190712M2_13	Standard	12.500	2.84	1846.296	1192.504	19.353	10.9	-12.8	NO		NO	bb
9	9 190712M2_14	Standard	12.500	2.84	1426.793	957.621	18.624	10.5	-16.0	NO		NO	bb
10	10 190712M2_15	Standard	12.500	2.84	1351.793	909.726	18.574	10.5	-16.3	NO		NO	bb

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Compound name: 13C2-PFHxA
Response Factor: 1.00909
RRF SD: 0.0370764, Relative SD: 3.67423
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	5.000	2.92	7565.288	20187.811	4.684	4.6	-7.2	NO		NO	bb
2	2	190712M2_7	Standard	5.000	2.92	8089.753	20042.258	5.045	5.0	-0.0	NO		NO	bb
3	3	190712M2_8	Standard	5.000	2.92	8004.647	20693.125	4.835	4.8	-4.2	NO		NO	bb
4	4	190712M2_9	Standard	5.000	2.92	9006.723	21459.996	5.246	5.2	4.0	NO		NO	bb
5	5	190712M2_10	Standard	5.000	2.92	8408.540	20133.777	5.220	5.2	3.5	NO		NO	bb
6	6	190712M2_11	Standard	5.000	2.92	8293.517	20274.980	5.113	5.1	1.3	NO		NO	bb
7	7	190712M2_12	Standard	5.000	2.92	7870.440	19365.455	5.080	5.0	0.7	NO		NO	bb
8	8	190712M2_13	Standard	5.000	2.92	7574.628	19302.855	4.905	4.9	-2.8	NO		NO	bb
9	9	190712M2_14	Standard	5.000	2.92	6988.033	17168.412	5.088	5.0	0.8	NO		NO	bb
10	10	190712M2_15	Standard	5.000	2.92	6510.241	15540.355	5.237	5.2	3.8	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.512061
RRF SD: 0.0268152, Relative SD: 5.23673
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	3.54	10141.064	20187.811	6.279	12.3	-1.9	NO		NO	bb
2	2	190712M2_7	Standard	12.500	3.54	10552.625	20042.258	6.581	12.9	2.8	NO		NO	bb
3	3	190712M2_8	Standard	12.500	3.54	10601.032	20693.125	6.404	12.5	0.0	NO		NO	bb
4	4	190712M2_9	Standard	12.500	3.54	11779.045	21459.996	6.861	13.4	7.2	NO		NO	bb
5	5	190712M2_10	Standard	12.500	3.54	10638.573	20133.777	6.605	12.9	3.2	NO		NO	bb
6	6	190712M2_11	Standard	12.500	3.54	10732.636	20274.980	6.617	12.9	3.4	NO		NO	bb
7	7	190712M2_12	Standard	12.500	3.54	10422.711	19365.455	6.728	13.1	5.1	NO		NO	bb
8	8	190712M2_13	Standard	12.500	3.54	9331.513	19302.855	6.043	11.8	-5.6	NO		NO	bb
9	9	190712M2_14	Standard	12.500	3.54	8275.448	17168.412	6.025	11.8	-5.9	NO		NO	bb
10	10	190712M2_15	Standard	12.500	3.55	7291.069	15540.355	5.865	11.5	-8.4	NO		NO	bb

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Compound name: 13C3-PFHxS
Response Factor: 2.19741
RRF SD: 0.162513, Relative SD: 7.39568
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	3.70	2713.482	1140.059	29.752	13.5	8.3	NO		NO	bb
2	2	190712M2_7	Standard	12.500	3.70	2471.737	1183.238	26.112	11.9	-4.9	NO		NO	bb
3	3	190712M2_8	Standard	12.500	3.70	2745.598	1201.364	28.568	13.0	4.0	NO		NO	bb
4	4	190712M2_9	Standard	12.500	3.70	3034.427	1278.431	29.669	13.5	8.0	NO		NO	bb
5	5	190712M2_10	Standard	12.500	3.70	2651.179	1226.969	27.009	12.3	-1.7	NO		NO	bb
6	6	190712M2_11	Standard	12.500	3.70	2562.264	1157.986	27.659	12.6	0.7	NO		NO	bb
7	7	190712M2_12	Standard	12.500	3.70	2581.445	1072.143	30.097	13.7	9.6	NO		NO	bb
8	8	190712M2_13	Standard	12.500	3.70	2346.975	1192.504	24.601	11.2	-10.4	NO		NO	bb
9	9	190712M2_14	Standard	12.500	3.70	2032.473	957.621	26.530	12.1	-3.4	NO		NO	bb
10	10	190712M2_15	Standard	12.500	3.70	1796.111	909.726	24.679	11.2	-10.2	NO		NO	bb

Compound name: 13C2-6:2 FTS
Response Factor: 0.5894
RRF SD: 0.0344712, Relative SD: 5.84852
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	4.01	1716.675	3020.678	7.104	12.1	-3.6	NO		NO	bb
2	2	190712M2_7	Standard	12.500	4.01	1820.051	3112.057	7.310	12.4	-0.8	NO		NO	bb
3	3	190712M2_8	Standard	12.500	4.01	1854.420	2989.618	7.754	13.2	5.2	NO		NO	bb
4	4	190712M2_9	Standard	12.500	4.01	1971.665	3200.260	7.701	13.1	4.5	NO		NO	bb
5	5	190712M2_10	Standard	12.500	4.02	1772.810	2997.381	7.393	12.5	0.3	NO		NO	bb
6	6	190712M2_11	Standard	12.500	4.02	1907.899	2907.157	8.203	13.9	11.3	NO		NO	bb
7	7	190712M2_12	Standard	12.500	4.01	1740.232	3008.507	7.230	12.3	-1.9	NO		NO	bb
8	8	190712M2_13	Standard	12.500	4.01	1510.867	2589.390	7.294	12.4	-1.0	NO		NO	bb
9	9	190712M2_14	Standard	12.500	4.02	1295.766	2430.183	6.665	11.3	-9.5	NO		NO	bb
10	10	190712M2_15	Standard	12.500	4.02	1216.533	2166.090	7.020	11.9	-4.7	NO		NO	bb

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Compound name: 13C5-PFNA
Response Factor: 0.990839
RRF SD: 0.0274117, Relative SD: 2.76651
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.52	17521.201	18529.576	11.820	11.9	-4.6	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.52	17772.717	18378.943	12.088	12.2	-2.4	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.52	19065.916	18681.502	12.757	12.9	3.0	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.52	19756.031	19367.885	12.751	12.9	2.9	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.52	18412.686	19030.867	12.094	12.2	-2.4	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.52	17960.967	18064.176	12.429	12.5	0.3	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.52	16924.672	17213.973	12.290	12.4	-0.8	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.52	16677.789	16225.691	12.848	13.0	3.7	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.52	15113.572	15475.788	12.207	12.3	-1.4	NO		NO	bb
10	10 190712M2_15	Standard	12.500	4.52	13397.055	13320.776	12.572	12.7	1.5	NO		NO	bb

Compound name: 13C8-PFOSA
Response Factor: 0.148444
RRF SD: 0.0093246, Relative SD: 6.28156
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.58	3208.497	22850.191	1.755	11.8	-5.4	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.58	3163.173	22565.707	1.752	11.8	-5.6	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.58	3352.661	24429.031	1.716	11.6	-7.5	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.58	3765.844	25104.756	1.875	12.6	1.1	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.58	3432.385	23524.727	1.824	12.3	-1.7	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.58	3533.940	23132.238	1.910	12.9	2.9	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.58	3125.368	21827.463	1.790	12.1	-3.5	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.58	3109.574	20687.432	1.879	12.7	1.3	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.58	2798.268	17977.869	1.946	13.1	4.9	NO		NO	bb
10	10 190712M2_15	Standard	12.500	4.58	2715.979	16091.949	2.110	14.2	13.7	NO		NO	bb

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Compound name: 13C2-PFOA
Response Factor: 0.789437
RRF SD: 0.0213245, Relative SD: 2.70123
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.07	18136.037	23340.748	9.713	12.3	-1.6	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.07	18106.699	22776.100	9.937	12.6	0.7	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.07	17908.924	24039.371	9.312	11.8	-5.6	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.07	19910.906	25395.973	9.800	12.4	-0.7	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.07	18881.467	23494.541	10.046	12.7	1.8	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.07	18604.402	23253.861	10.001	12.7	1.3	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.07	17063.852	22242.154	9.590	12.1	-2.8	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.07	16506.775	20253.340	10.188	12.9	3.2	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.07	13944.007	17267.096	10.094	12.8	2.3	NO		NO	bb
10	10 190712M2_15	Standard	12.500	4.07	11781.346	14728.360	9.999	12.7	1.3	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 1.01663
RRF SD: 0.043342, Relative SD: 4.2633
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.61	2972.283	3020.678	12.300	12.1	-3.2	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.61	2979.653	3112.057	11.968	11.8	-5.8	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.61	2962.104	2989.618	12.385	12.2	-2.5	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.60	3382.259	3200.260	13.211	13.0	4.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.61	3037.856	2997.381	12.669	12.5	-0.3	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.60	3050.850	2907.157	13.118	12.9	3.2	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.61	2935.979	3008.507	12.199	12.0	-4.0	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.61	2846.372	2589.390	13.741	13.5	8.1	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.61	2514.789	2430.183	12.935	12.7	1.8	NO		NO	bd
10	10 190712M2_15	Standard	12.500	4.61	2175.448	2166.090	12.554	12.3	-1.2	NO		NO	bb

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Compound name: 13C2-PFDA
Response Factor: 0.808008
RRF SD: 0.0289749, Relative SD: 3.58597
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.89	17047.721	22253.029	9.576	11.9	-5.2	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.90	17841.223	22203.232	10.044	12.4	-0.6	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.90	18656.340	22428.795	10.398	12.9	2.9	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.89	19772.314	24396.598	10.131	12.5	0.3	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.90	18107.758	22359.881	10.123	12.5	0.2	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.90	17124.600	22333.814	9.584	11.9	-5.1	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.90	16425.102	21019.059	9.768	12.1	-3.3	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.90	16912.354	20558.068	10.283	12.7	1.8	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.90	14407.154	17146.861	10.503	13.0	4.0	NO		NO	bb
10	10 190712M2_15	Standard	12.500	4.90	13012.556	15357.892	10.591	13.1	4.9	NO		NO	bb

Compound name: 13C2-8:2 FTS
Response Factor: 0.59493
RRF SD: 0.0430724, Relative SD: 7.2399
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.87	1760.670	3020.678	7.286	12.2	-2.0	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.87	1777.674	3112.057	7.140	12.0	-4.0	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.87	1910.545	2989.618	7.988	13.4	7.4	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.87	2112.955	3200.260	8.253	13.9	11.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.87	1922.851	2997.381	8.019	13.5	7.8	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.87	1743.825	2907.157	7.498	12.6	0.8	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.87	1570.813	3008.507	6.527	11.0	-12.2	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.87	1544.820	2589.390	7.457	12.5	0.3	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.87	1330.954	2430.183	6.846	11.5	-7.9	NO		NO	bb
10	10 190712M2_15	Standard	12.500	4.87	1274.003	2166.090	7.352	12.4	-1.1	NO		NO	bb

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Compound name: d3-N-MeFOSAA
Response Factor: 0.139569
RRF SD: 0.00746924, Relative SD: 5.35166
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	5.05	3140.943	22850.191	1.718	12.3	-1.5	NO		NO	bb
2	2 190712M2_7	Standard	12.500	5.05	3131.604	22565.707	1.735	12.4	-0.6	NO		NO	bb
3	3 190712M2_8	Standard	12.500	5.05	3164.304	24429.031	1.619	11.6	-7.2	NO		NO	bb
4	4 190712M2_9	Standard	12.500	5.05	3540.984	25104.756	1.763	12.6	1.1	NO		NO	bb
5	5 190712M2_10	Standard	12.500	5.05	3220.702	23524.727	1.711	12.3	-1.9	NO		NO	bb
6	6 190712M2_11	Standard	12.500	5.05	3173.772	23132.238	1.715	12.3	-1.7	NO		NO	bb
7	7 190712M2_12	Standard	12.500	5.05	3016.586	21827.463	1.728	12.4	-1.0	NO		NO	bb
8	8 190712M2_13	Standard	12.500	5.05	2868.771	20687.432	1.733	12.4	-0.6	NO		NO	bb
9	9 190712M2_14	Standard	12.500	5.05	2496.669	17977.869	1.736	12.4	-0.5	NO		NO	bb
10	10 190712M2_15	Standard	12.500	5.05	2558.889	16091.949	1.988	14.2	13.9	NO		NO	bb

Compound name: 13C2-PFUdA
Response Factor: 1.05062
RRF SD: 0.0350714, Relative SD: 3.33817
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	5.23	22627.100	22850.191	12.378	11.8	-5.7	NO		NO	bb
2	2 190712M2_7	Standard	12.500	5.23	24092.484	22565.707	13.346	12.7	1.6	NO		NO	bb
3	3 190712M2_8	Standard	12.500	5.23	24449.457	24429.031	12.510	11.9	-4.7	NO		NO	bb
4	4 190712M2_9	Standard	12.500	5.23	27236.840	25104.756	13.562	12.9	3.3	NO		NO	bb
5	5 190712M2_10	Standard	12.500	5.23	25159.160	23524.727	13.368	12.7	1.8	NO		NO	bb
6	6 190712M2_11	Standard	12.500	5.23	24154.344	23132.238	13.052	12.4	-0.6	NO		NO	bb
7	7 190712M2_12	Standard	12.500	5.23	23002.064	21827.463	13.173	12.5	0.3	NO		NO	bb
8	8 190712M2_13	Standard	12.500	5.23	21352.746	20687.432	12.902	12.3	-1.8	NO		NO	bb
9	9 190712M2_14	Standard	12.500	5.23	19808.254	17977.869	13.773	13.1	4.9	NO		NO	bb
10	10 190712M2_15	Standard	12.500	5.23	17074.875	16091.949	13.264	12.6	1.0	NO		NO	bb

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Compound name: d5-N-EtFOSAA
Response Factor: 0.167659
RRF SD: 0.00522348, Relative SD: 3.11554
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	5.21	3754.324	22850.191	2.054	12.2	-2.0	NO		NO	bb
2	2 190712M2_7	Standard	12.500	5.21	3927.580	22565.707	2.176	13.0	3.8	NO		NO	bb
3	3 190712M2_8	Standard	12.500	5.21	3851.082	24429.031	1.971	11.8	-6.0	NO		NO	bb
4	4 190712M2_9	Standard	12.500	5.21	4298.146	25104.756	2.140	12.8	2.1	NO		NO	bb
5	5 190712M2_10	Standard	12.500	5.21	4017.538	23524.727	2.135	12.7	1.9	NO		NO	bb
6	6 190712M2_11	Standard	12.500	5.21	3963.581	23132.238	2.142	12.8	2.2	NO		NO	bb
7	7 190712M2_12	Standard	12.500	5.21	3704.807	21827.463	2.122	12.7	1.2	NO		NO	bb
8	8 190712M2_13	Standard	12.500	5.21	3486.810	20687.432	2.107	12.6	0.5	NO		NO	bb
9	9 190712M2_14	Standard	12.500	5.21	2885.221	17977.869	2.006	12.0	-4.3	NO		NO	bb
10	10 190712M2_15	Standard	12.500	5.21	2711.365	16091.949	2.106	12.6	0.5	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 1.04071
RRF SD: 0.0499176, Relative SD: 4.7965
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	5.52	21827.584	22253.029	12.261	11.8	-5.7	NO		NO	bb
2	2 190712M2_7	Standard	12.500	5.52	22589.061	22203.232	12.717	12.2	-2.2	NO		NO	bb
3	3 190712M2_8	Standard	12.500	5.52	22921.080	22428.795	12.774	12.3	-1.8	NO		NO	bb
4	4 190712M2_9	Standard	12.500	5.52	24988.051	24396.598	12.803	12.3	-1.6	NO		NO	bb
5	5 190712M2_10	Standard	12.500	5.52	23146.453	22359.881	12.940	12.4	-0.5	NO		NO	bb
6	6 190712M2_11	Standard	12.500	5.52	22535.000	22333.814	12.613	12.1	-3.0	NO		NO	bb
7	7 190712M2_12	Standard	12.500	5.52	21772.752	21019.059	12.948	12.4	-0.5	NO		NO	bb
8	8 190712M2_13	Standard	12.500	5.52	21188.383	20558.068	12.883	12.4	-1.0	NO		NO	bb
9	9 190712M2_14	Standard	12.500	5.52	18767.543	17146.861	13.681	13.1	5.2	NO		NO	bb
10	10 190712M2_15	Standard	12.500	5.52	17775.680	15357.892	14.468	13.9	11.2	NO		NO	bb

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Compound name: d3-N-MeFOSA
Response Factor: 0.0377105
RRF SD: 0.00528961, Relative SD: 14.0269
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	150.000	5.69	9270.478	22850.191	5.071	134.5	-10.3	NO		NO	bb
2	2 190712M2_7	Standard	150.000	5.69	9596.727	22565.707	5.316	141.0	-6.0	NO		NO	bb
3	3 190712M2_8	Standard	150.000	5.69	9964.387	24429.031	5.099	135.2	-9.9	NO		NO	bb
4	4 190712M2_9	Standard	150.000	5.69	10643.908	25104.756	5.300	140.5	-6.3	NO		NO	bb
5	5 190712M2_10	Standard	150.000	5.69	9850.780	23524.727	5.234	138.8	-7.5	NO		NO	bb
6	6 190712M2_11	Standard	150.000	5.69	9862.311	23132.238	5.329	141.3	-5.8	NO		NO	bb
7	7 190712M2_12	Standard	150.000	5.69	9523.072	21827.463	5.454	144.6	-3.6	NO		NO	bb
8	8 190712M2_13	Standard	150.000	5.69	9494.082	20687.432	5.737	152.1	1.4	NO		NO	bb
9	9 190712M2_14	Standard	150.000	5.69	9202.735	17977.869	6.399	169.7	13.1	NO		NO	bb
10	10 190712M2_15	Standard	150.000	5.69	9819.486	16091.949	7.628	202.3	34.8	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 0.690011
RRF SD: 0.0233735, Relative SD: 3.38741
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	5.99	15139.587	22850.191	8.282	12.0	-4.0	NO		NO	bb
2	2 190712M2_7	Standard	12.500	5.99	15161.746	22565.707	8.399	12.2	-2.6	NO		NO	bb
3	3 190712M2_8	Standard	12.500	5.99	16127.418	24429.031	8.252	12.0	-4.3	NO		NO	bb
4	4 190712M2_9	Standard	12.500	5.99	17316.654	25104.756	8.622	12.5	-0.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	5.99	16085.099	23524.727	8.547	12.4	-0.9	NO		NO	bb
6	6 190712M2_11	Standard	12.500	5.99	15841.613	23132.238	8.560	12.4	-0.8	NO		NO	bb
7	7 190712M2_12	Standard	12.500	5.99	14974.800	21827.463	8.576	12.4	-0.6	NO		NO	bb
8	8 190712M2_13	Standard	12.500	5.99	14973.014	20687.432	9.047	13.1	4.9	NO		NO	bb
9	9 190712M2_14	Standard	12.500	6.00	12804.417	17977.869	8.903	12.9	3.2	NO		NO	bb
10	10 190712M2_15	Standard	12.500	6.00	11667.836	16091.949	9.063	13.1	5.1	NO		NO	bb

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Compound name: d5-N-ETFOSA
Response Factor: 0.0533406
RRF SD: 0.00384533, Relative SD: 7.20901
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	150.000	6.11	13789.952	22850.191	7.544	141.4	-5.7	NO		NO	bb
2	2 190712M2_7	Standard	150.000	6.11	14292.511	22565.707	7.917	148.4	-1.0	NO		NO	bb
3	3 190712M2_8	Standard	150.000	6.11	14300.545	24429.031	7.317	137.2	-8.5	NO		NO	bb
4	4 190712M2_9	Standard	150.000	6.11	15698.592	25104.756	7.817	146.5	-2.3	NO		NO	bb
5	5 190712M2_10	Standard	150.000	6.11	14789.742	23524.727	7.859	147.3	-1.8	NO		NO	bb
6	6 190712M2_11	Standard	150.000	6.11	14185.052	23132.238	7.665	143.7	-4.2	NO		NO	bb
7	7 190712M2_12	Standard	150.000	6.11	13893.367	21827.463	7.956	149.2	-0.6	NO		NO	bb
8	8 190712M2_13	Standard	150.000	6.11	13394.135	20687.432	8.093	151.7	1.2	NO		NO	bb
9	9 190712M2_14	Standard	150.000	6.11	12157.304	17977.869	8.453	158.5	5.6	NO		NO	bb
10	10 190712M2_15	Standard	150.000	6.12	12088.109	16091.949	9.390	176.0	17.4	NO		NO	bb

Compound name: 13C2-PFHxDA
Response Factor: 0.899449
RRF SD: 0.0691258, Relative SD: 7.68535
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	5.000	6.35	7736.784	22850.191	4.232	4.7	-5.9	NO		NO	bb
2	2 190712M2_7	Standard	5.000	6.35	8031.846	22565.707	4.449	4.9	-1.1	NO		NO	bb
3	3 190712M2_8	Standard	5.000	6.35	8085.707	24429.031	4.137	4.6	-8.0	NO		NO	bb
4	4 190712M2_9	Standard	5.000	6.35	8837.436	25104.756	4.400	4.9	-2.2	NO		NO	bb
5	5 190712M2_10	Standard	5.000	6.35	8122.378	23524.727	4.316	4.8	-4.0	NO		NO	bb
6	6 190712M2_11	Standard	5.000	6.35	8149.342	23132.238	4.404	4.9	-2.1	NO		NO	bb
7	7 190712M2_12	Standard	5.000	6.35	7833.486	21827.463	4.486	5.0	-0.2	NO		NO	bb
8	8 190712M2_13	Standard	5.000	6.35	7221.900	20687.432	4.364	4.9	-3.0	NO		NO	bb
9	9 190712M2_14	Standard	5.000	6.35	7007.512	17977.869	4.872	5.4	8.3	NO		NO	bb
10	10 190712M2_15	Standard	5.000	6.35	6838.119	16091.949	5.312	5.9	18.1	NO		NO	bb

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Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
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Compound name: d7-N-MeFOSE
Response Factor: 0.0348196
RRF SD: 0.00484289, Relative SD: 13.9085
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	150.000	6.28	8501.867	22850.191	4.651	133.6	-11.0	NO		NO	bb
2	2 190712M2_7	Standard	150.000	6.28	8975.147	22565.707	4.972	142.8	-4.8	NO		NO	bb
3	3 190712M2_8	Standard	150.000	6.27	9314.944	24429.031	4.766	136.9	-8.7	NO		NO	bb
4	4 190712M2_9	Standard	150.000	6.28	9663.702	25104.756	4.812	138.2	-7.9	NO		NO	bb
5	5 190712M2_10	Standard	150.000	6.28	9103.208	23524.727	4.837	138.9	-7.4	NO		NO	bb
6	6 190712M2_11	Standard	150.000	6.27	8988.615	23132.238	4.857	139.5	-7.0	NO		NO	bb
7	7 190712M2_12	Standard	150.000	6.27	9051.299	21827.463	5.183	148.9	-0.8	NO		NO	bb
8	8 190712M2_13	Standard	150.000	6.27	8613.932	20687.432	5.205	149.5	-0.3	NO		NO	bb
9	9 190712M2_14	Standard	150.000	6.27	8541.824	17977.869	5.939	170.6	13.7	NO		NO	bb
10	10 190712M2_15	Standard	150.000	6.28	9020.852	16091.949	7.007	201.2	34.2	NO		NO	bb

Compound name: d9-N-EtFOSE
Response Factor: 0.0329002
RRF SD: 0.00467909, Relative SD: 14.2221
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	150.000	6.43	8049.390	22850.191	4.403	133.8	-10.8	NO		NO	bb
2	2 190712M2_7	Standard	150.000	6.43	8351.787	22565.707	4.626	140.6	-6.3	NO		NO	bb
3	3 190712M2_8	Standard	150.000	6.43	8505.161	24429.031	4.352	132.3	-11.8	NO		NO	bb
4	4 190712M2_9	Standard	150.000	6.43	9396.786	25104.756	4.679	142.2	-5.2	NO		NO	bb
5	5 190712M2_10	Standard	150.000	6.43	8485.407	23524.727	4.509	137.0	-8.6	NO		NO	bb
6	6 190712M2_11	Standard	150.000	6.43	8481.641	23132.238	4.583	139.3	-7.1	NO		NO	bb
7	7 190712M2_12	Standard	150.000	6.43	8363.979	21827.463	4.790	145.6	-2.9	NO		NO	bb
8	8 190712M2_13	Standard	150.000	6.43	8505.054	20687.432	5.139	156.2	4.1	NO		NO	bb
9	9 190712M2_14	Standard	150.000	6.43	8176.127	17977.869	5.685	172.8	15.2	NO		NO	bb
10	10 190712M2_15	Standard	150.000	6.43	8476.127	16091.949	6.584	200.1	33.4	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
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Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	1.14	5538.102	5538.102	12.500	12.5	0.0	NO		NO	bb
2	2	190712M2_7	Standard	12.500	1.15	5557.770	5557.770	12.500	12.5	0.0	NO		NO	bb
3	3	190712M2_8	Standard	12.500	1.14	5772.425	5772.425	12.500	12.5	0.0	NO		NO	bb
4	4	190712M2_9	Standard	12.500	1.14	6414.388	6414.388	12.500	12.5	0.0	NO		NO	bb
5	5	190712M2_10	Standard	12.500	1.15	5944.043	5944.043	12.500	12.5	0.0	NO		NO	bb
6	6	190712M2_11	Standard	12.500	1.15	5801.056	5801.056	12.500	12.5	0.0	NO		NO	bb
7	7	190712M2_12	Standard	12.500	1.14	5810.840	5810.840	12.500	12.5	0.0	NO		NO	bb
8	8	190712M2_13	Standard	12.500	1.15	5814.471	5814.471	12.500	12.5	0.0	NO		NO	bb
9	9	190712M2_14	Standard	12.500	1.14	5704.754	5704.754	12.500	12.5	0.0	NO		NO	bb
10	10	190712M2_15	Standard	12.500	1.15	5615.494	5615.494	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	2.92	20187.811	20187.811	12.500	12.5	0.0	NO		NO	bb
2	2	190712M2_7	Standard	12.500	2.92	20042.258	20042.258	12.500	12.5	0.0	NO		NO	bb
3	3	190712M2_8	Standard	12.500	2.92	20693.125	20693.125	12.500	12.5	0.0	NO		NO	bb
4	4	190712M2_9	Standard	12.500	2.92	21459.996	21459.996	12.500	12.5	0.0	NO		NO	bb
5	5	190712M2_10	Standard	12.500	2.92	20133.777	20133.777	12.500	12.5	0.0	NO		NO	bb
6	6	190712M2_11	Standard	12.500	2.92	20274.980	20274.980	12.500	12.5	0.0	NO		NO	bb
7	7	190712M2_12	Standard	12.500	2.92	19365.455	19365.455	12.500	12.5	0.0	NO		NO	bb
8	8	190712M2_13	Standard	12.500	2.92	19302.855	19302.855	12.500	12.5	0.0	NO		NO	bb
9	9	190712M2_14	Standard	12.500	2.92	17168.412	17168.412	12.500	12.5	0.0	NO		NO	bb
10	10	190712M2_15	Standard	12.500	2.92	15540.355	15540.355	12.500	12.5	0.0	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: 18O2-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	3.70	1140.059	1140.059	12.500	12.5	0.0	NO		NO	bb
2	2 190712M2_7	Standard	12.500	3.70	1183.238	1183.238	12.500	12.5	0.0	NO		NO	bb
3	3 190712M2_8	Standard	12.500	3.70	1201.364	1201.364	12.500	12.5	0.0	NO		NO	bb
4	4 190712M2_9	Standard	12.500	3.70	1278.431	1278.431	12.500	12.5	0.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	3.70	1226.969	1226.969	12.500	12.5	0.0	NO		NO	bb
6	6 190712M2_11	Standard	12.500	3.70	1157.986	1157.986	12.500	12.5	0.0	NO		NO	bb
7	7 190712M2_12	Standard	12.500	3.70	1072.143	1072.143	12.500	12.5	0.0	NO		NO	bb
8	8 190712M2_13	Standard	12.500	3.70	1192.504	1192.504	12.500	12.5	0.0	NO		NO	bb
9	9 190712M2_14	Standard	12.500	3.70	957.621	957.621	12.500	12.5	0.0	NO		NO	bb
10	10 190712M2_15	Standard	12.500	3.70	909.726	909.726	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.07	23340.748	23340.748	12.500	12.5	0.0	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.07	22776.100	22776.100	12.500	12.5	0.0	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.07	24039.371	24039.371	12.500	12.5	0.0	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.07	25395.973	25395.973	12.500	12.5	0.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.07	23494.541	23494.541	12.500	12.5	0.0	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.07	23253.861	23253.861	12.500	12.5	0.0	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.07	22242.154	22242.154	12.500	12.5	0.0	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.07	20253.340	20253.340	12.500	12.5	0.0	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.07	17267.096	17267.096	12.500	12.5	0.0	NO		NO	bb
10	10 190712M2_15	Standard	12.500	4.07	14728.360	14728.360	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	4.52	18529.576	18529.576	12.500	12.5	0.0	NO		NO	bb
2	2	190712M2_7	Standard	12.500	4.52	18378.943	18378.943	12.500	12.5	0.0	NO		NO	bb
3	3	190712M2_8	Standard	12.500	4.52	18681.502	18681.502	12.500	12.5	0.0	NO		NO	bb
4	4	190712M2_9	Standard	12.500	4.52	19367.885	19367.885	12.500	12.5	0.0	NO		NO	bb
5	5	190712M2_10	Standard	12.500	4.52	19030.867	19030.867	12.500	12.5	0.0	NO		NO	bb
6	6	190712M2_11	Standard	12.500	4.52	18064.176	18064.176	12.500	12.5	0.0	NO		NO	bb
7	7	190712M2_12	Standard	12.500	4.52	17213.973	17213.973	12.500	12.5	0.0	NO		NO	bb
8	8	190712M2_13	Standard	12.500	4.52	16225.691	16225.691	12.500	12.5	0.0	NO		NO	bb
9	9	190712M2_14	Standard	12.500	4.52	15475.788	15475.788	12.500	12.5	0.0	NO		NO	bb
10	10	190712M2_15	Standard	12.500	4.52	13320.776	13320.776	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	190712M2_6	Standard	12.500	4.60	3020.678	3020.678	12.500	12.5	0.0	NO		NO	bb
2	2	190712M2_7	Standard	12.500	4.61	3112.057	3112.057	12.500	12.5	0.0	NO		NO	bb
3	3	190712M2_8	Standard	12.500	4.61	2989.618	2989.618	12.500	12.5	0.0	NO		NO	bb
4	4	190712M2_9	Standard	12.500	4.61	3200.260	3200.260	12.500	12.5	0.0	NO		NO	bb
5	5	190712M2_10	Standard	12.500	4.61	2997.381	2997.381	12.500	12.5	0.0	NO		NO	bb
6	6	190712M2_11	Standard	12.500	4.61	2907.157	2907.157	12.500	12.5	0.0	NO		NO	bb
7	7	190712M2_12	Standard	12.500	4.61	3008.507	3008.507	12.500	12.5	0.0	NO		NO	bb
8	8	190712M2_13	Standard	12.500	4.61	2589.390	2589.390	12.500	12.5	0.0	NO		NO	bb
9	9	190712M2_14	Standard	12.500	4.61	2430.183	2430.183	12.500	12.5	0.0	NO		NO	bb
10	10	190712M2_15	Standard	12.500	4.61	2166.090	2166.090	12.500	12.5	0.0	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

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Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	4.89	22253.029	22253.029	12.500	12.5	0.0	NO		NO	bb
2	2 190712M2_7	Standard	12.500	4.90	22203.232	22203.232	12.500	12.5	0.0	NO		NO	bb
3	3 190712M2_8	Standard	12.500	4.90	22428.795	22428.795	12.500	12.5	0.0	NO		NO	bb
4	4 190712M2_9	Standard	12.500	4.89	24396.598	24396.598	12.500	12.5	0.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	4.90	22359.881	22359.881	12.500	12.5	0.0	NO		NO	bb
6	6 190712M2_11	Standard	12.500	4.89	22333.814	22333.814	12.500	12.5	0.0	NO		NO	bb
7	7 190712M2_12	Standard	12.500	4.90	21019.059	21019.059	12.500	12.5	0.0	NO		NO	bb
8	8 190712M2_13	Standard	12.500	4.90	20558.068	20558.068	12.500	12.5	0.0	NO		NO	bb
9	9 190712M2_14	Standard	12.500	4.90	17146.861	17146.861	12.500	12.5	0.0	NO		NO	bb
10	10 190712M2_15	Standard	12.500	4.90	15357.892	15357.892	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUdA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 190712M2_6	Standard	12.500	5.23	22850.191	22850.191	12.500	12.5	0.0	NO		NO	bb
2	2 190712M2_7	Standard	12.500	5.23	22565.707	22565.707	12.500	12.5	0.0	NO		NO	bb
3	3 190712M2_8	Standard	12.500	5.23	24429.031	24429.031	12.500	12.5	0.0	NO		NO	bb
4	4 190712M2_9	Standard	12.500	5.23	25104.756	25104.756	12.500	12.5	0.0	NO		NO	bb
5	5 190712M2_10	Standard	12.500	5.23	23524.727	23524.727	12.500	12.5	0.0	NO		NO	bb
6	6 190712M2_11	Standard	12.500	5.23	23132.238	23132.238	12.500	12.5	0.0	NO		NO	bb
7	7 190712M2_12	Standard	12.500	5.23	21827.463	21827.463	12.500	12.5	0.0	NO		NO	bb
8	8 190712M2_13	Standard	12.500	5.23	20687.432	20687.432	12.500	12.5	0.0	NO		NO	bb
9	9 190712M2_14	Standard	12.500	5.23	17977.869	17977.869	12.500	12.5	0.0	NO		NO	bb
10	10 190712M2_15	Standard	12.500	5.23	16091.949	16091.949	12.500	12.5	0.0	NO		NO	bb

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN945 SCN960**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Sunday, July 14, 2019 13:51:41 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190712M2_5	IPA	12-Jul-19	18:13:51
2	2	190712M2_6	ST190712M2-1 PFC CS-2 19G1101	12-Jul-19	18:24:24
3	3	190712M2_7	ST190712M2-2 PFC CS-1 19G1102	12-Jul-19	18:35:02
4	4	190712M2_8	ST190712M2-3 PFC CS0 19G1103	12-Jul-19	18:45:35
5	5	190712M2_9	ST190712M2-4 PFC CS1 19G1104	12-Jul-19	18:56:14
6	6	190712M2_10	ST190712M2-5 PFC CS2 19G1105	12-Jul-19	19:06:47
7	7	190712M2_11	ST190712M2-6 PFC CS3 19G1106	12-Jul-19	19:17:24
8	8	190712M2_12	ST190712M2-7 PFC CS4 19G1107	12-Jul-19	19:27:57
9	9	190712M2_13	ST190712M2-8 PFC CS5 19G1108	12-Jul-19	19:38:36
10	10	190712M2_14	ST190712M2-9 PFC CS6 19G1109	12-Jul-19	19:49:09
11	11	190712M2_15	ST190712M2-10 PFC CS7 19G1110	12-Jul-19	19:59:47
12	12	190712M2_16	IB	12-Jul-19	20:10:19
13	13	190712M2_17	ST190712M2-1 PFC ICV 19G1111	12-Jul-19	20:20:58
14	14	190712M2_18	IPA	12-Jul-19	20:31:30

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:50:49 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBA	47	0.9997	NO	
2	2	PFPrS	49	0.9998	NO	
3	3	3:3 FTCA	48	0.9997	NO	
4	4	PFPeA	48	0.9998	NO	
5	5	PFBS	49	0.9997	NO	
6	6	4:2 FTS	51	0.9990	NO	
7	7	PFHxA	52	0.9994	NO	
8	8	PFPeS	49	0.9931	NO	
9	9	HFPO-DA	50	0.9986	NO	
10	10	5:3 FTCA	53	0.9999	NO	
11	11	PFHpA	53	0.9999	NO	
12	12	ADONA	53	0.9986	NO	
13	13	L-PFHxS	54	0.9998	NO	
14	15	6:2 FTS	55	0.9998	NO	
15	16	L-PFOA	58	0.9999	NO	
16	18	PFecHS	58	1.0000	NO	
17	19	PFHpS	59	0.9998	NO	
18	20	7:3 FTCA	56	0.9993	NO	
19	21	PFNA	56	0.9999	NO	
20	22	PFOSA	57	0.9994	NO	
21	23	L-PFOS	59	0.9991	NO	
22	25	9Cl-PF30NS	59	0.9998	NO	
23	26	PFDA	60	0.9985	NO	
24	27	8:2 FTS	61	0.9991	NO	
25	28	PFNS	59	0.9991	NO	
26	29	L-MeFOSAA	62	0.9991	NO	

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:51:01 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

	#	Name	IS#	CoD	CoD Flag	%RSD
1	31	L-EtFOSAA	64	0.9969	NO	
2	33	PFUdA	63	0.9992	NO	
3	34	PFDS	61	0.9951	NO	
4	35	11Cl-PF30UdS	65	0.9989	NO	
5	36	10:2 FTS	61	0.9991	NO	
6	37	PFDoA	65	1.0000	NO	
7	38	N-MeFOSA	66	0.9998	NO	
8	39	PFTrDA	65	0.9999	NO	
9	40	PFDoS	67	0.9996	NO	
10	41	PFTeDA	67	0.9991	NO	
11	42	N-EtFOSA	68	0.9994	NO	
12	43	PFHxDA	69	0.9999	NO	
13	44	PFODA	69	0.9958	NO	
14	45	N-MeFOSE	70	0.9994	NO	
15	46	N-EtFOSE	71	0.9999	NO	
16	47	13C3-PFBA	72		NO	2.045
17	48	13C3-PFPeA	73		NO	9.549
18	49	13C3-PFBS	74		NO	5.338
19	50	13C3-HFPO-DA	73		NO	10.541
20	51	13C2-4:2 FTS	74		NO	11.172
21	52	13C2-PFHxA	73		NO	3.674
22	53	13C4-PFHpA	73		NO	5.237
23	54	13C3-PFHxS	74		NO	7.396
24	55	13C2-6:2 FTS	77		NO	5.849
25	56	13C5-PFNA	76		NO	2.767
26	57	13C8-PFOSA	79		NO	6.282
27	58	13C2-PFOA	75		NO	2.701
28	59	13C8-PFOS	77		NO	4.263
29	60	13C2-PFDA	78		NO	3.586
30	61	13C2-8:2 FTS	77		NO	7.240
31	62	d3-N-MeFOSAA	79		NO	5.352
32	63	13C2-PFUdA	79		NO	3.338

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:51:01 Pacific Daylight Time

Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

	#	Name	IS#	CoD	CoD Flag	%RSD
33	64	d5-N-EtFOSAA	79		NO	3.116
34	65	13C2-PFDoA	78		NO	4.796
35	66	d3-N-MeFOSA	79		NO	14.027
36	67	13C2-PFTeDA	79		NO	3.387
37	68	d5-N-ETFOSA	79		NO	7.209
38	69	13C2-PFHxDA	79		NO	7.685
39	70	d7-N-MeFOSE	79		NO	13.909
40	71	d9-N-EtFOSE	79		NO	14.222
41	72	13C4-PFBA	72		NO	0.000
42	73	13C5-PFHxA	73		NO	0.000
43	74	18O2-PFHxS	74		NO	0.000
44	75	13C8-PFOA	75		NO	0.000
45	76	13C9-PFNA	76		NO	0.000
46	77	13C4-PFOS	77		NO	0.000
47	78	13C6-PFDA	78		NO	0.000
48	79	13C7-PFUdA	79		NO	0.000

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:39:17 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:32:00

Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	PFBA	1.15	1.15			
2	PFPrS	1.51	1.51	2.203	2.203	NO
3	3:3 FTCA	1.99	1.97	2.262	2.262	NO
4	PFPeA	2.12	2.13			
5	PFBS	2.41	2.41	2.651	2.651	NO
6	4:2 FTS	2.84	2.84	1.640	1.640	NO
7	PFHxA	2.92	2.92	16.017	16.017	NO
8	PFPeS	3.13	3.13	1.629	1.629	NO
9	HFPO-DA	3.13	3.14	2.019	2.019	NO
10	5:3 FTCA	3.47	3.47	1.525	1.525	NO
11	PFHpA	3.54	3.54	13.035	13.035	NO
12	ADONA	3.66	3.66	3.566	3.566	NO
13	L-PFHxS	3.70	3.70	2.006	2.006	NO
14	6:2 FTS	4.02	4.01	2.313	2.313	NO
15	L-PFOA	4.07	4.07	3.445	3.445	NO
16	PFecHS	4.09	4.09	0.837	0.837	NO
17	PFHpS	4.19	4.19	2.130	2.130	NO
18	7:3 FTCA	4.51	4.50	1.640	1.640	NO
19	PFNA	4.52	4.52	4.796	4.796	NO
20	PFOSA	4.58	4.58	23.999	23.999	NO
21	L-PFOS	4.60	4.61	2.158	2.158	NO
22	9Cl-PF30NS	4.82	4.82	15.768	15.768	NO
23	PFDA	4.90	4.90	6.144	6.144	NO
24	8:2 FTS	4.87	4.87	1.086	1.086	NO
25	PFNS	4.96	4.96	1.845	1.845	NO
26	L-MeFOSAA	5.05	5.05	2.467	2.467	NO

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:39:29 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:32:00

Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	L-EtFOSAA	5.21	5.22	1.556	1.556	NO
2	PFUdA	5.23	5.23	10.922	10.922	NO
3	PFDS	5.28	5.28	1.789	1.789	NO
4	11Cl-PF30UdS	5.45	5.45	4.429	4.429	NO
5	10:2 FTS	5.50	5.50	1.535	1.535	NO
6	PFDoA	5.52	5.52	7.896	7.896	NO
7	N-MeFOSA	5.66	5.66	1.448	1.448	NO
8	PFTrDA	5.77	5.77	26.533	26.533	NO
9	PFDoS	5.80	5.80	1.894	1.894	NO
10	PFTeDA	5.99	5.99	13.147	13.147	NO
11	N-EtFOSA	6.09	6.09	1.573	1.573	NO
12	PFHxDA	6.35	6.35	41.713	41.713	NO
13	PFODA	6.60	6.60			
14	N-MeFOSE	6.28	6.28			
15	N-EtFOSE	6.44	6.44			

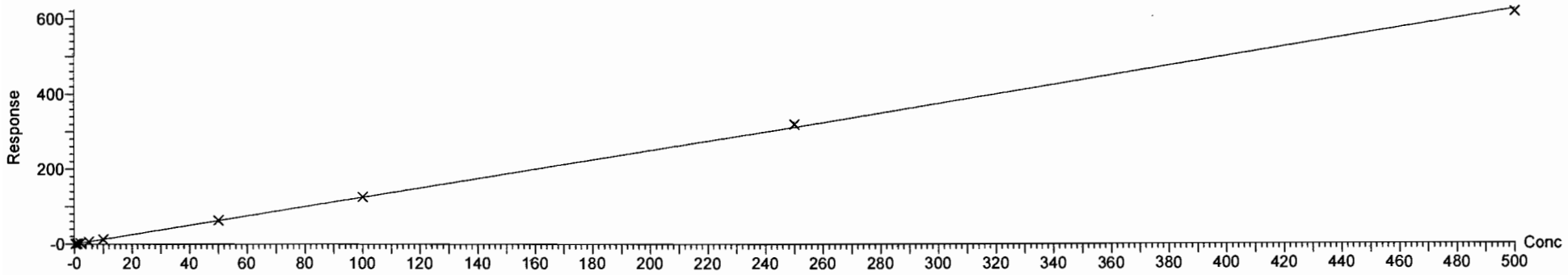
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

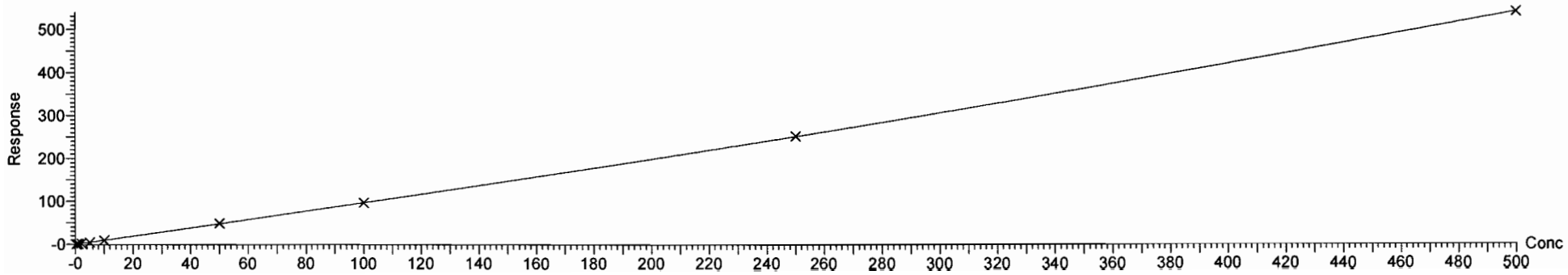
Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Compound name: PFBA
Correlation coefficient: r = 0.999852, r^2 = 0.999704
Calibration curve: 1.24734 * x + -0.0353972
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



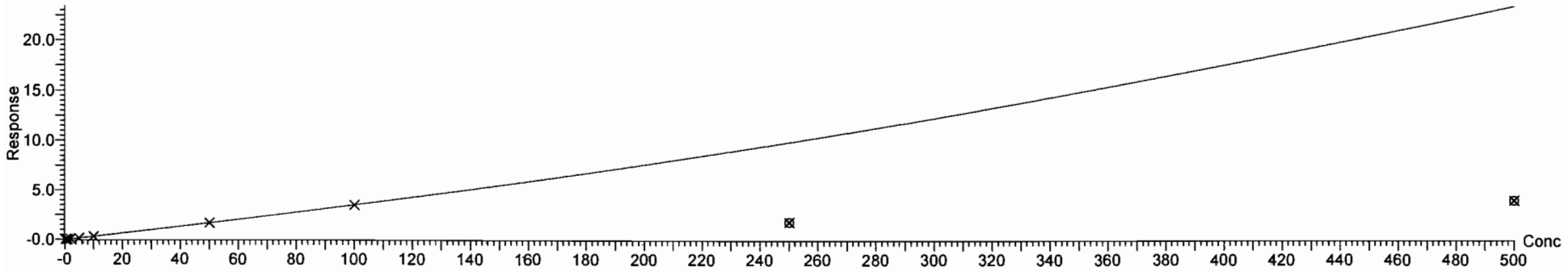
Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999806
Calibration curve: 0.000283057 * x^2 + 0.936439 * x + -0.135279
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



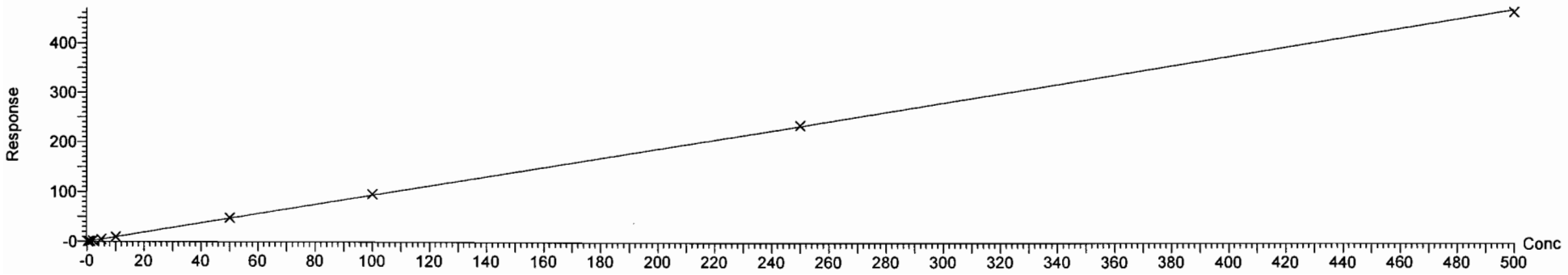
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999737
Calibration curve: 2.87032e-005 * x^2 + 0.0324429 * x + -0.00531914
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



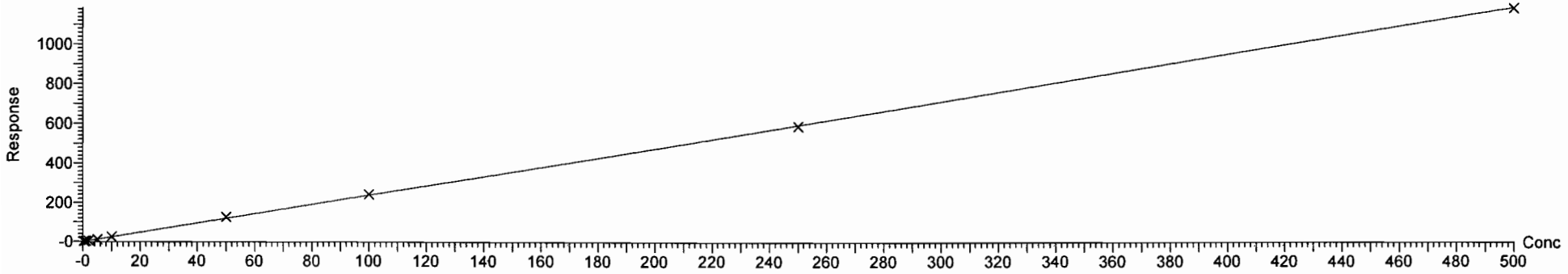
Compound name: PFPeA
Correlation coefficient: r = 0.999910, r^2 = 0.999820
Calibration curve: 0.937411 * x + -0.00202089
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



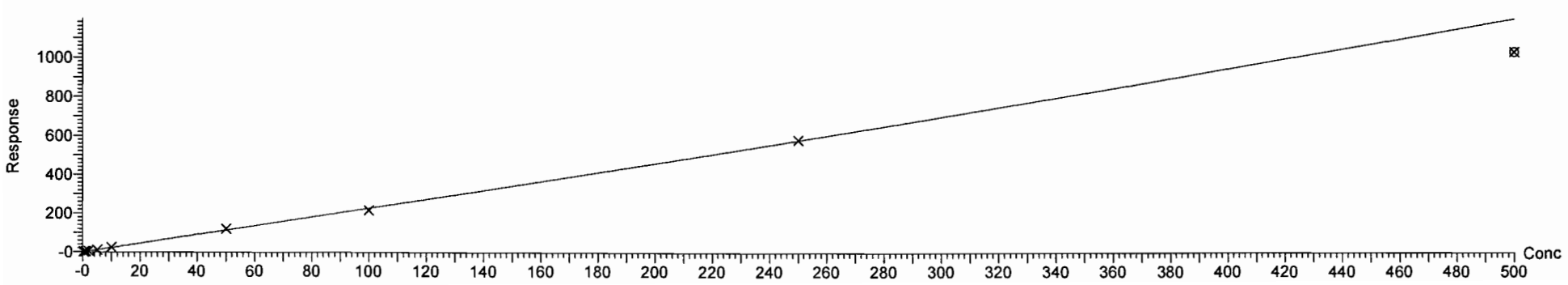
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999843, r^2 = 0.999687
Calibration curve: 2.37276 * x + -0.156245
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



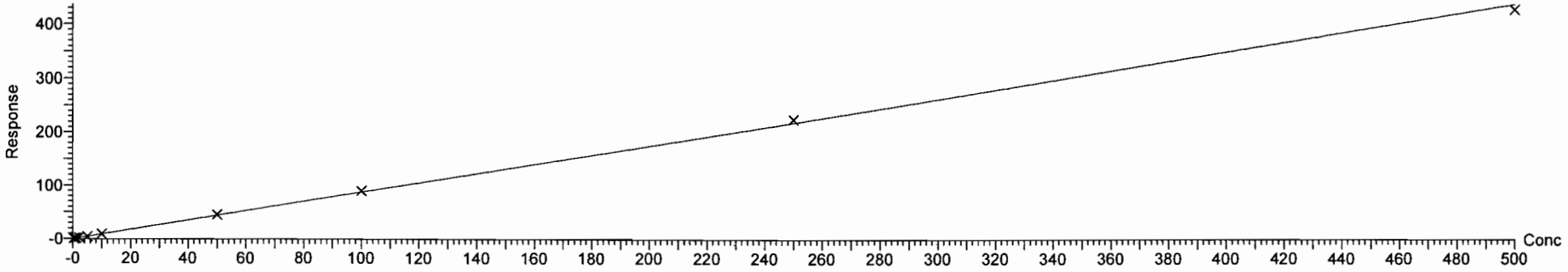
Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.998954
Calibration curve: 0.000308893 * x^2 + 2.23604 * x + -0.0376249
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



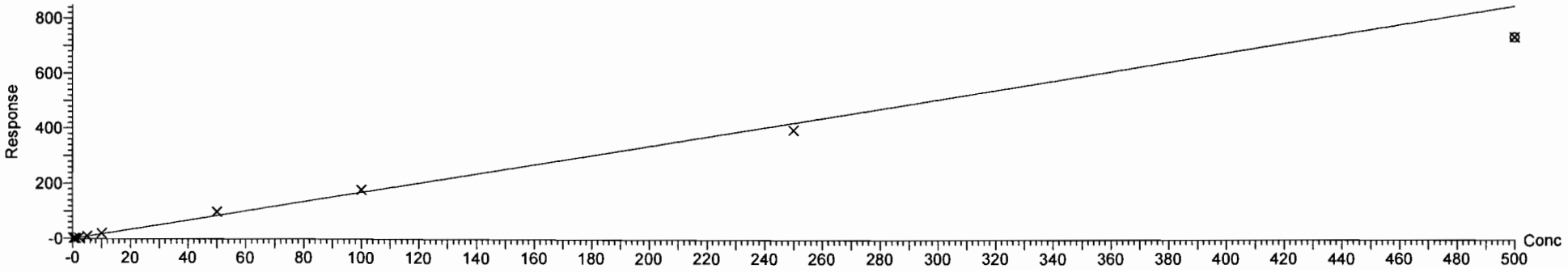
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: PFHxA
Correlation coefficient: r = 0.999691, r^2 = 0.999382
Calibration curve: 0.873244 * x + 0.0275135
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



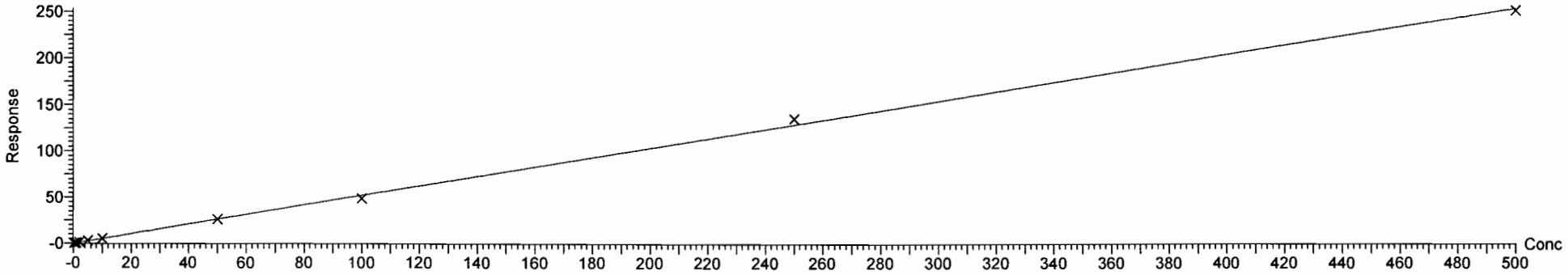
Compound name: PFPeS
Correlation coefficient: r = 0.996561, r^2 = 0.993135
Calibration curve: 1.69347 * x + 0.0925013
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



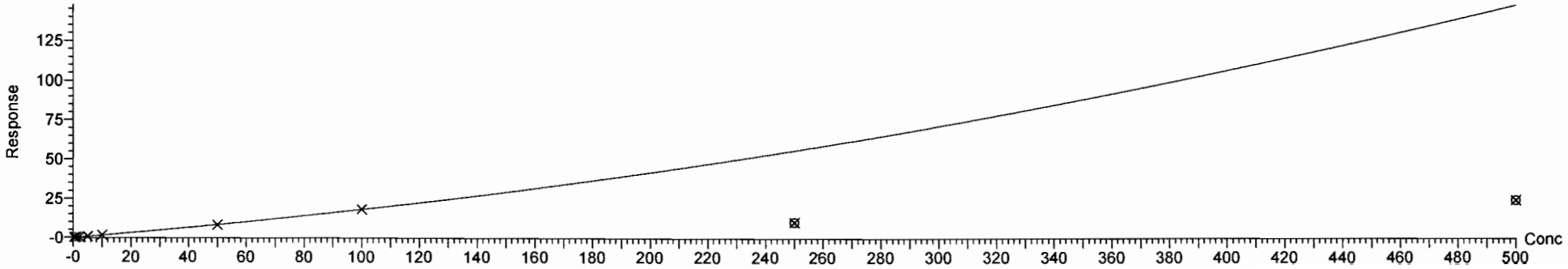
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.998577
Calibration curve: -3.60857e-005 * x^2 + 0.525117 * x + -0.051754
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.999853
Calibration curve: 0.000284581 * x^2 + 0.152498 * x + -0.00490294
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

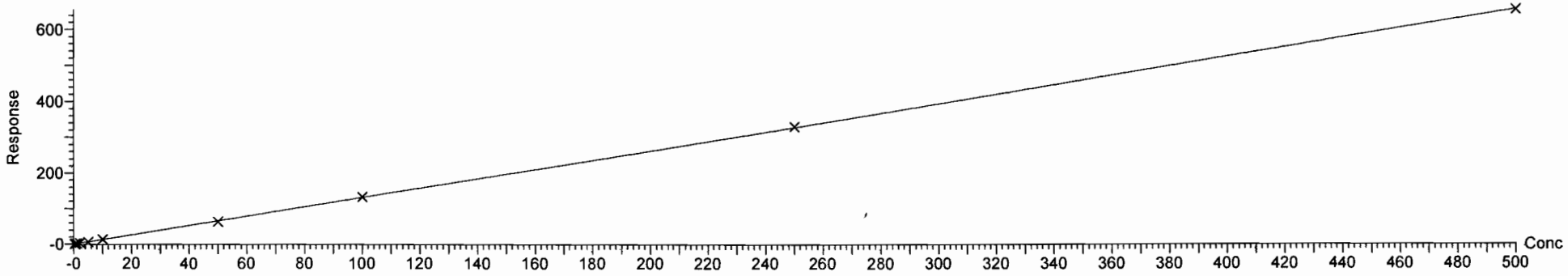


Vista Analytical Laboratory Q1

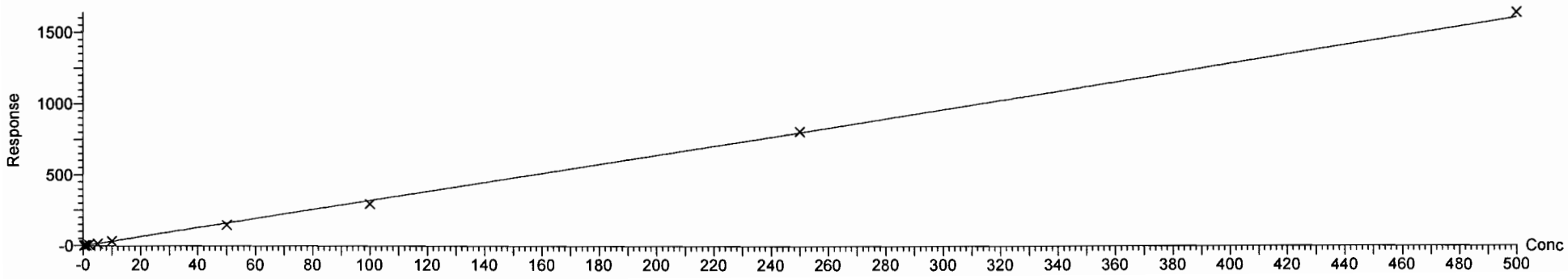
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: PFHpA
Correlation coefficient: r = 0.999931, r^2 = 0.999863
Calibration curve: 1.3101 * x + -0.0413598
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



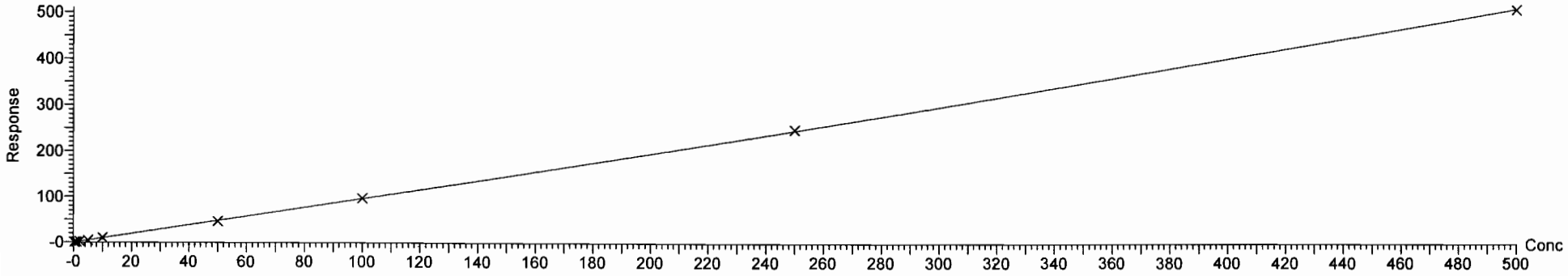
Compound name: ADONA
Correlation coefficient: r = 0.999288, r^2 = 0.998576
Calibration curve: 3.20131 * x + -0.268884
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



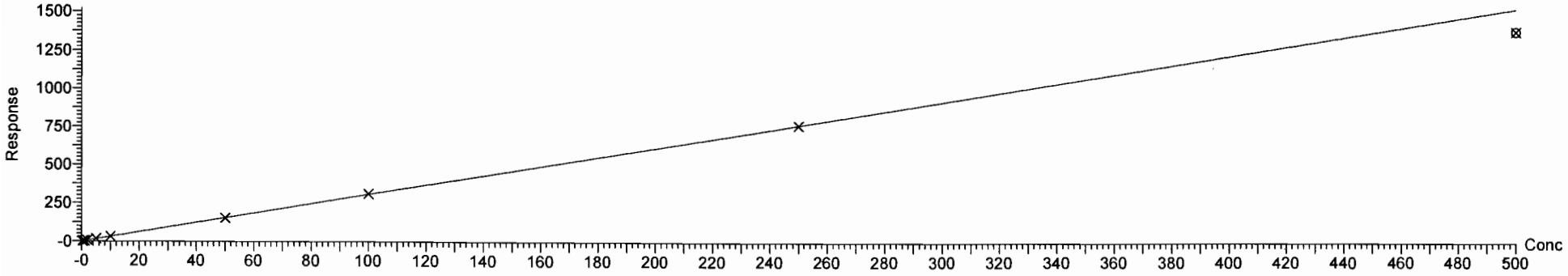
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999823
Calibration curve: 0.000138177 * x^2 + 0.948867 * x + -0.0687586
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



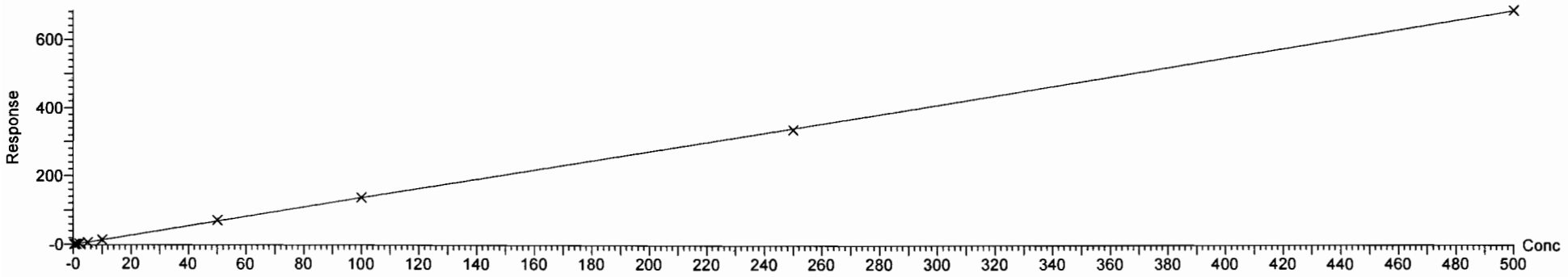
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.999832
Calibration curve: -4.8036e-005 * x^2 + 3.06357 * x + -0.156613
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



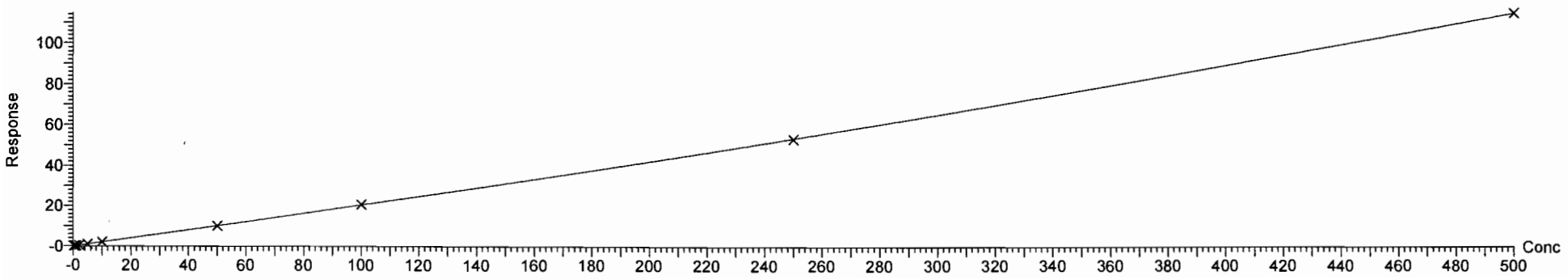
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: L-PFOA
Correlation coefficient: r = 0.999945, r^2 = 0.999890
Calibration curve: 1.36486 * x + 0.0739172
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



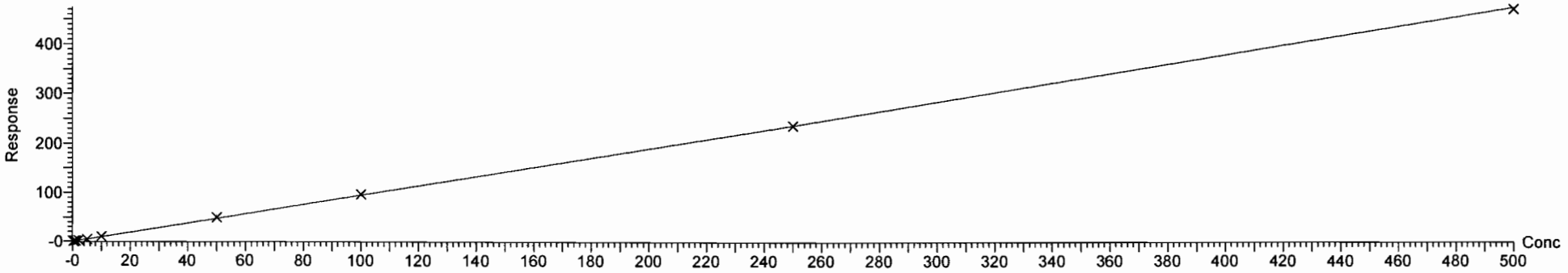
Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999965
Calibration curve: 6.23843e-005 * x^2 + 0.198261 * x + -0.0178896
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



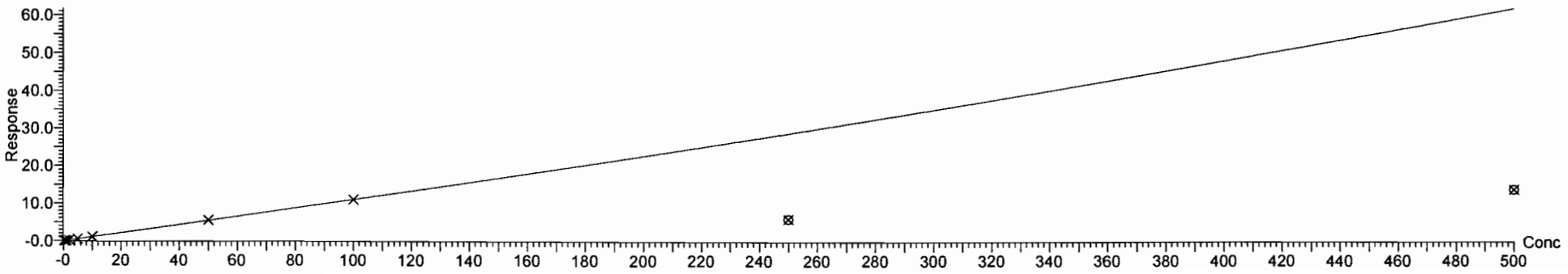
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: PFHpS
Correlation coefficient: r = 0.999877, r^2 = 0.999755
Calibration curve: 0.947743 * x + -0.026999
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



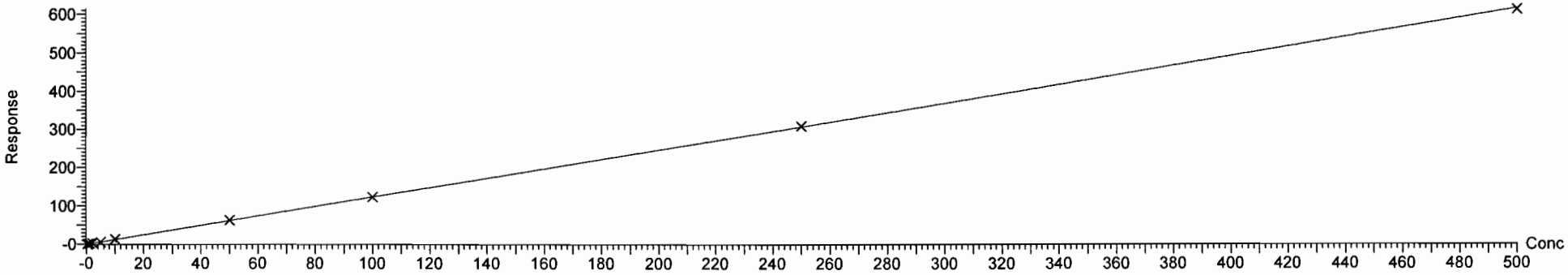
Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999265
Calibration curve: 3.2948e-005 * x^2 + 0.106989 * x + -0.0203978
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



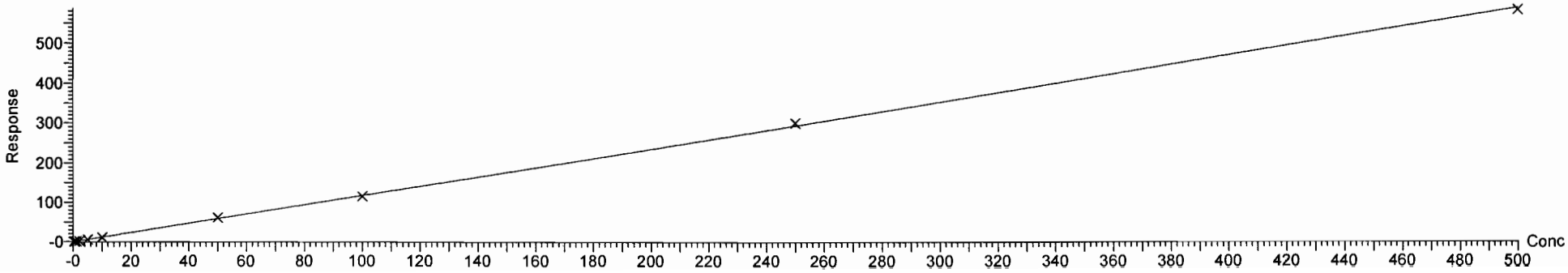
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: PFNA
Correlation coefficient: r = 0.999957, r^2 = 0.999913
Calibration curve: 1.22879 * x + -0.0175663
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



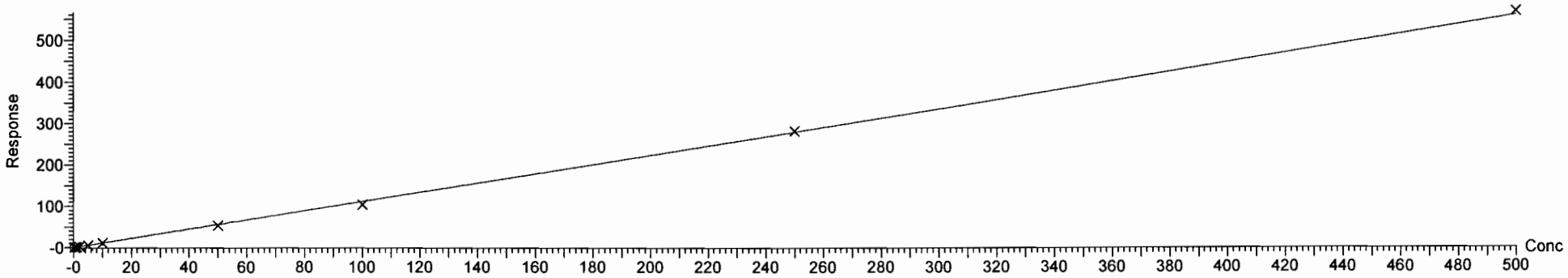
Compound name: PFOSA
Correlation coefficient: r = 0.999717, r^2 = 0.999434
Calibration curve: 1.17513 * x + -0.106628
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



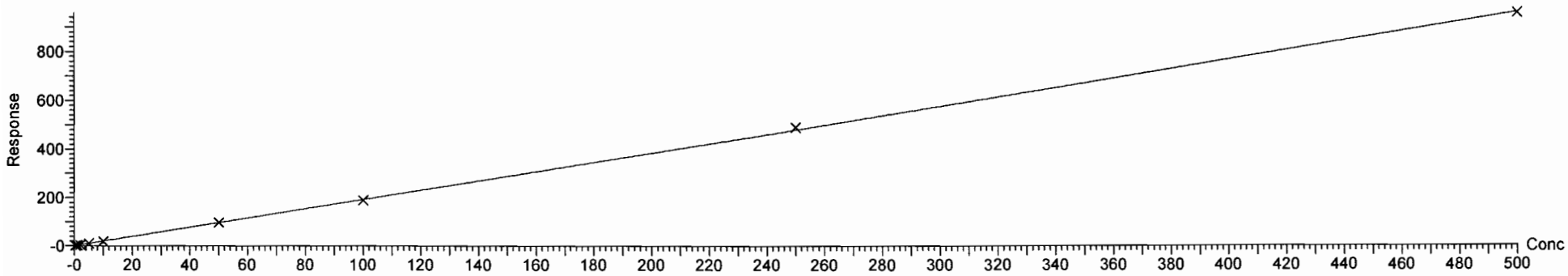
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: L-PFOS
Correlation coefficient: r = 0.999549, r^2 = 0.999099
Calibration curve: 1.1152 * x + -0.160592
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



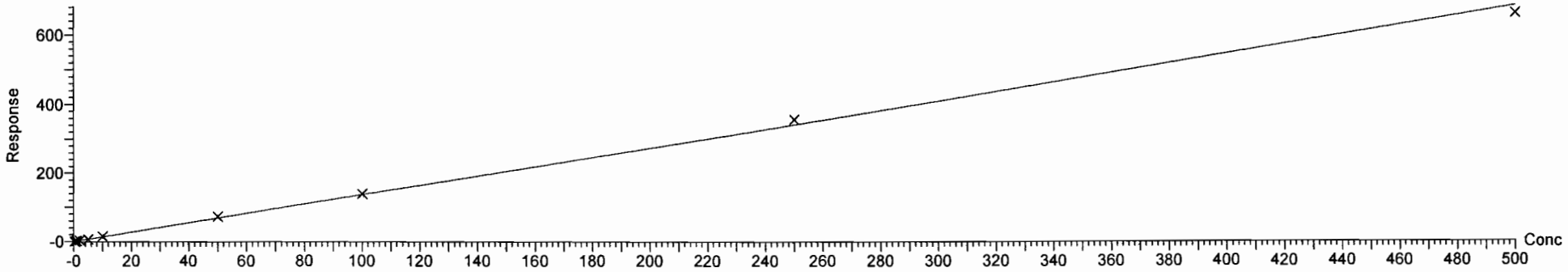
Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999757
Calibration curve: -1.64188e-005 * x^2 + 1.92142 * x + -0.163446
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



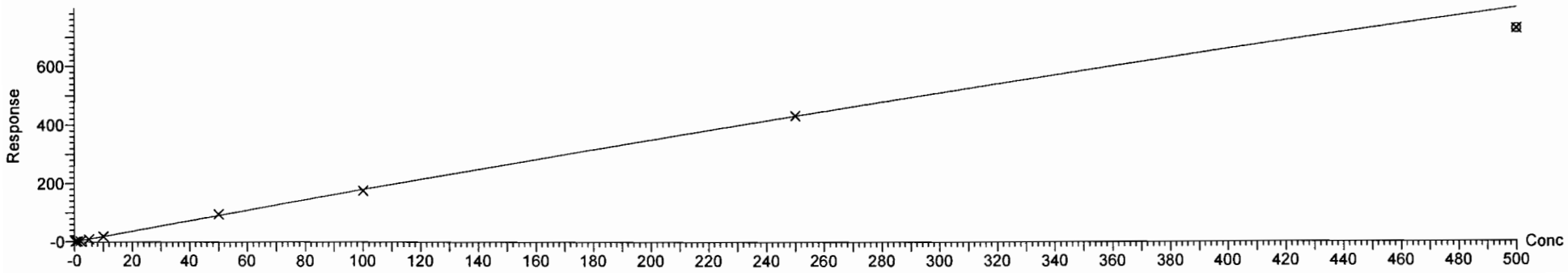
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: PFDA
Correlation coefficient: r = 0.999262, r^2 = 0.998524
Calibration curve: 1.36294 * x + 0.0573661
Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



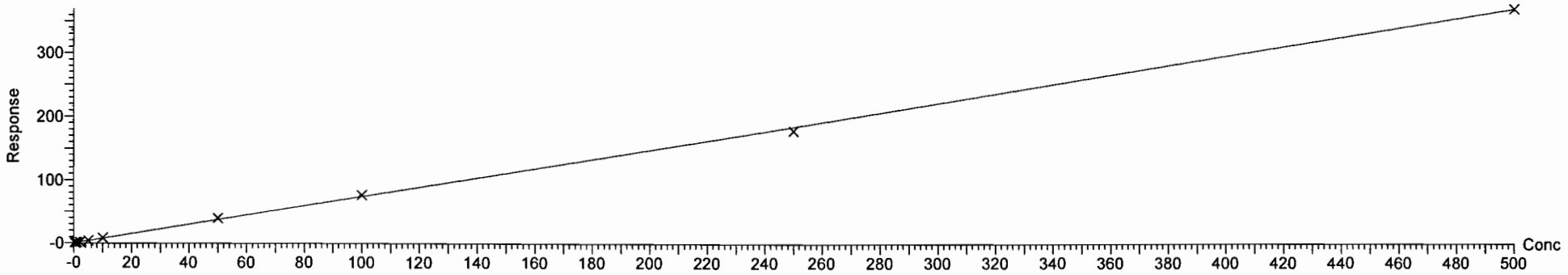
Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.999124
Calibration curve: -0.000508701 * x^2 + 1.8517 * x + -0.11439
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



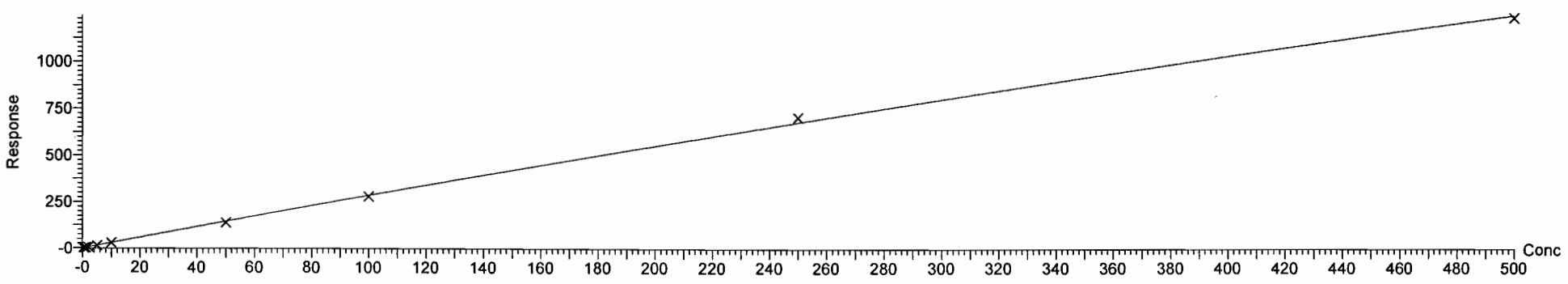
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:50 Pacific Daylight Time

Compound name: PFNS
Correlation coefficient: r = 0.999570, r^2 = 0.999140
Calibration curve: 0.737712 * x + 0.034269
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999147
Calibration curve: -0.000920396 * x^2 + 2.94574 * x + -0.277912
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



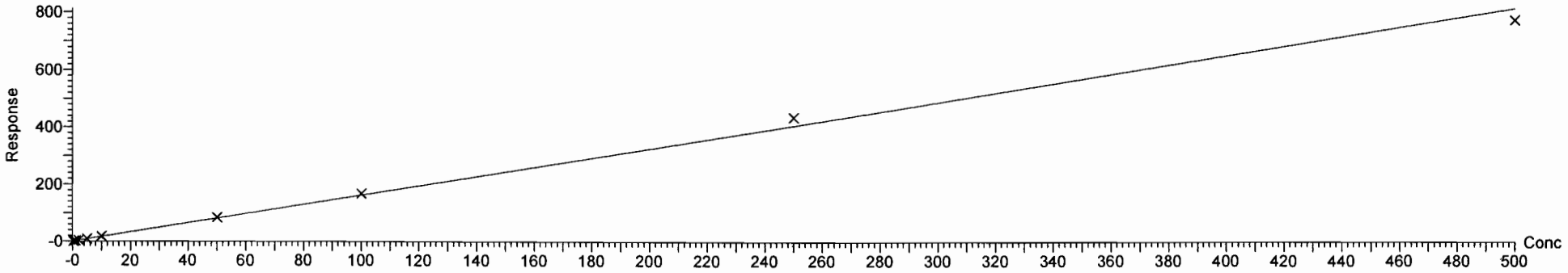
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

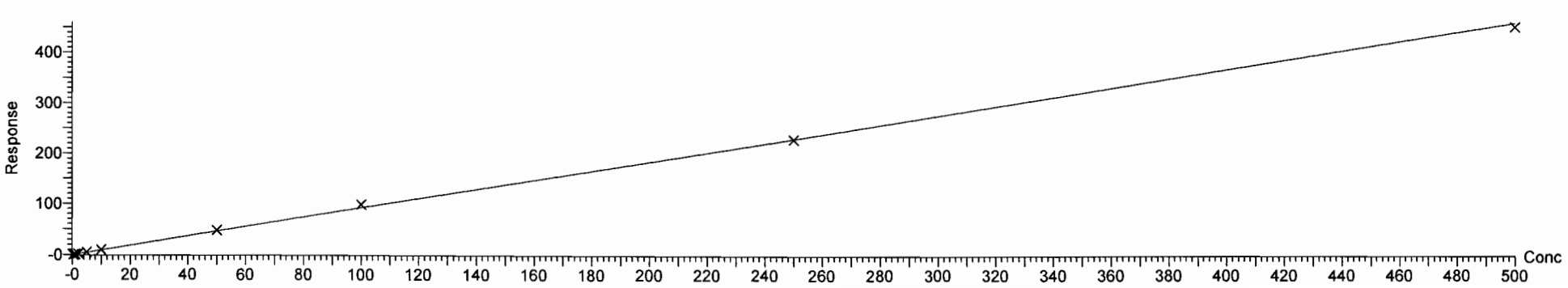
Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Compound name: L-EtFOSAA
Correlation coefficient: r = 0.998470, r^2 = 0.996943
Calibration curve: 1.62608 * x + 0.0226238
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: PFUdA
Correlation coefficient: r = 0.999588, r^2 = 0.999177
Calibration curve: 0.918609 * x + 0.0387869
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

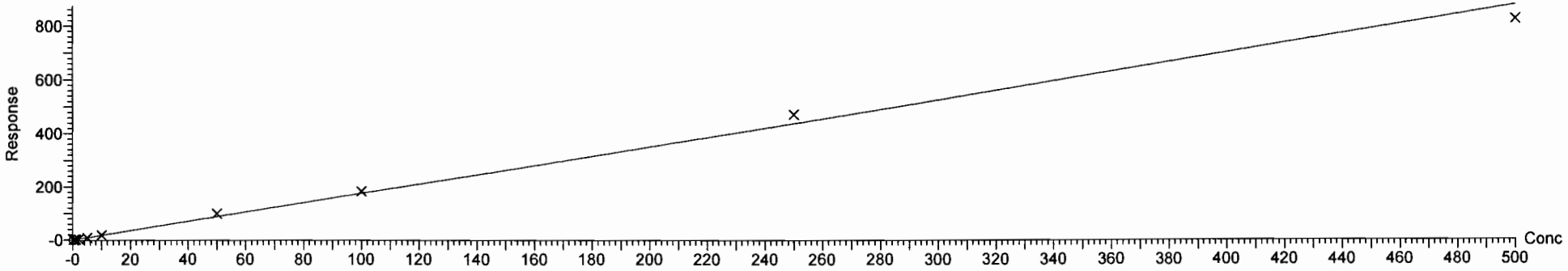


Vista Analytical Laboratory Q1

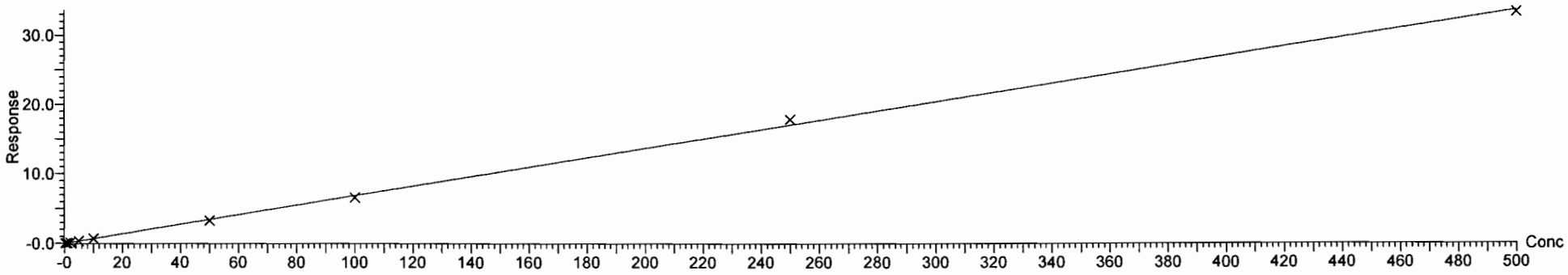
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Compound name: PFDS
Correlation coefficient: r = 0.997550, r^2 = 0.995106
Calibration curve: 1.74852 * x + 0.127653
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.998877
Calibration curve: -3.59269e-006 * x^2 + 0.0688991 * x + -0.00478901
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

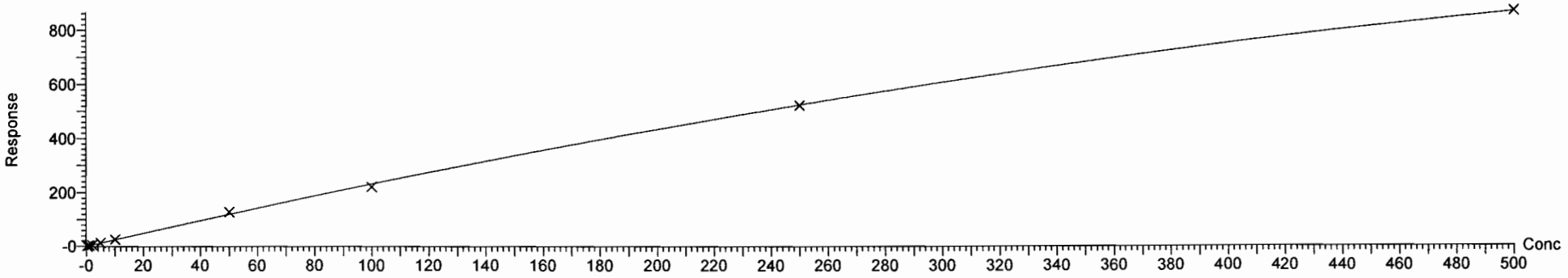


Vista Analytical Laboratory Q1

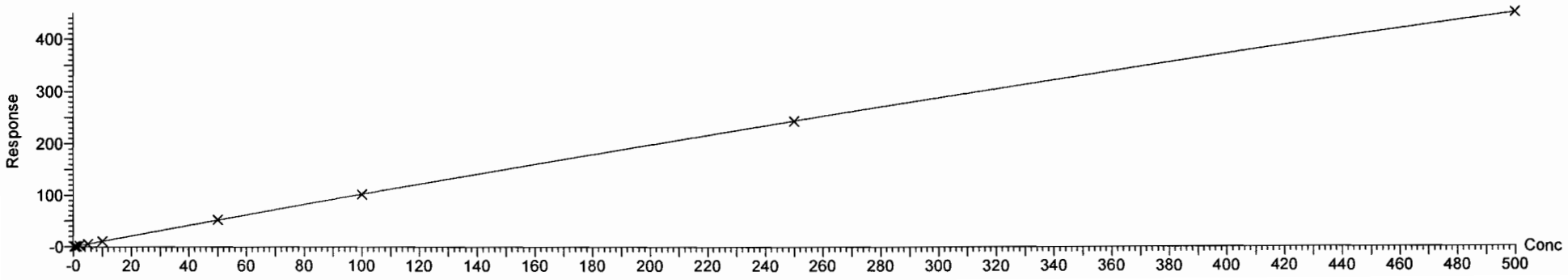
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999126
Calibration curve: -0.00146773 * x^2 + 2.46 * x + 0.0547691
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



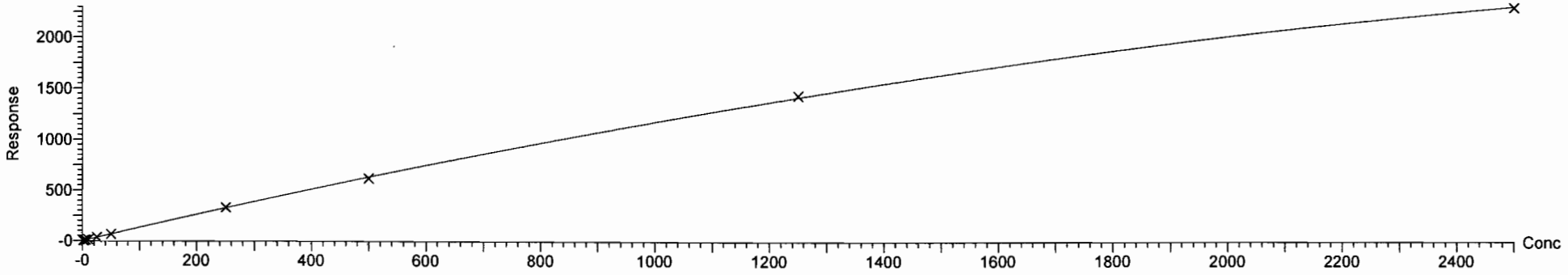
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999981
Calibration curve: -0.000303859 * x^2 + 1.04937 * x + -0.00738853
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



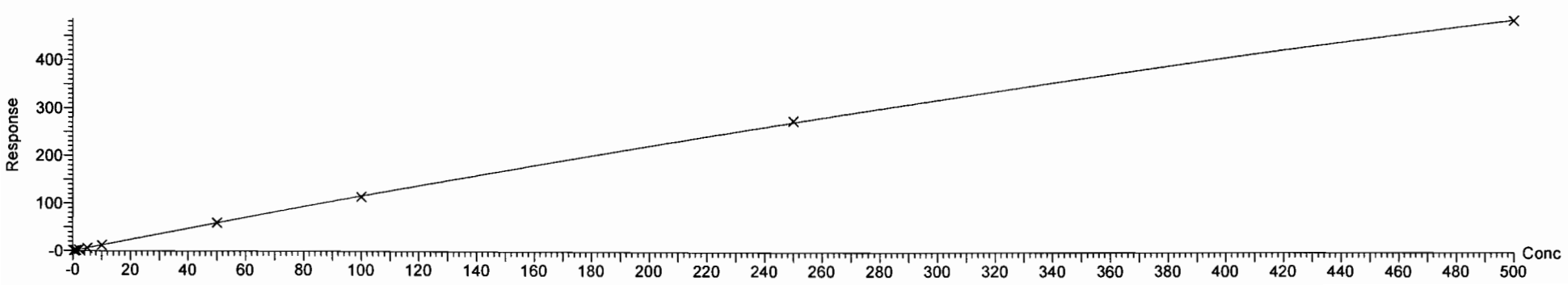
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999823
Calibration curve: -0.000171568 * x^2 + 1.34961 * x + -0.35958
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



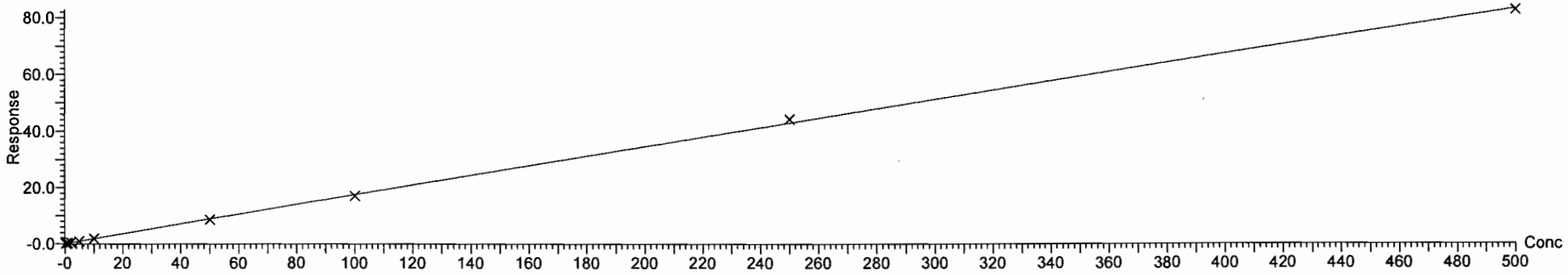
Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999906
Calibration curve: -0.000467463 * x^2 + 1.20461 * x + -0.0179675
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



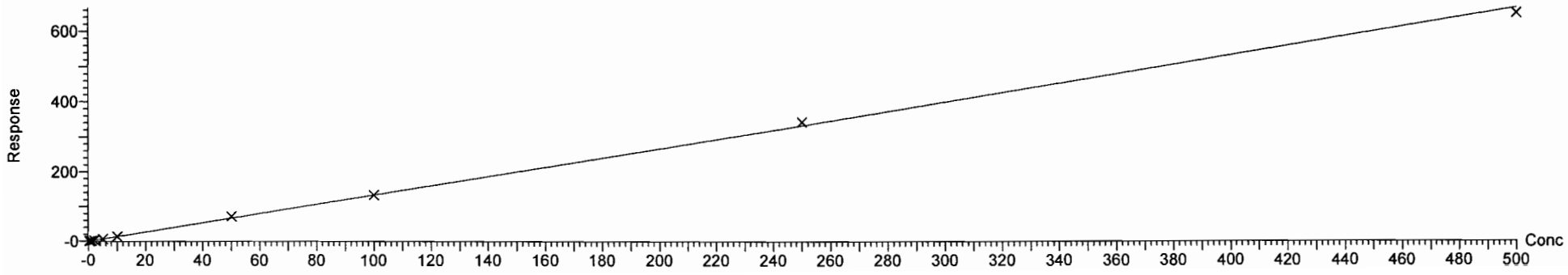
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999567
Calibration curve: -2.24391e-005 * x^2 + 0.176956 * x + -0.0107261
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



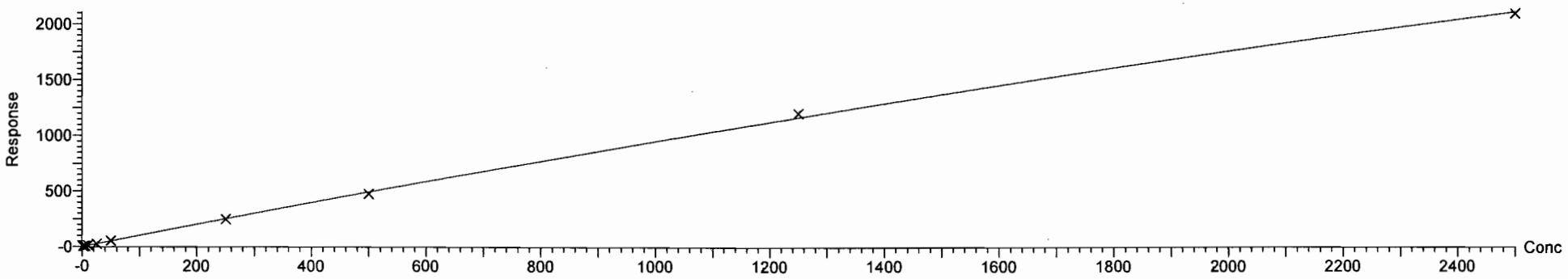
Compound name: PFTeDA
Correlation coefficient: r = 0.999546, r^2 = 0.999093
Calibration curve: 1.33064 * x + 0.0105238
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



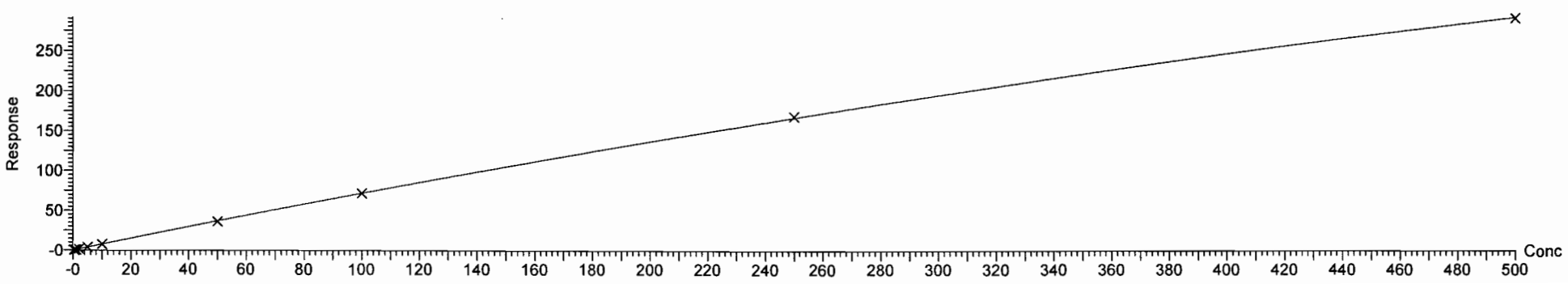
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999426
Calibration curve: -7.21463e-005 * x^2 + 1.02352 * x + -0.257314
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



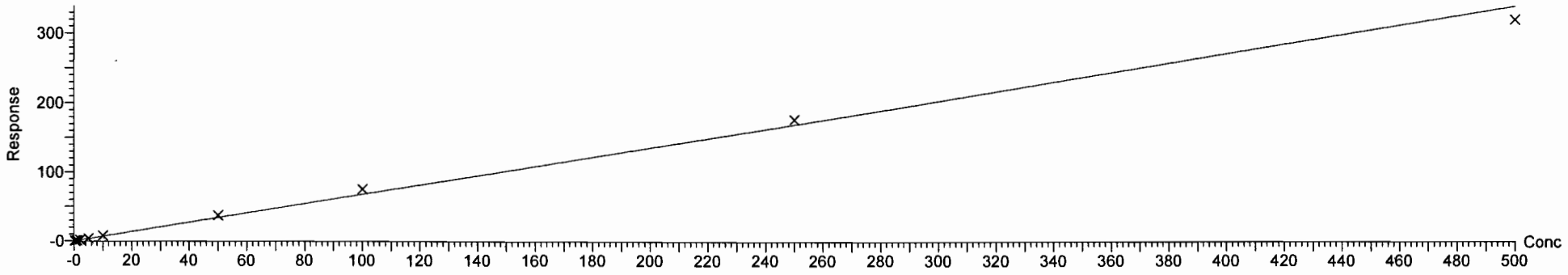
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999903
Calibration curve: -0.000336432 * x^2 + 0.750379 * x + 0.0191383
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



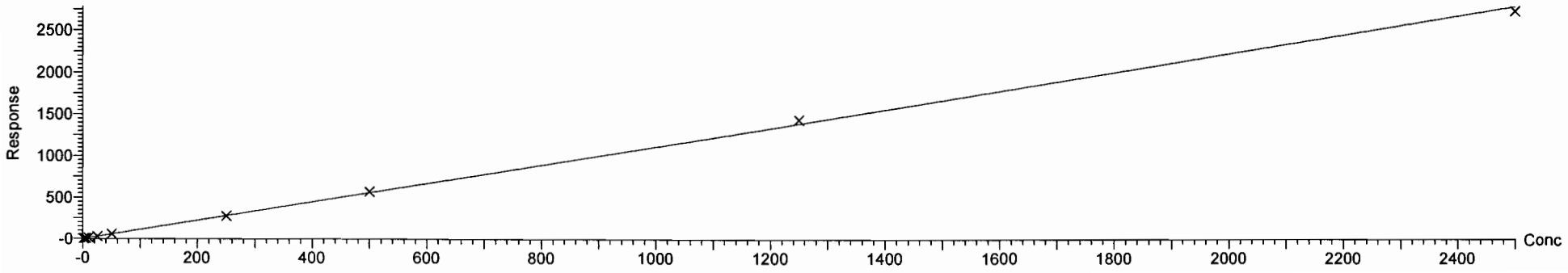
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Compound name: PFODA
Correlation coefficient: r = 0.997921, r^2 = 0.995847
Calibration curve: 0.67714 * x + 0.0513513
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



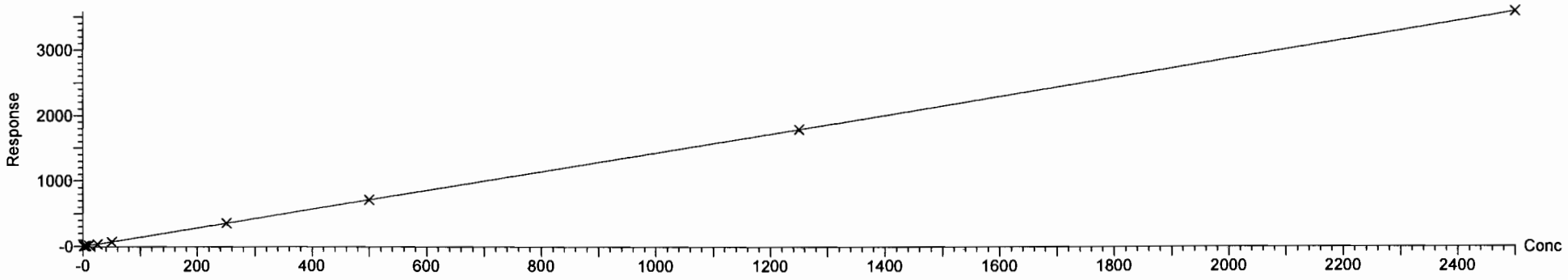
Compound name: N-MeFOSE
Correlation coefficient: r = 0.999687, r^2 = 0.999374
Calibration curve: 1.11151 * x + -0.31262
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:48:08 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:48:58 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999975, r^2 = 0.999950
Calibration curve: 1.42969 * x + -0.1022
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



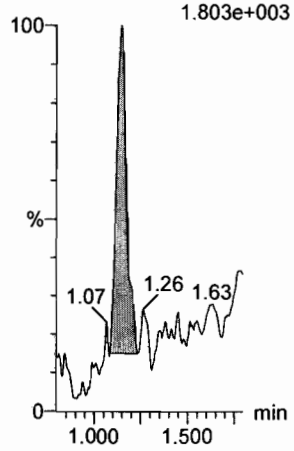
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

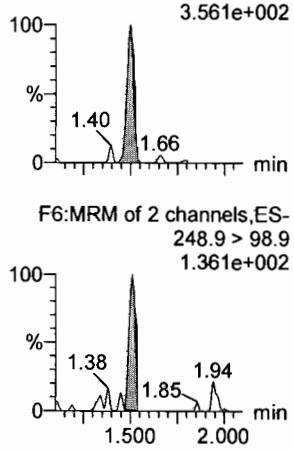
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:32:00

Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

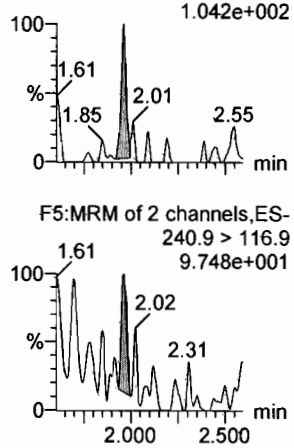
PFBA



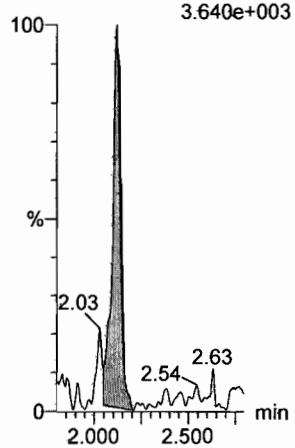
PFPrS



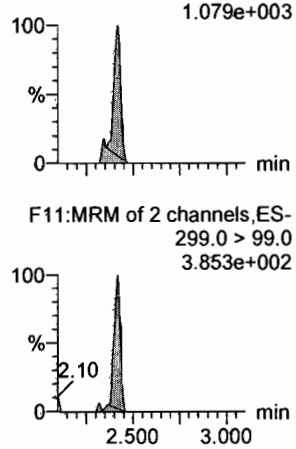
3:3 FTCA



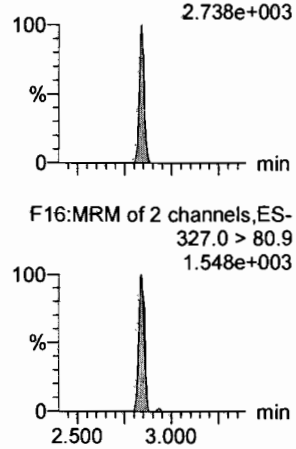
PFPeA



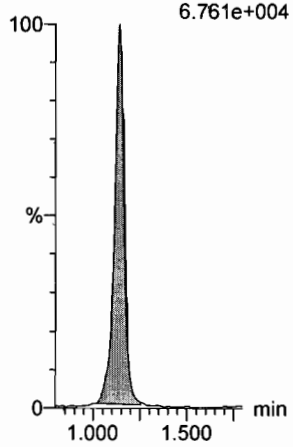
PFBS



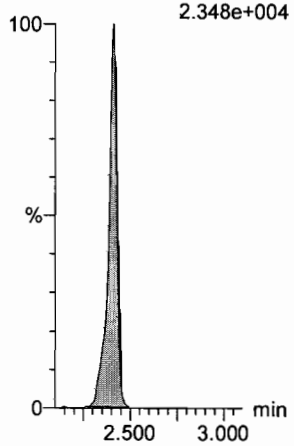
4:2 FTS



13C3-PFBA



13C3-PFBS



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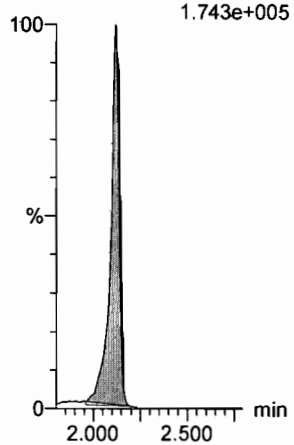

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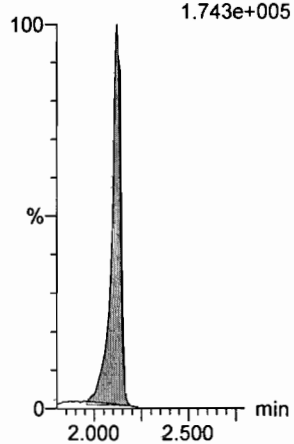

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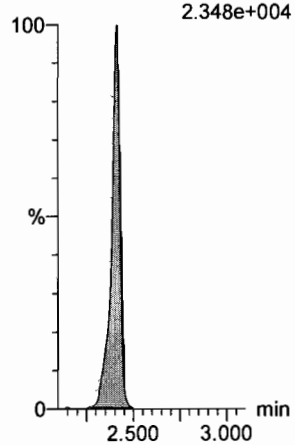
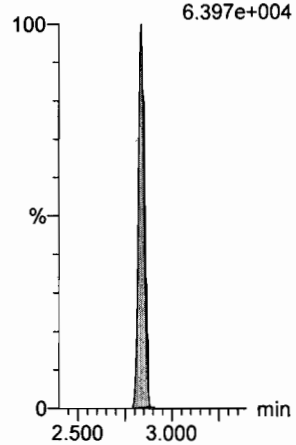


13C2-4:2 FTS

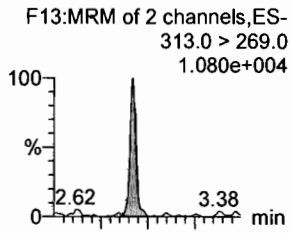


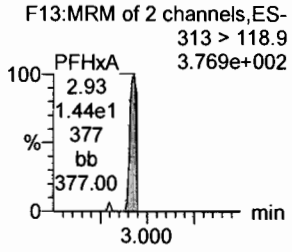
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

PFHxA





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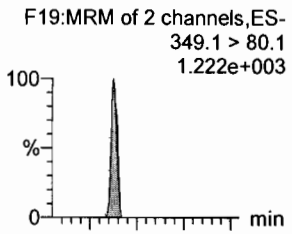
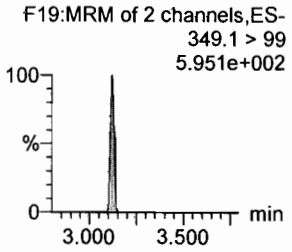
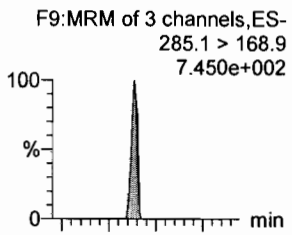
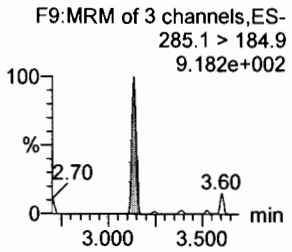


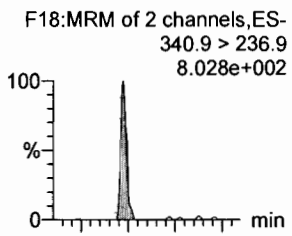


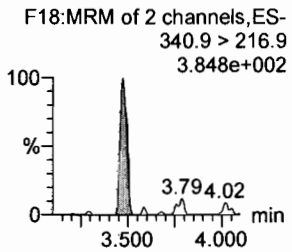
HFPO-DA



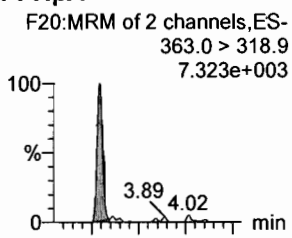


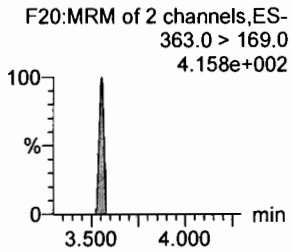
5:3 FTCA





PFHpA





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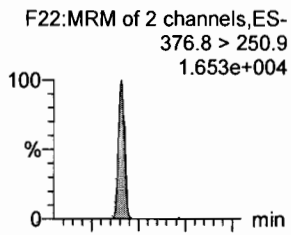
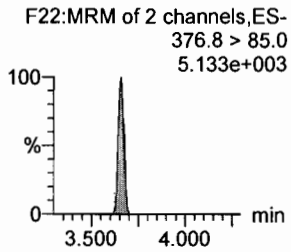
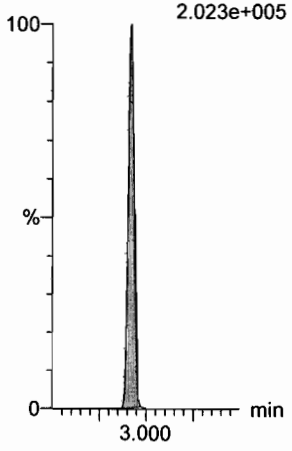
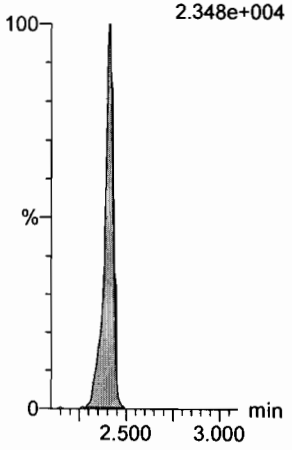




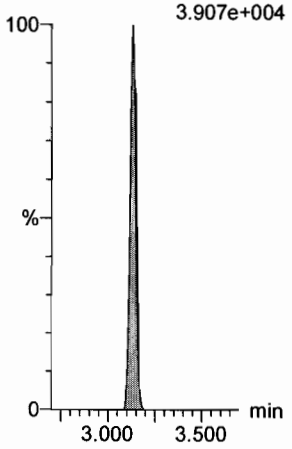
13C2-PFHxA



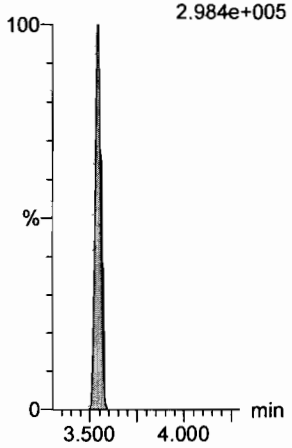
13C3-PFBS



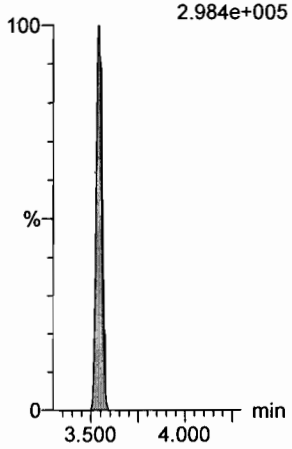
13C3-HFPO-DA



13C4-PFHpA



13C4-PFHpA



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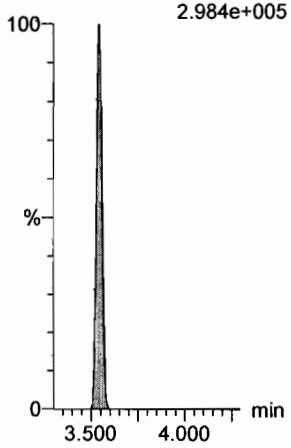
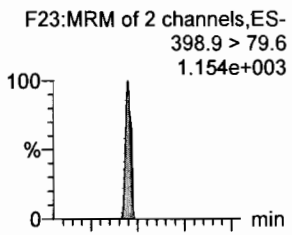


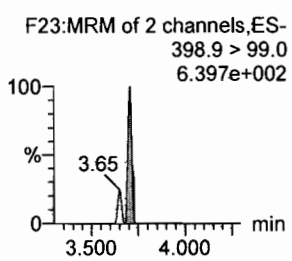
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

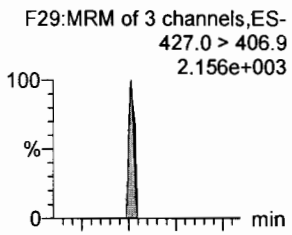
Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

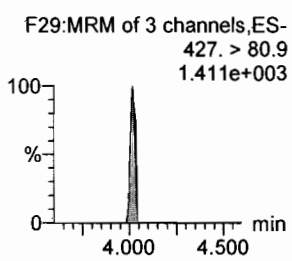
L-PFHxS



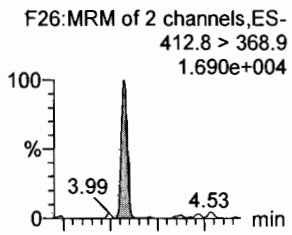


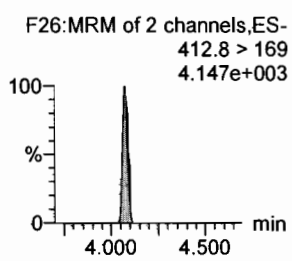
6:2 FTS



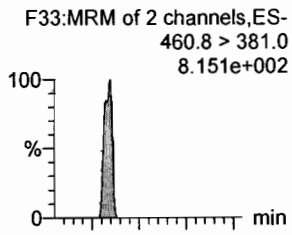


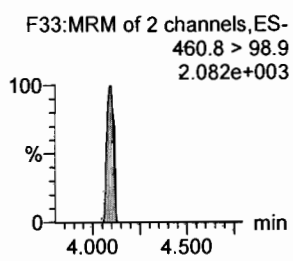
L-PFOA



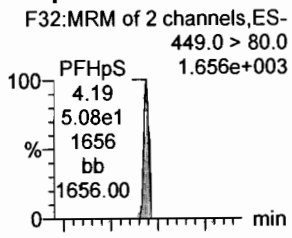


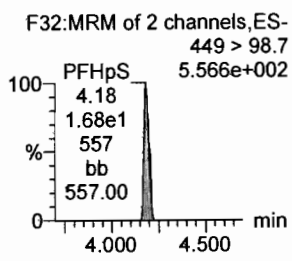
PFEChS



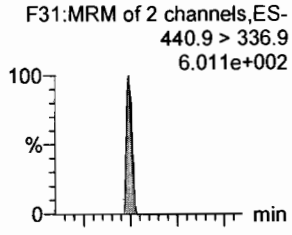


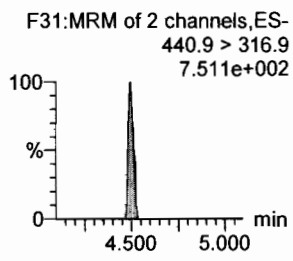
PFHpS



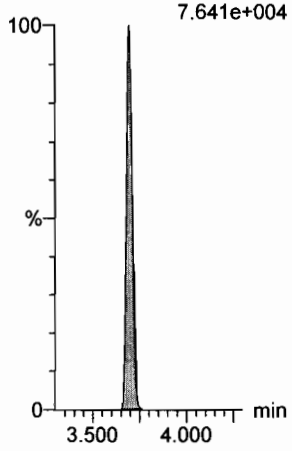


7:3 FTCA

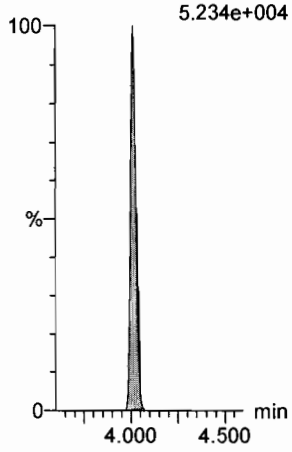




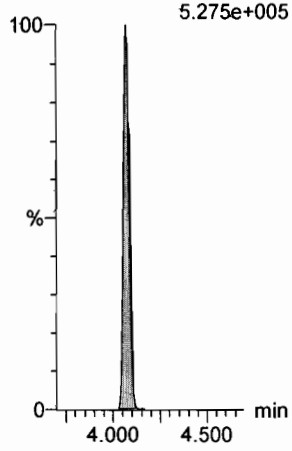
13C3-PFHxS



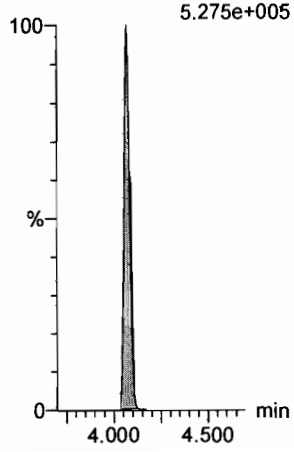
13C2-6:2 FTS



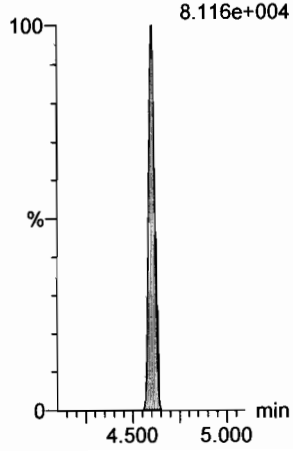
13C2-PFOA



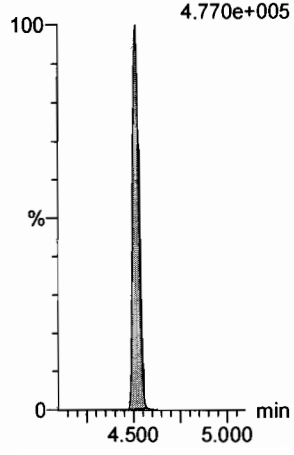
13C2-PFOA



13C8-PFOS



13C5-PFNA

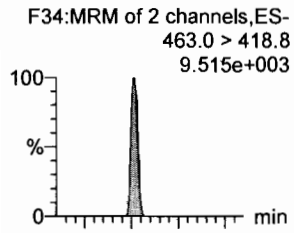


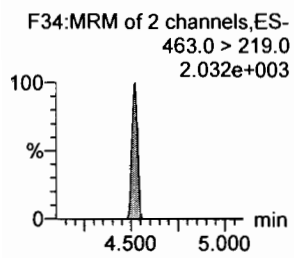
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

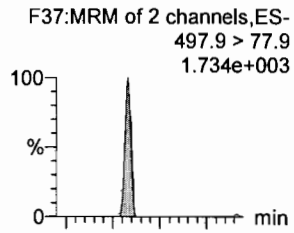
Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

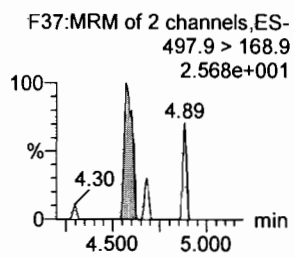
PFNA



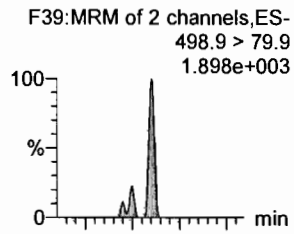


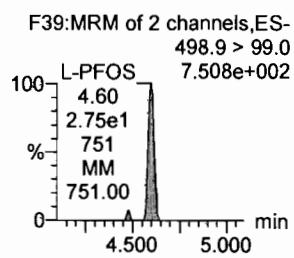
PFOSA



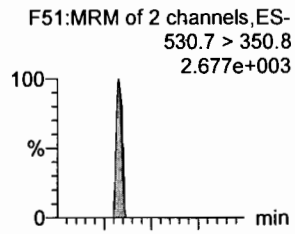


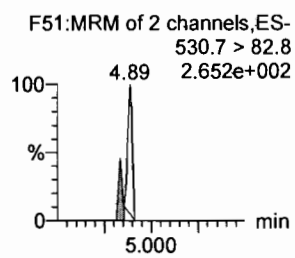
L-PFOS



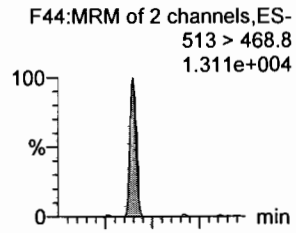


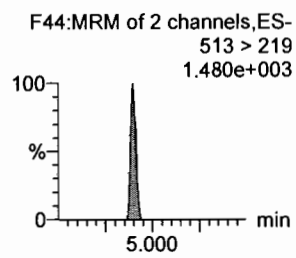
9Cl-PF30NS



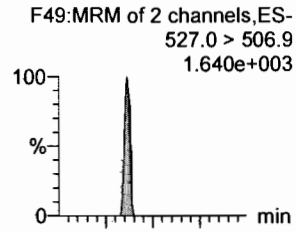


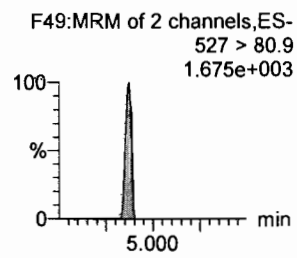
PFDA



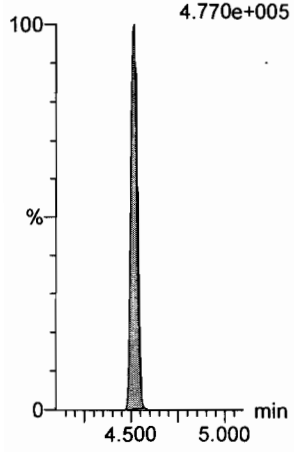


8:2 FTS

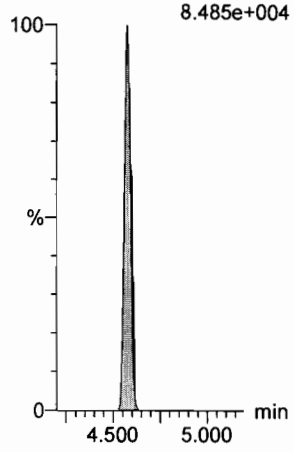




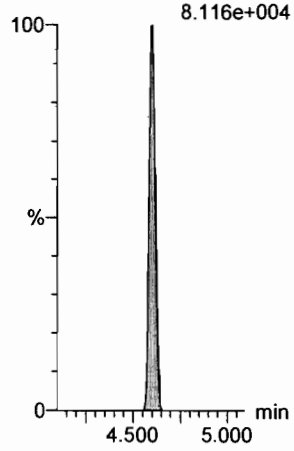
13C5-PFNA



13C8-PFOSA



13C8-PFOS



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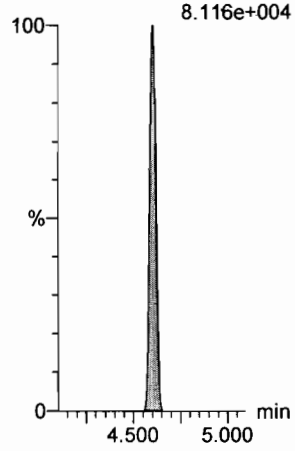
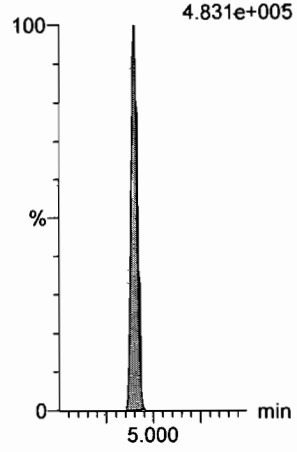
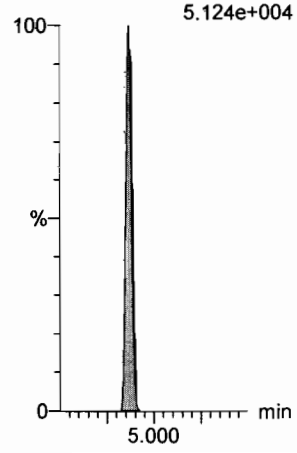


13C2-PFDA



13C2-8:2 FTS



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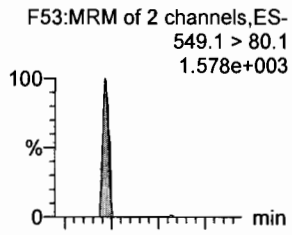
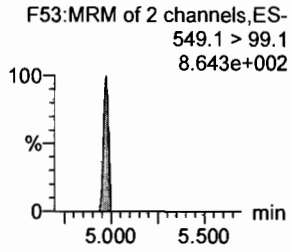
Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

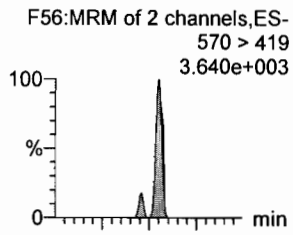
Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

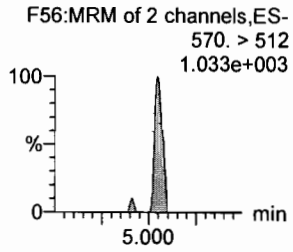
PFNS





L-MeFOSAA





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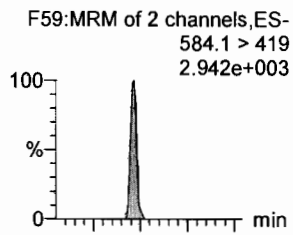
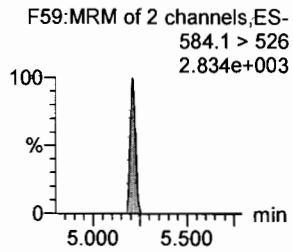
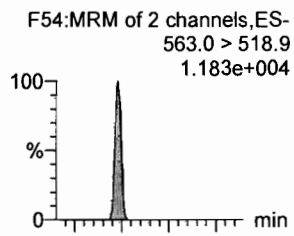
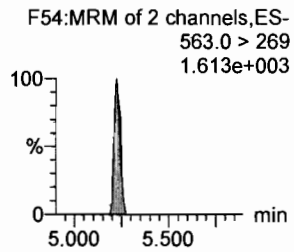




PFUdA





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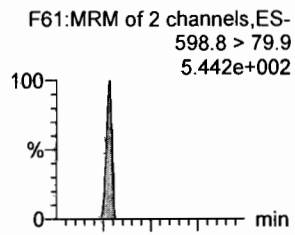
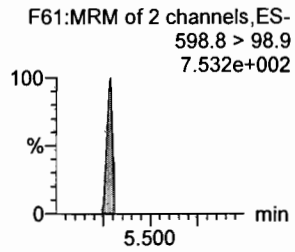
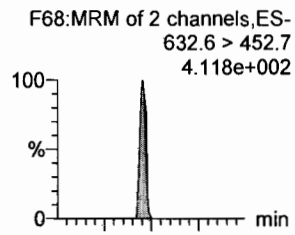
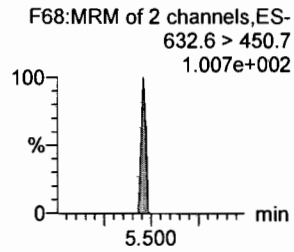


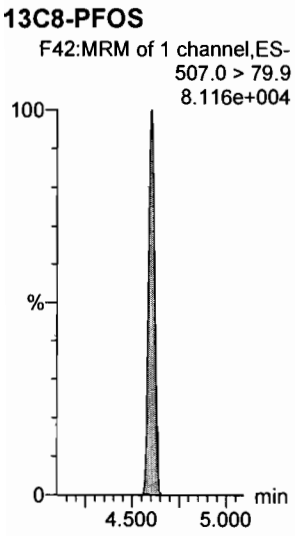


11Cl-PF30UdS

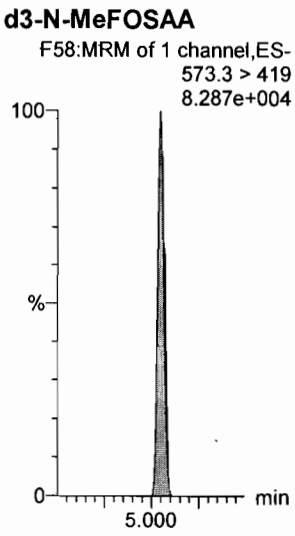




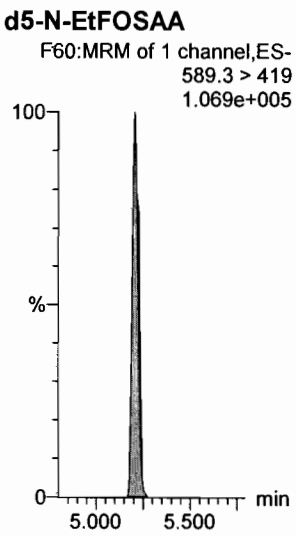
13C8-PFOS



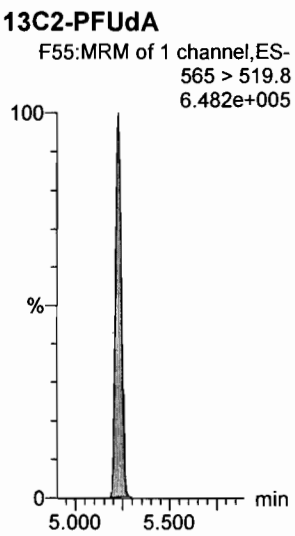
d3-N-MeFOSAA



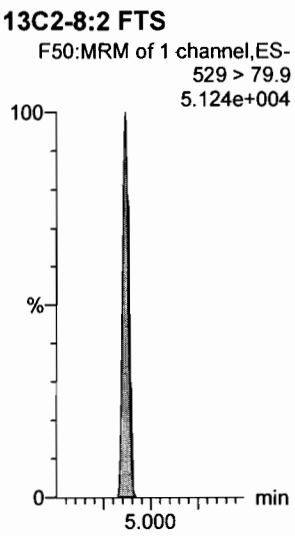
d5-N-EtFOSAA



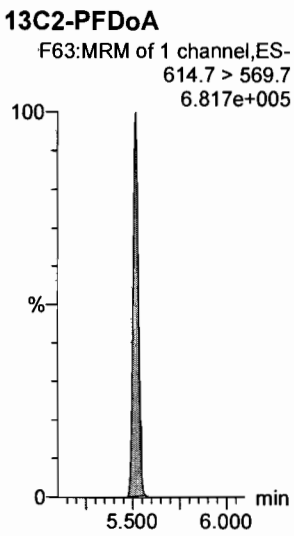
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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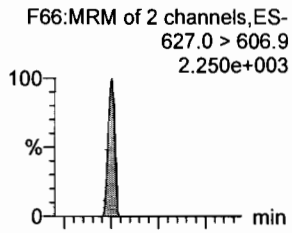
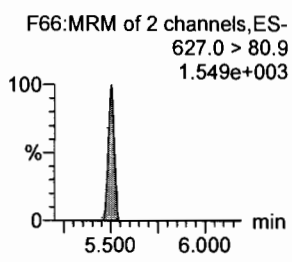
Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

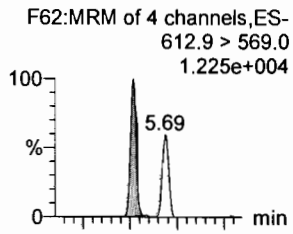
Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

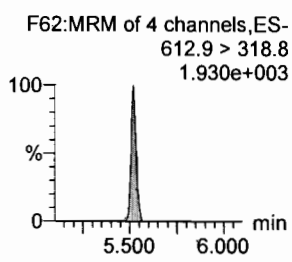
10:2 FTS



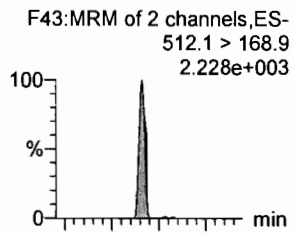


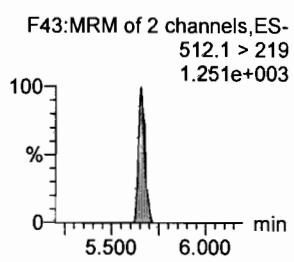
PFDoA



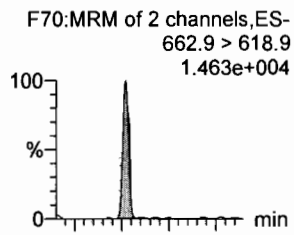


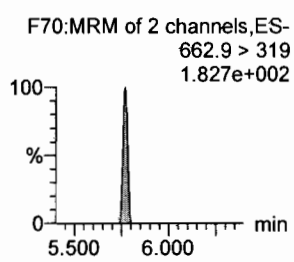
N-MeFOSA



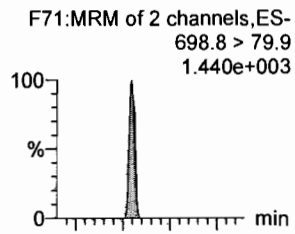


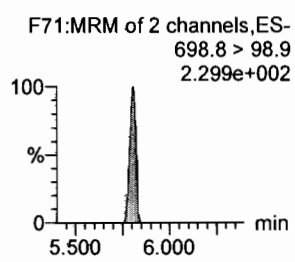
PFTrDA



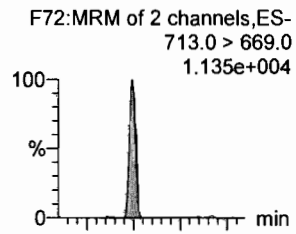


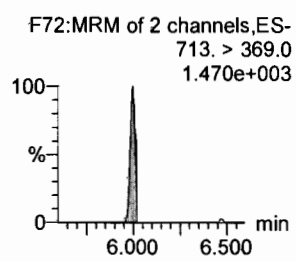
PFDoS



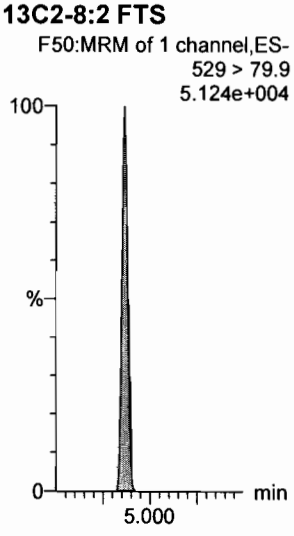


PFTeDA

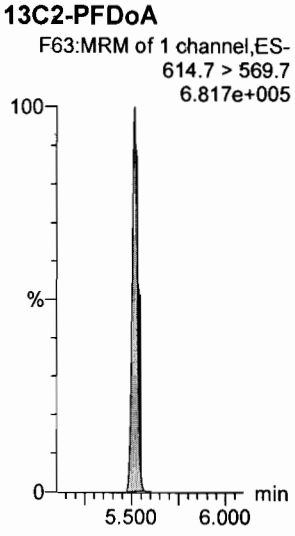




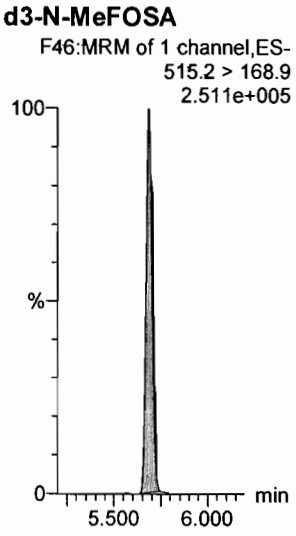
13C2-8:2 FTS



13C2-PFDoA



d3-N-MeFOSA



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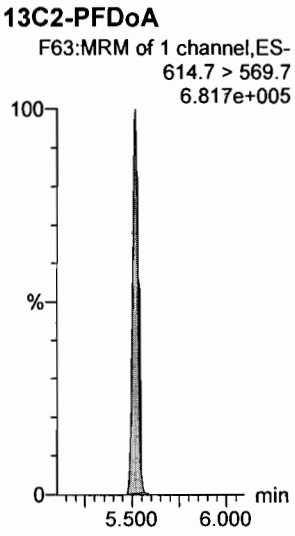
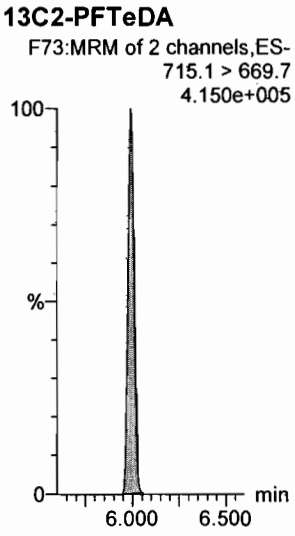


13C2-PFTeDA



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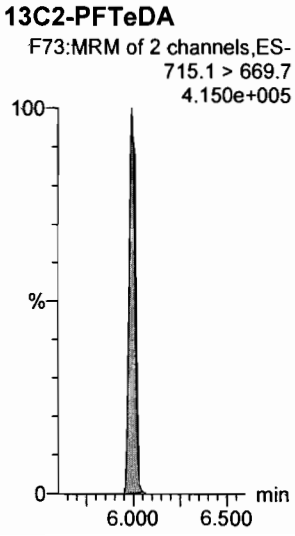

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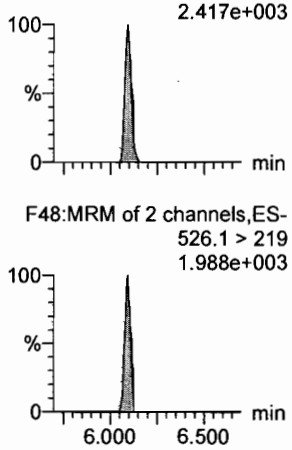
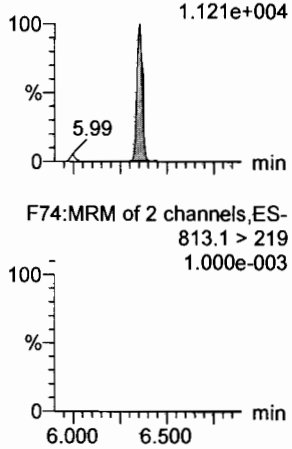
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

N-EtFOSA



PFHxDA



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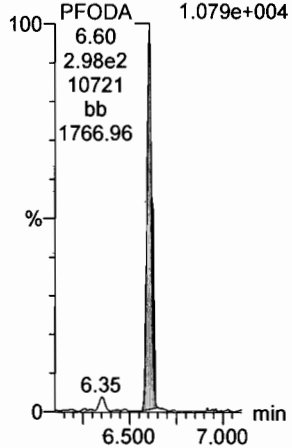

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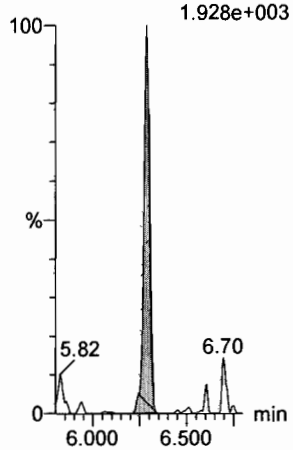

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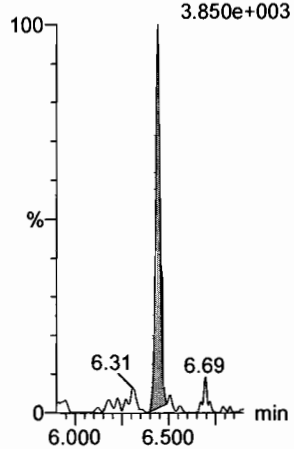
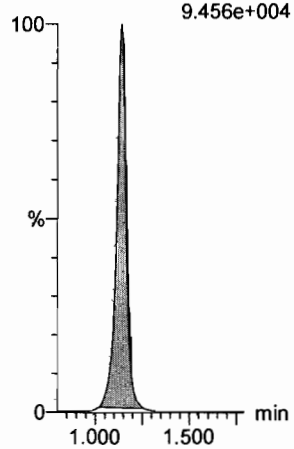
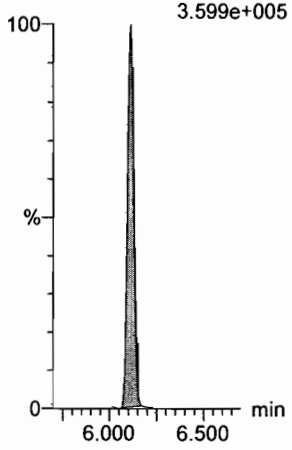


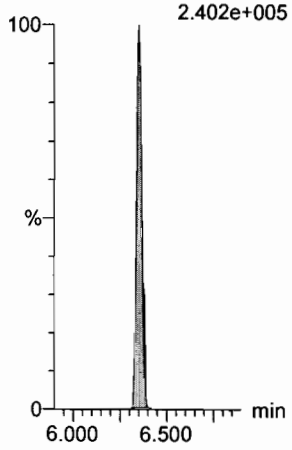
13C4-PFBA



d5-N-ETFOSA



13C2-PFHxDA



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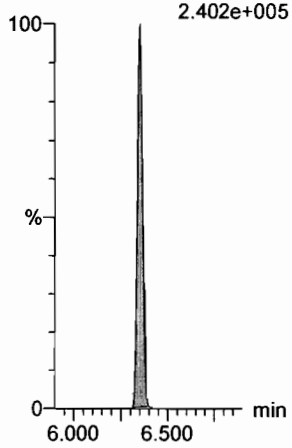
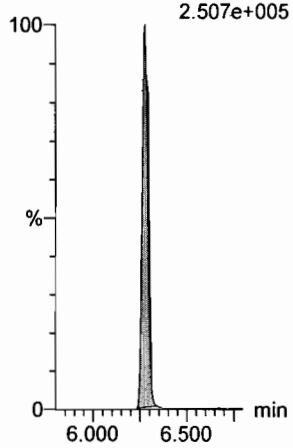


d7-N-MeFOSE



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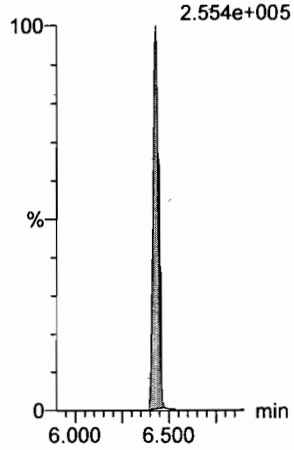
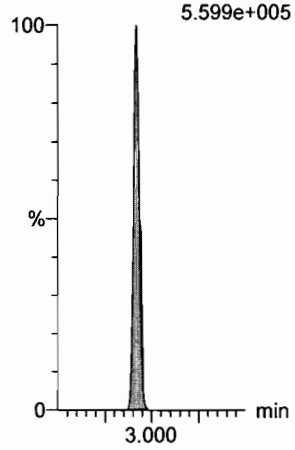


13C5-PFHxA



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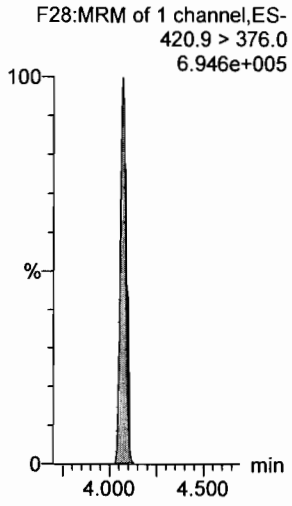
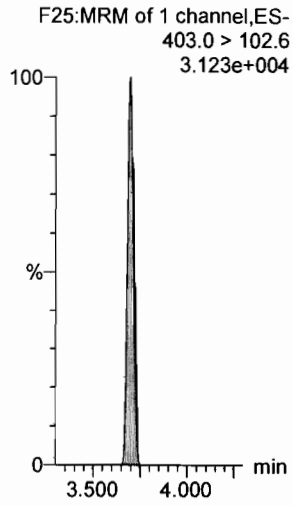
Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

Name: 190712M2_6, Date: 12-Jul-2019, Time: 18:24:24, ID: ST190712M2-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

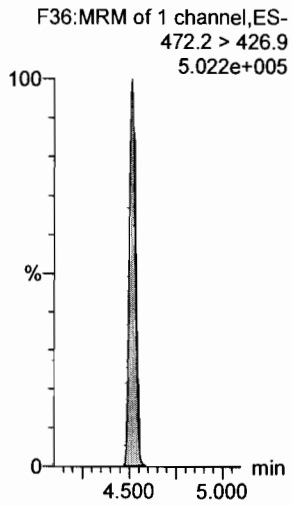
13C8-PFOA



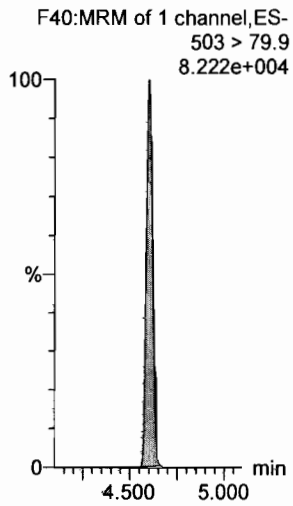
18O2-PFHxS



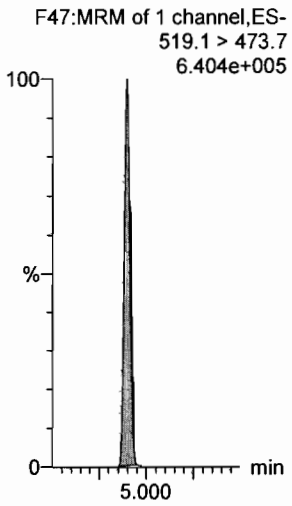
13C9-PFNA



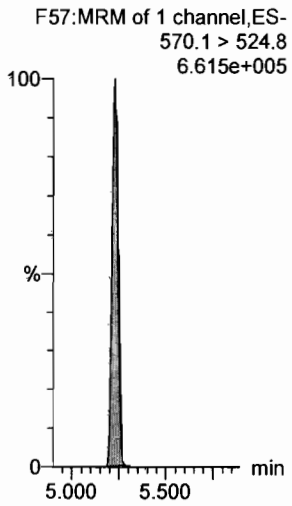
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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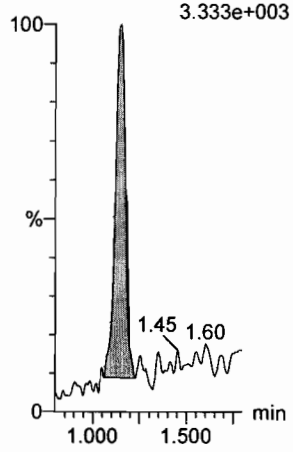
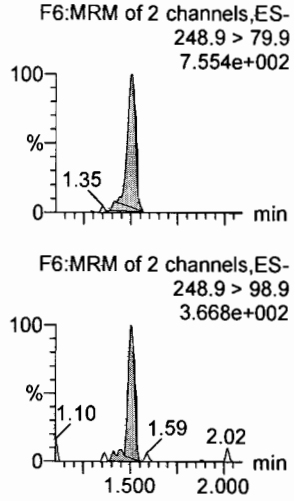
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

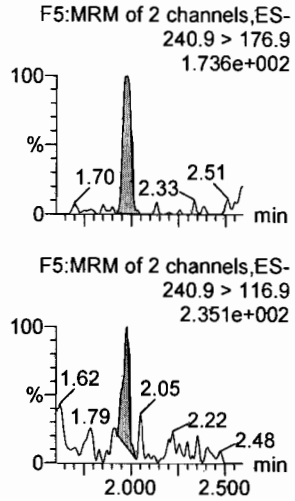
PFBA



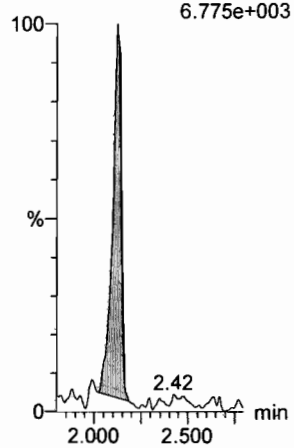
PFPrS



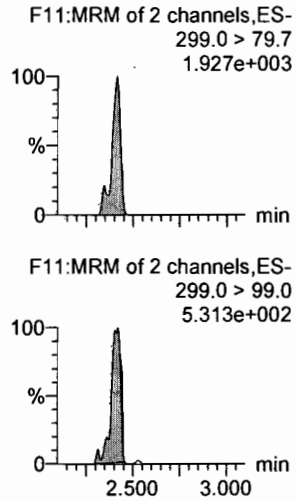
3:3 FTCA



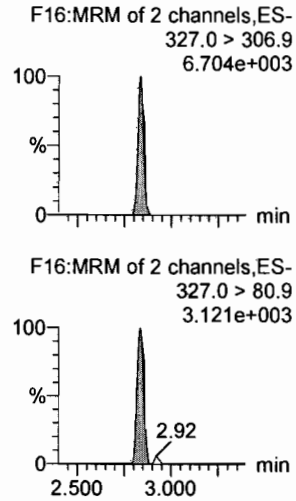
PFPeA



PFBS



4:2 FTS



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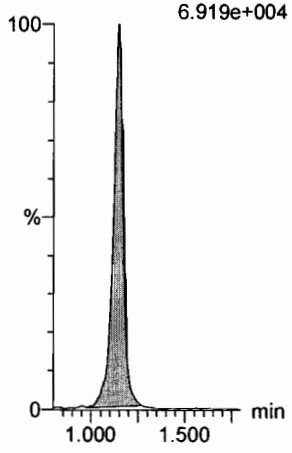

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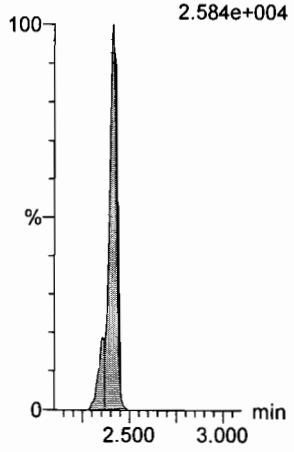

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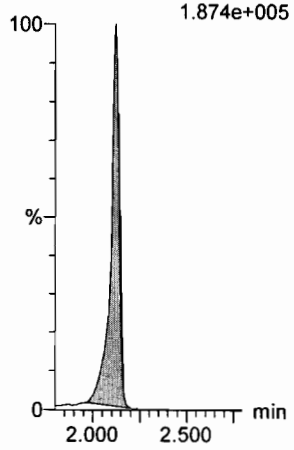

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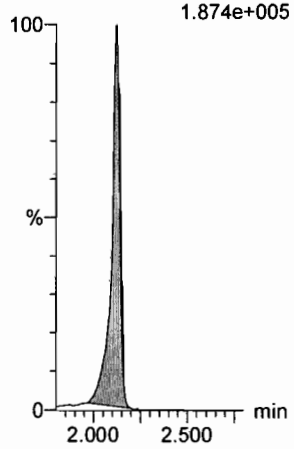

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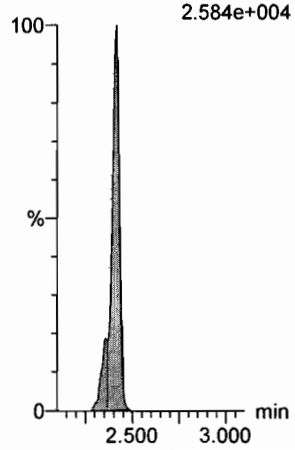
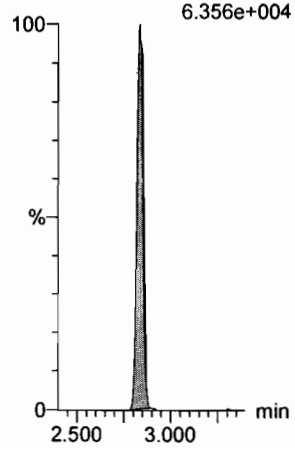


13C2-4:2 FTS



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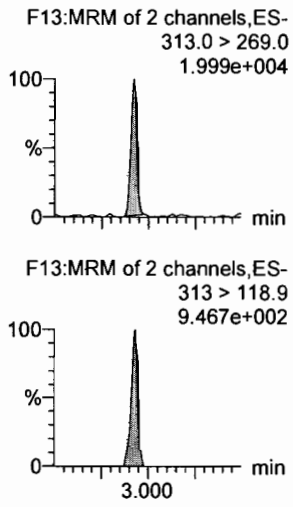
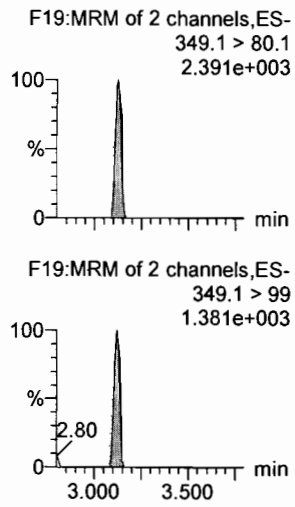
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

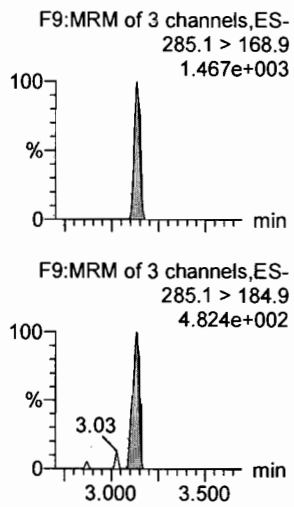
PFHxA



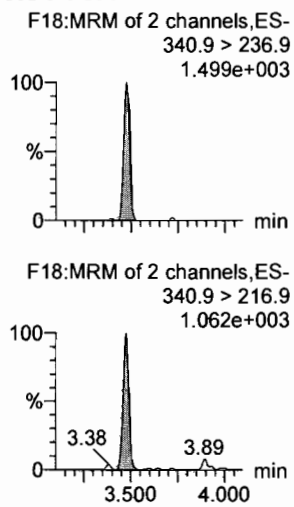
PFPeS



HFPO-DA



5:3 FTCA



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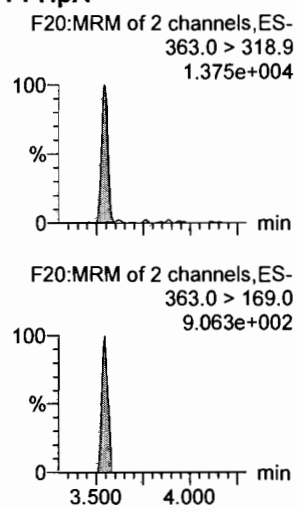
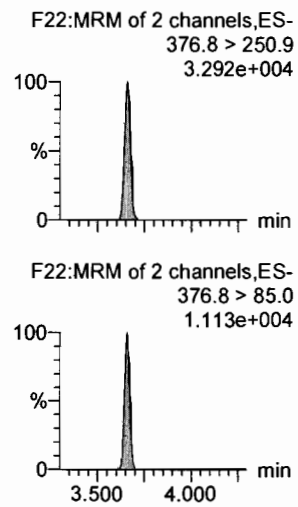


ADONA



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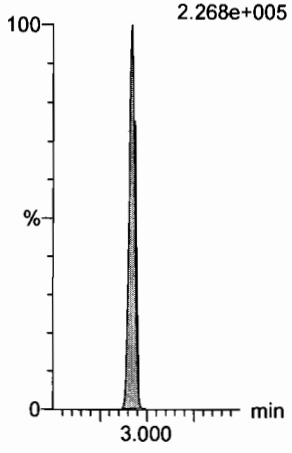
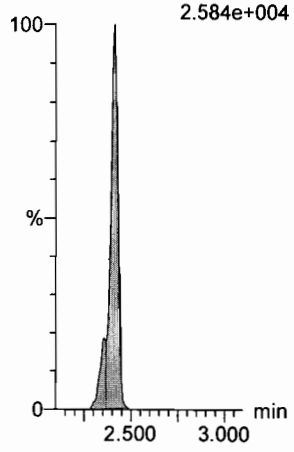
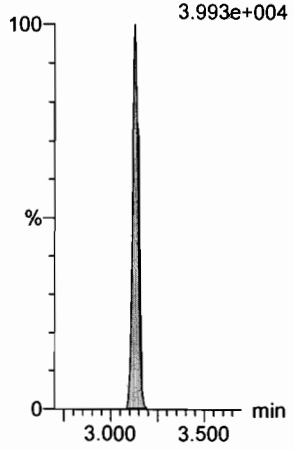


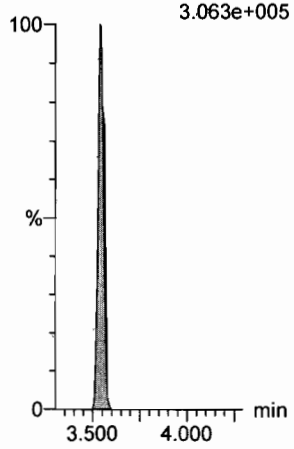
13C3-PFBS



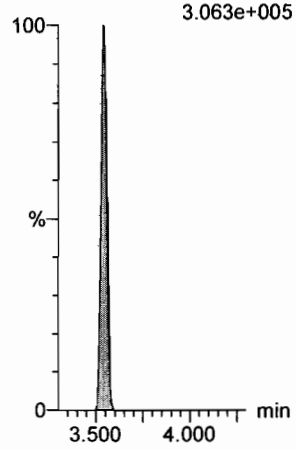
13C3-HFPO-DA



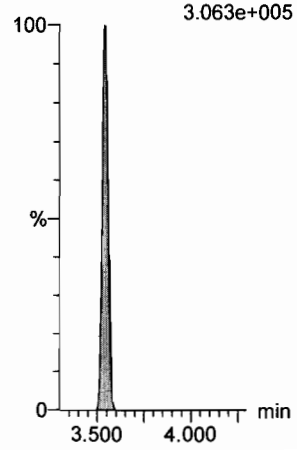
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA



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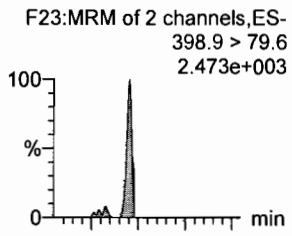
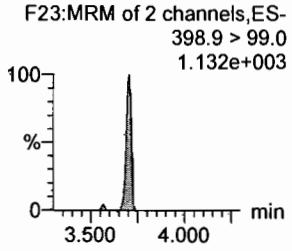
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

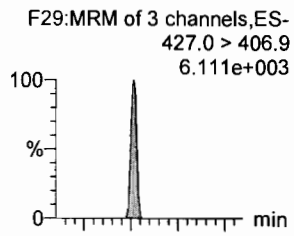
Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

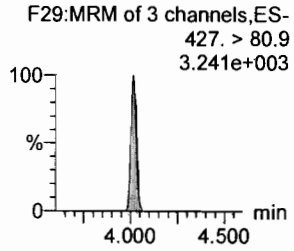
L-PFHxS



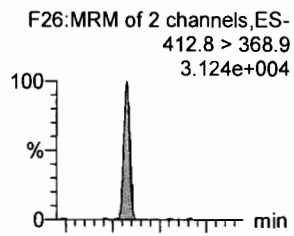


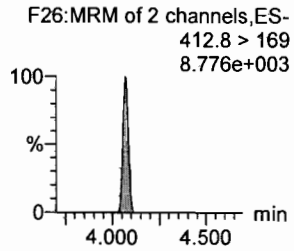
6:2 FTS



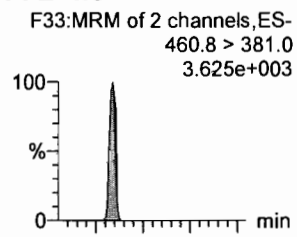


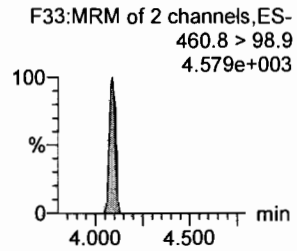
L-PFOA



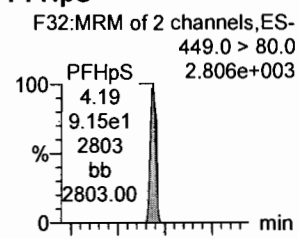


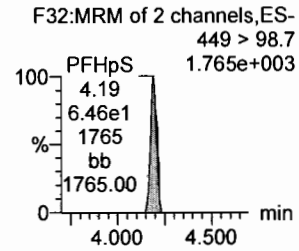
PFEChS



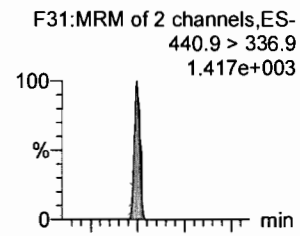


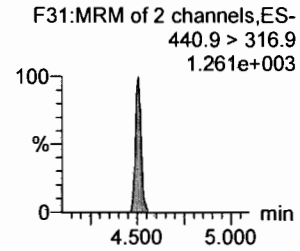
PFHpS



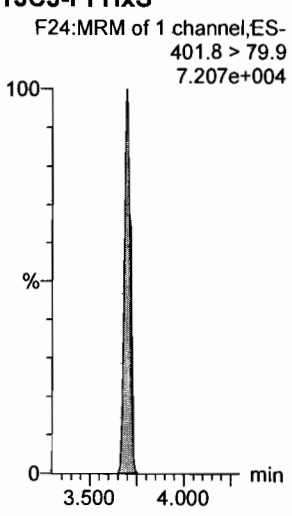


7:3 FTCA

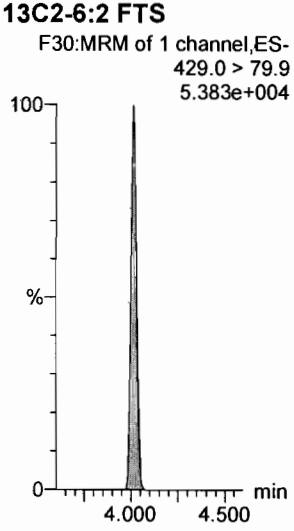




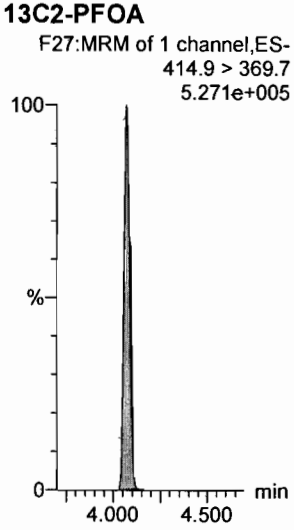
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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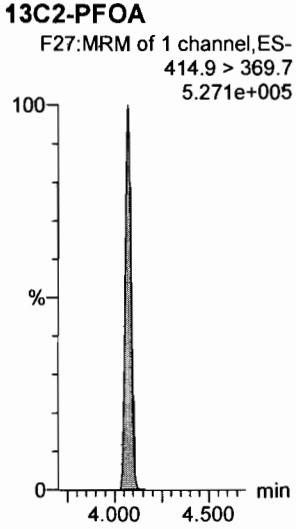
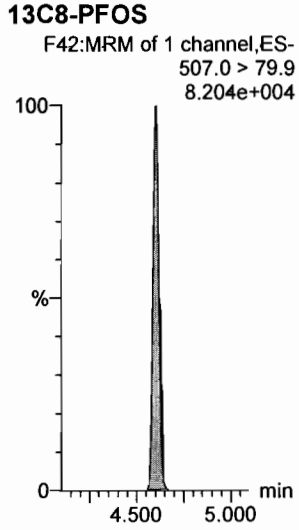
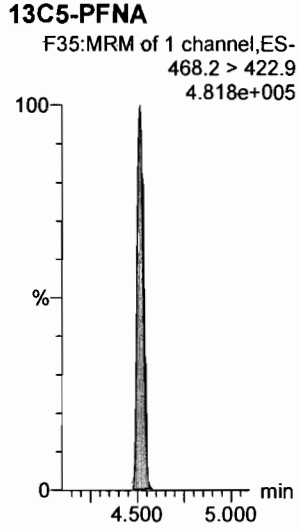


13C8-PFOS



13C5-PFNA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

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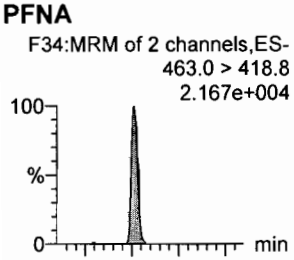

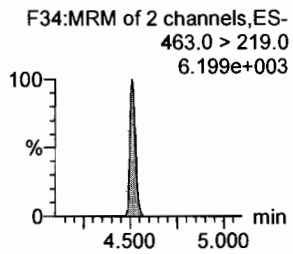

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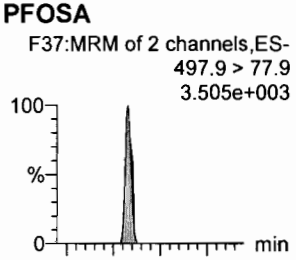

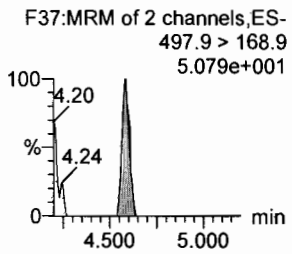

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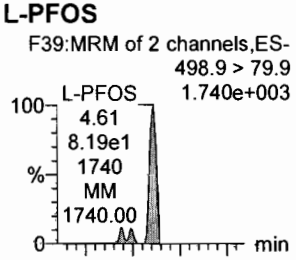

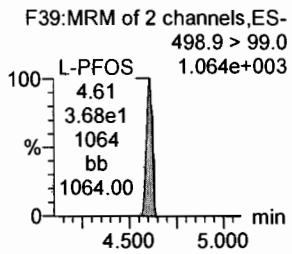

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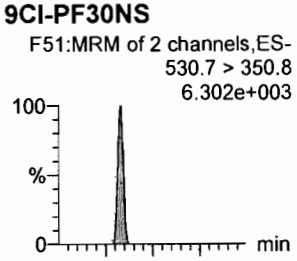

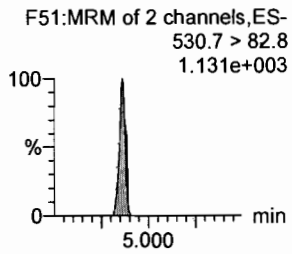

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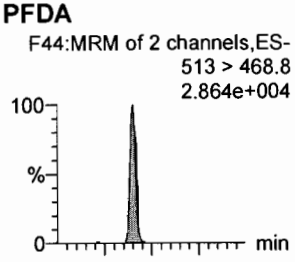

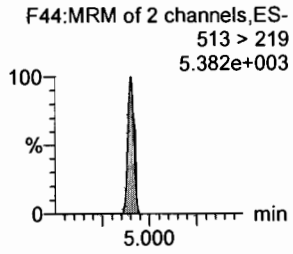

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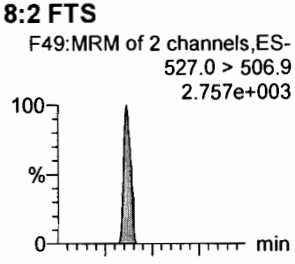

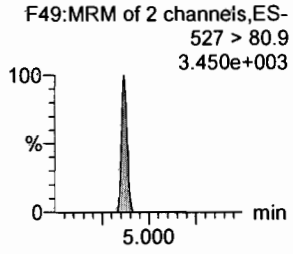

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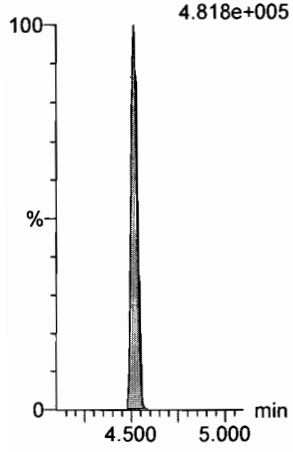

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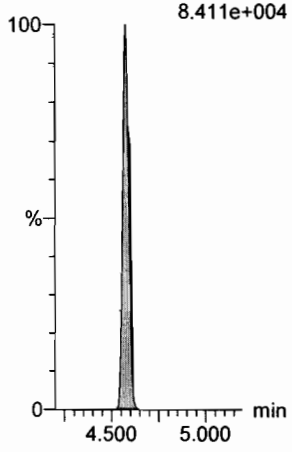

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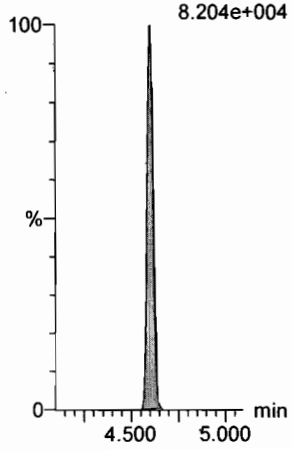

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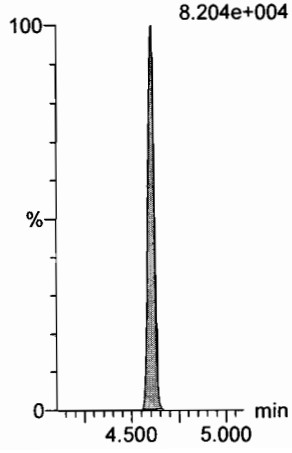

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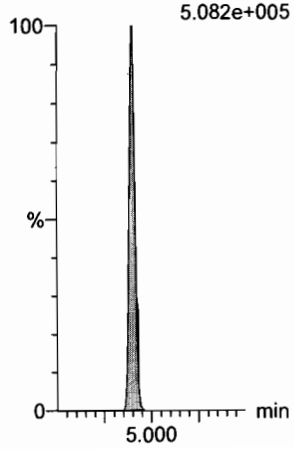

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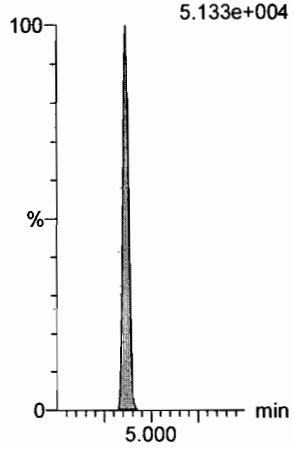

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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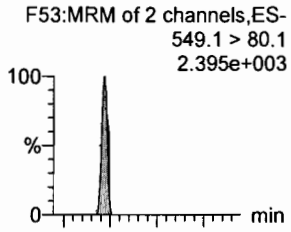
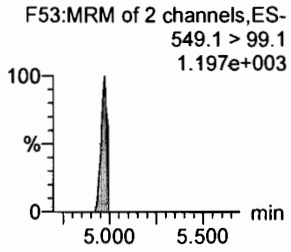
Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

PFNS





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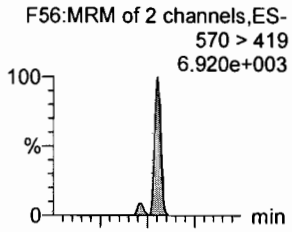

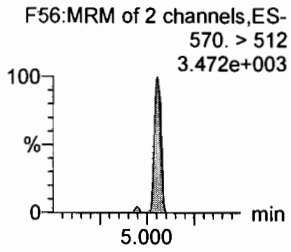

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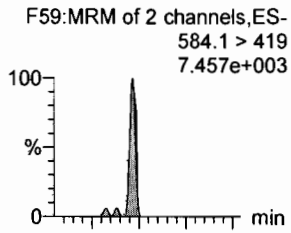

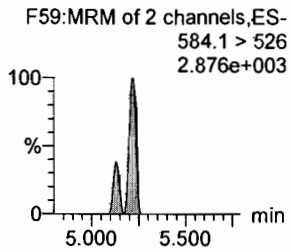

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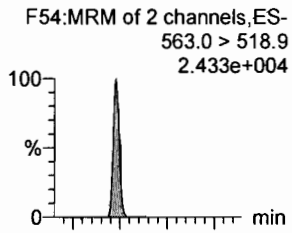

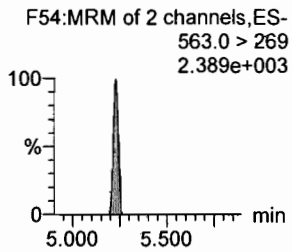

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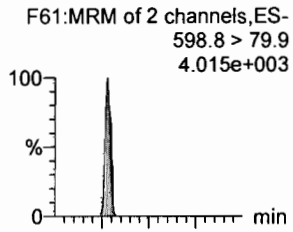

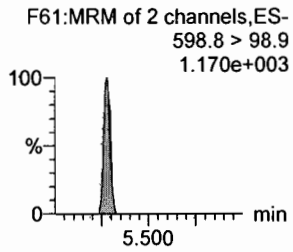

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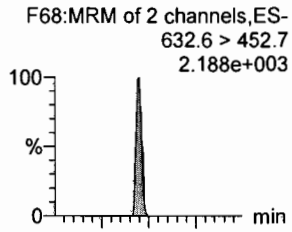

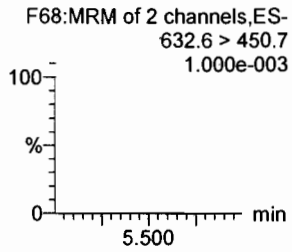

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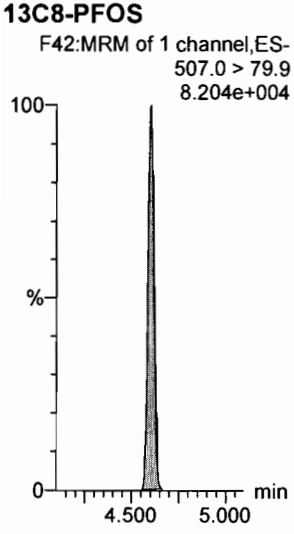

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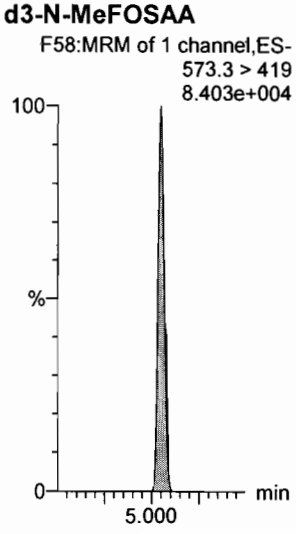

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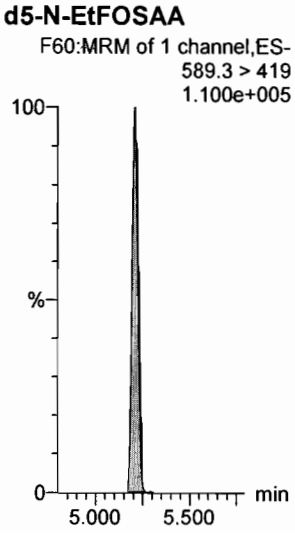

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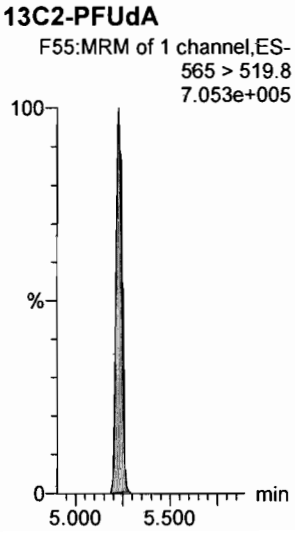

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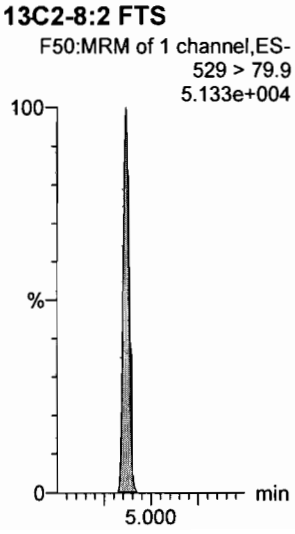

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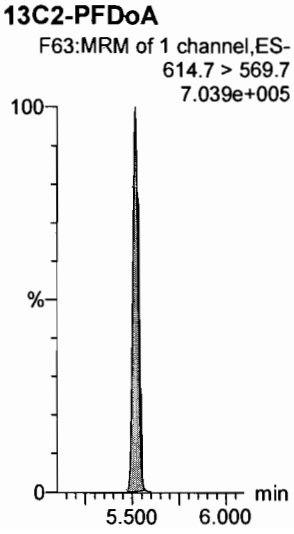

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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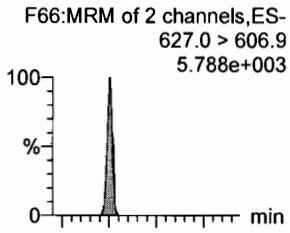
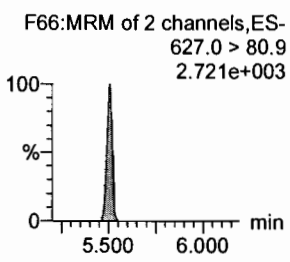
Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

10:2 FTS





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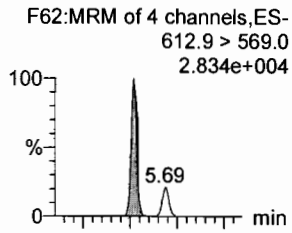

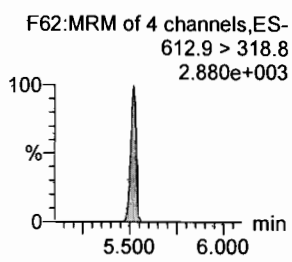

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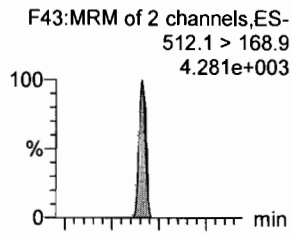

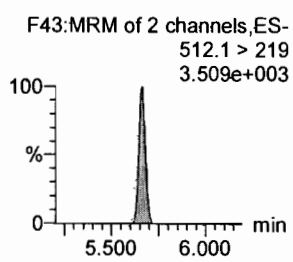

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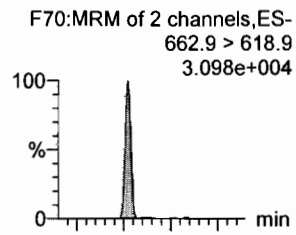

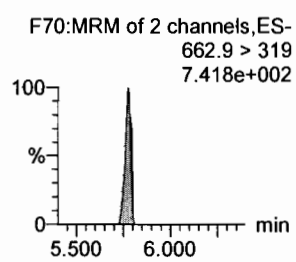

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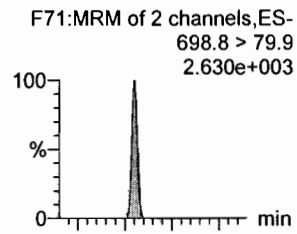

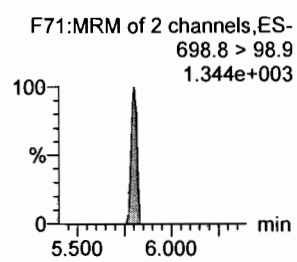

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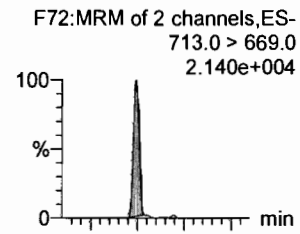
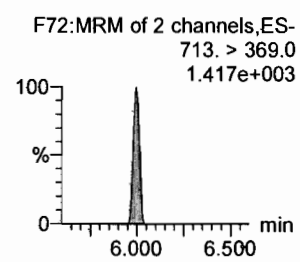
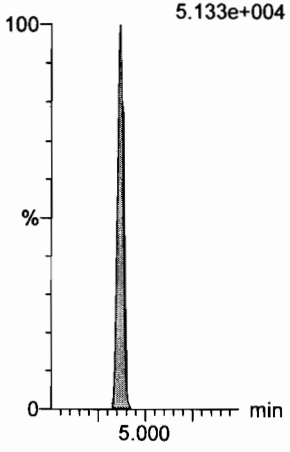




13C2-8:2 FTS



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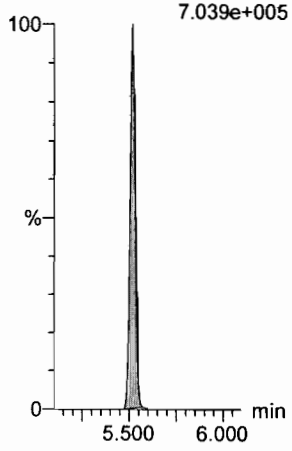

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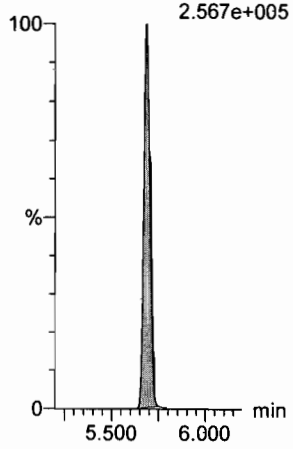

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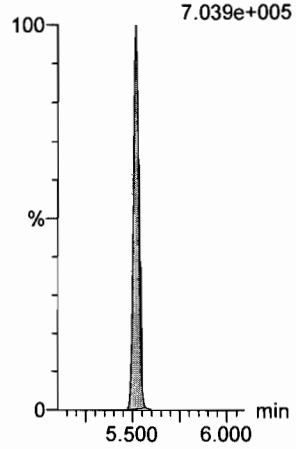

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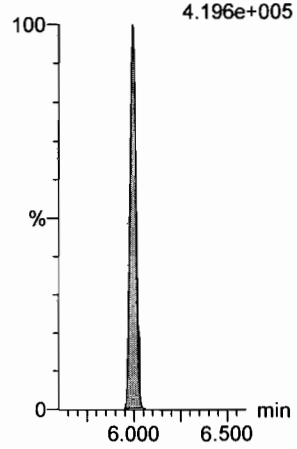
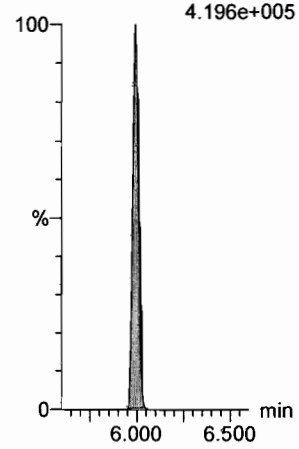


13C2-PFTeDA



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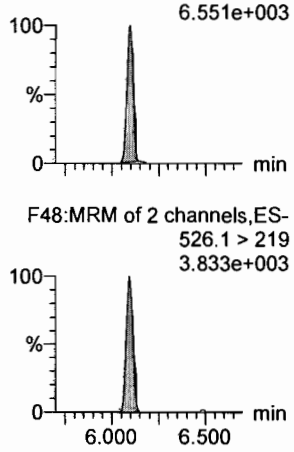
Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

N-EtFOSA



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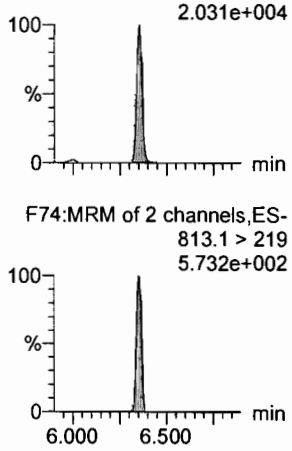

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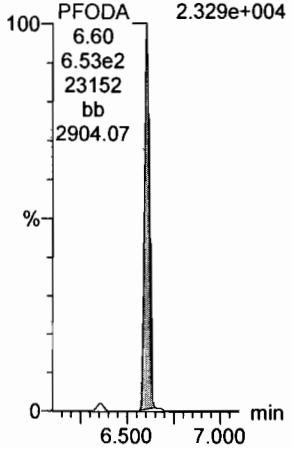

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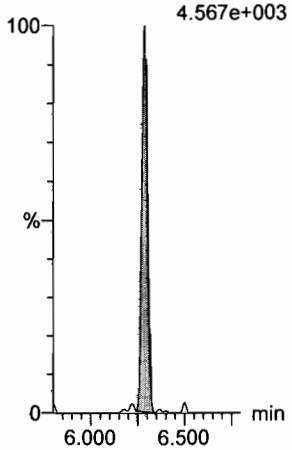

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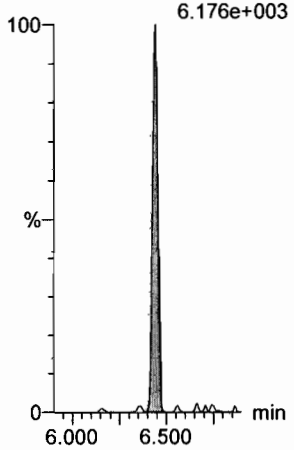

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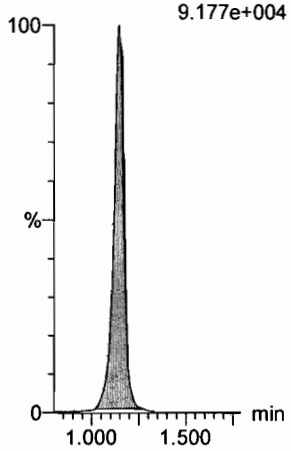

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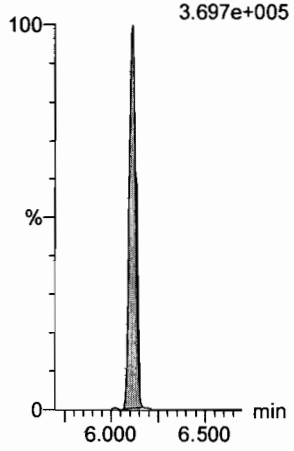

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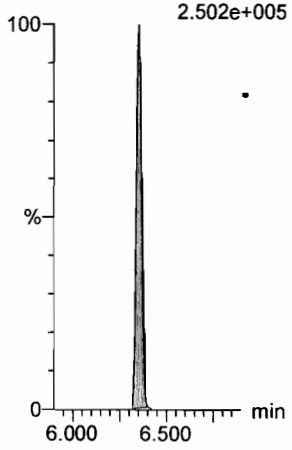

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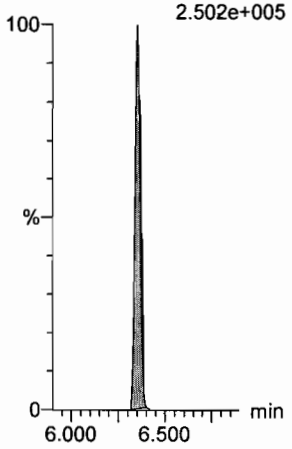

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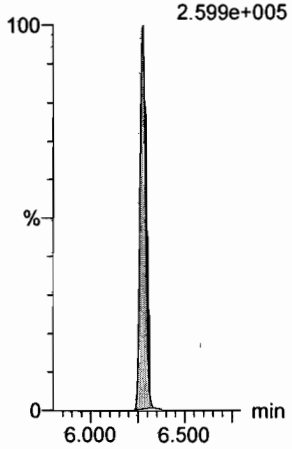

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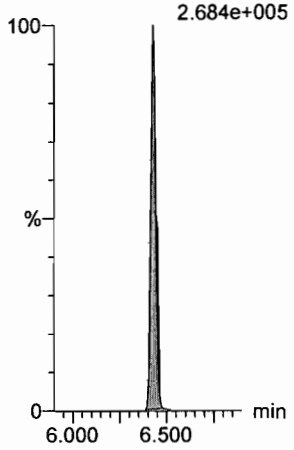

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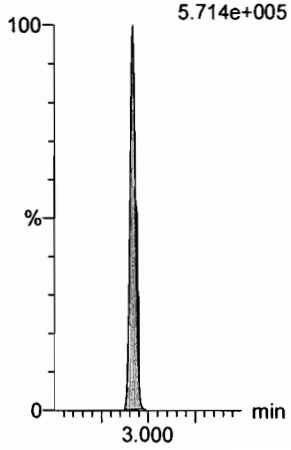

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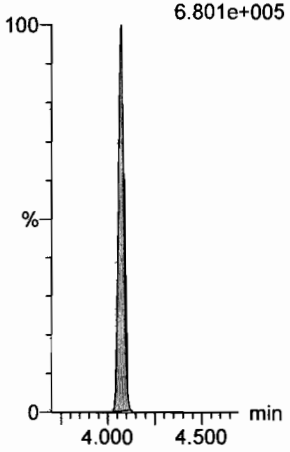
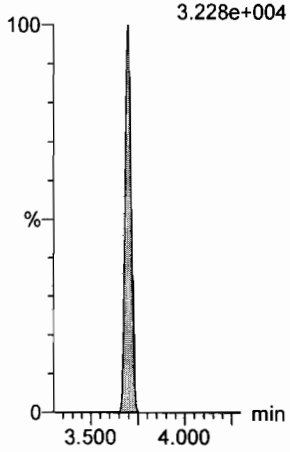
Name: 190712M2_7, Date: 12-Jul-2019, Time: 18:35:02, ID: ST190712M2-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

13C8-PFOA



18O2-PFHxS



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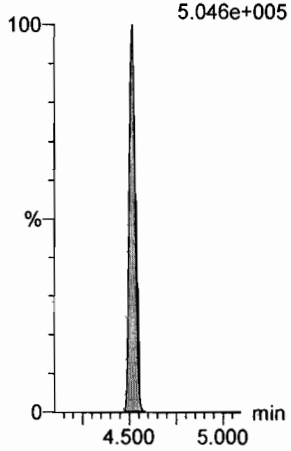

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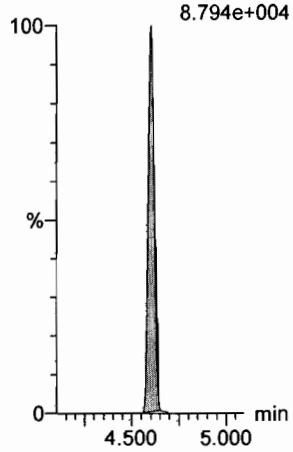

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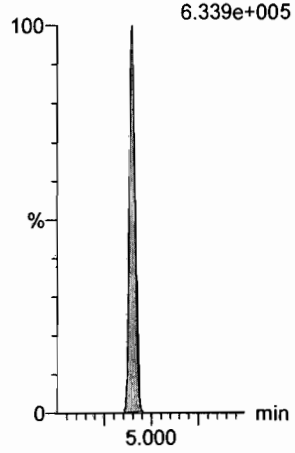

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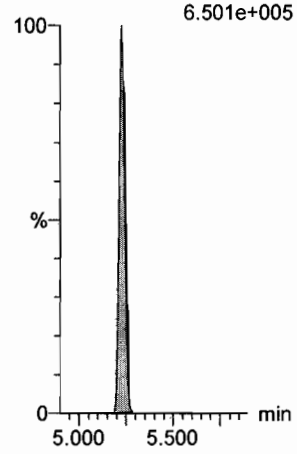

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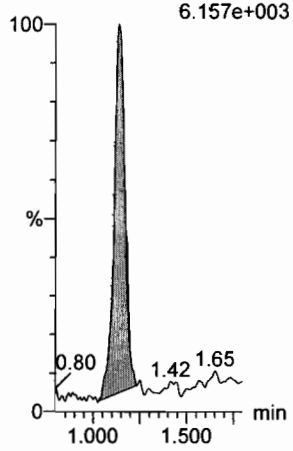

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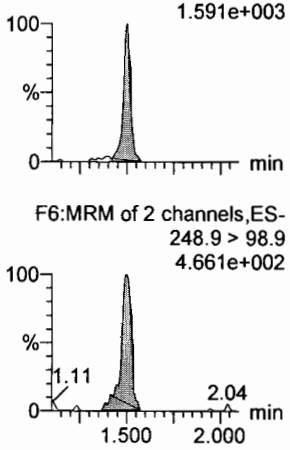
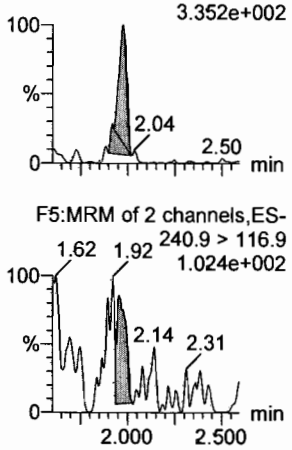


3:3 FTCA



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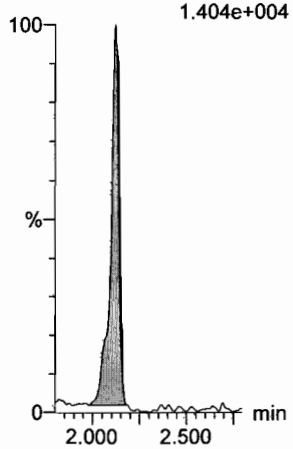

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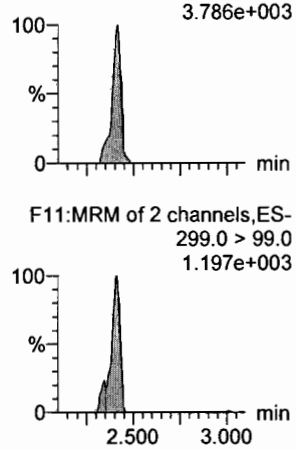

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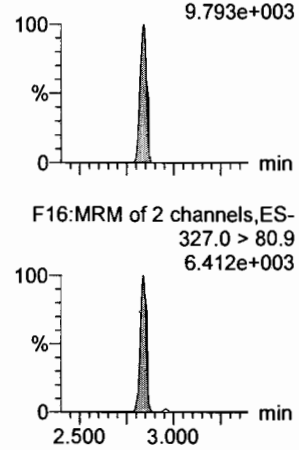

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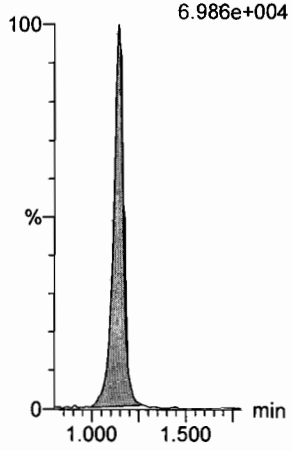

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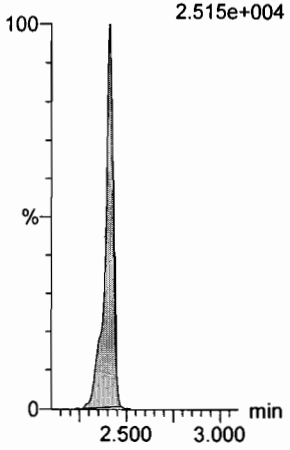

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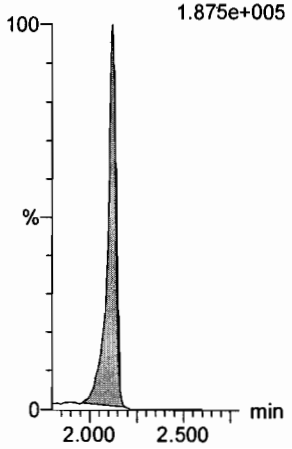

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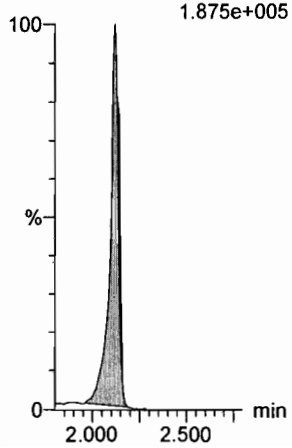

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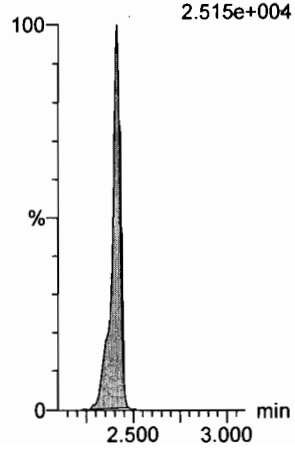
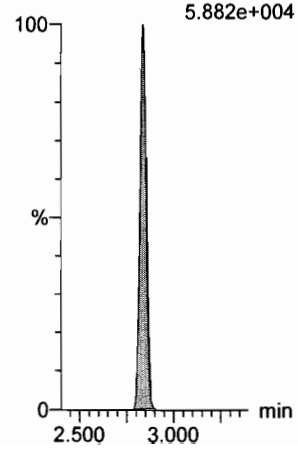


13C2-4:2 FTS



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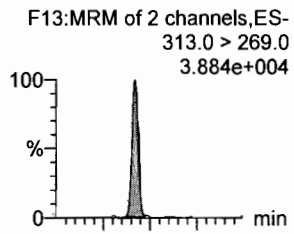
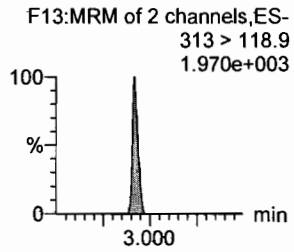
Name: 190712M2_8, Date: 12-Jul-2019, Time: 18:45:35, ID: ST190712M2-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

PFHxA





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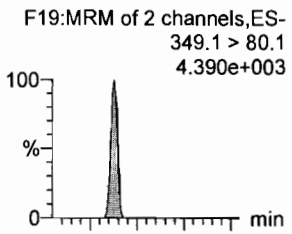
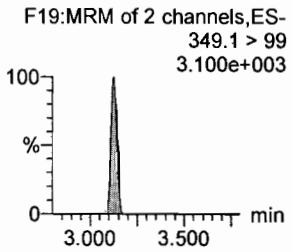
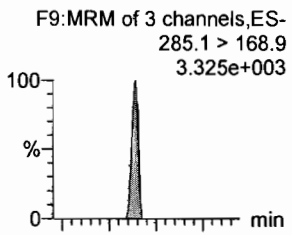
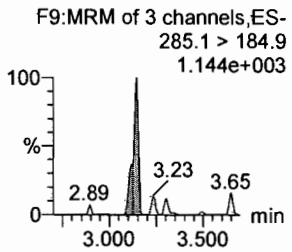


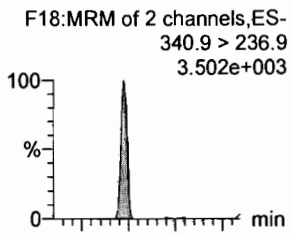


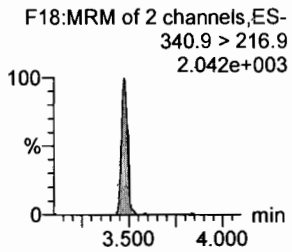
HFPO-DA





5:3 FTCA





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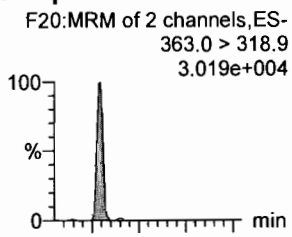

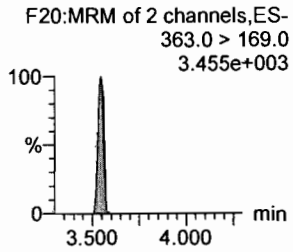

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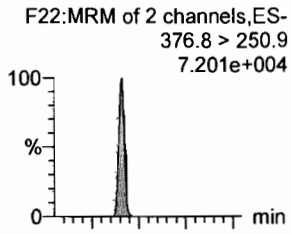

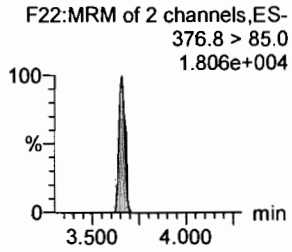

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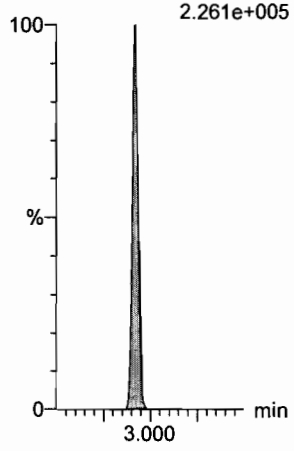

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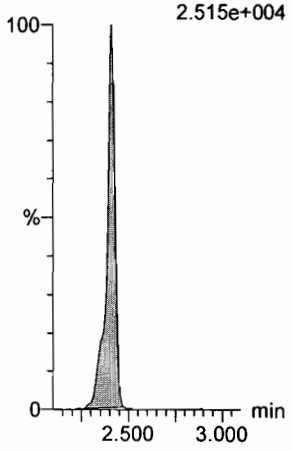

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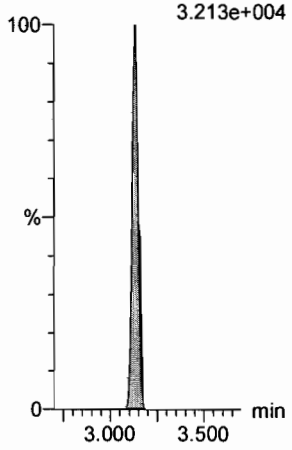

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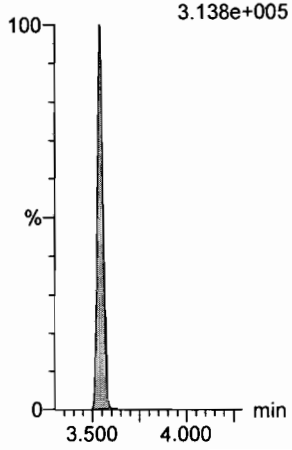

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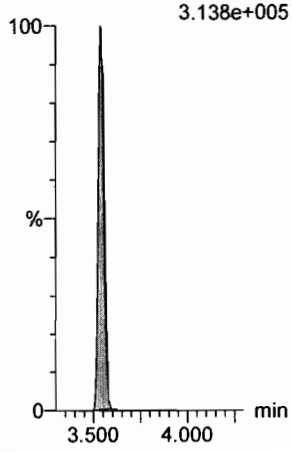

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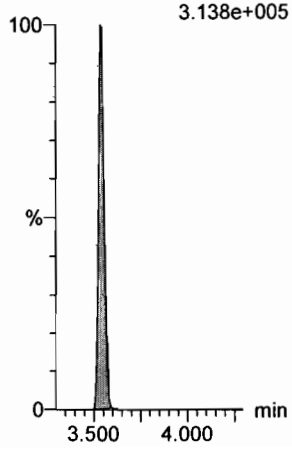

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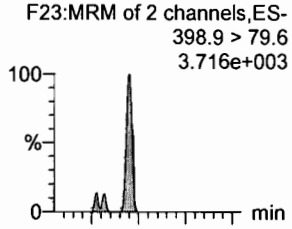
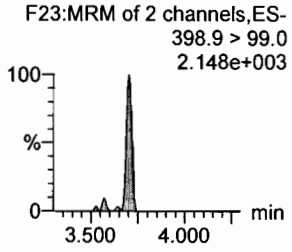
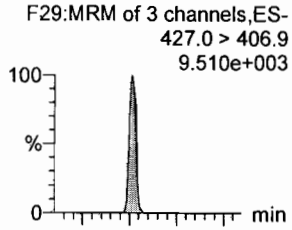
Name: 190712M2_8, Date: 12-Jul-2019, Time: 18:45:35, ID: ST190712M2-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

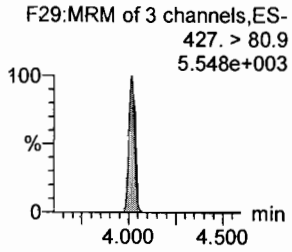
L-PFHxS



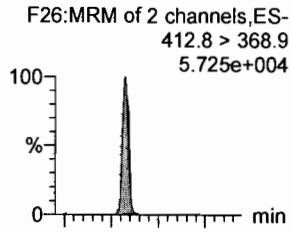


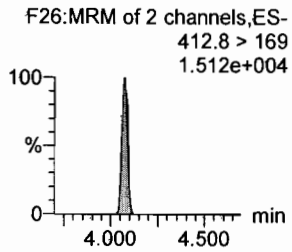
6:2 FTS



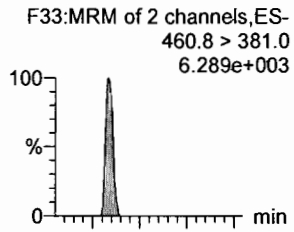


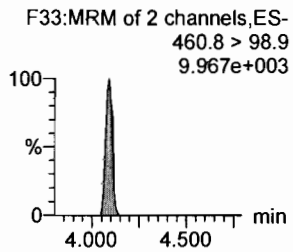
L-PFOA



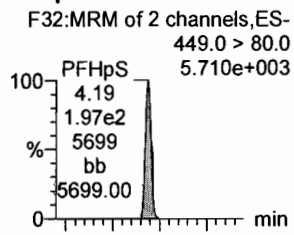


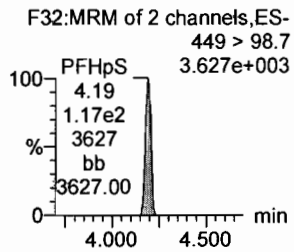
PFEChS



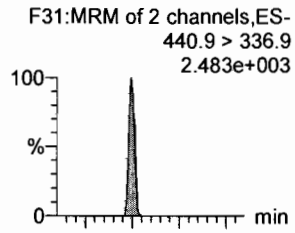


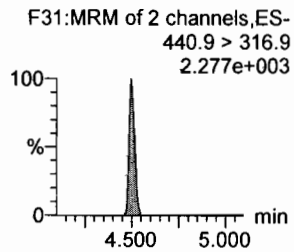
PFHpS



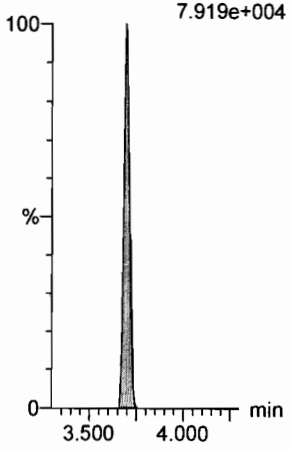


7:3 FTCA

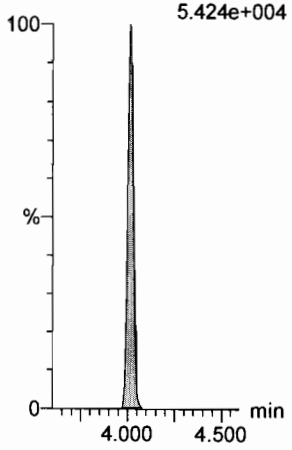




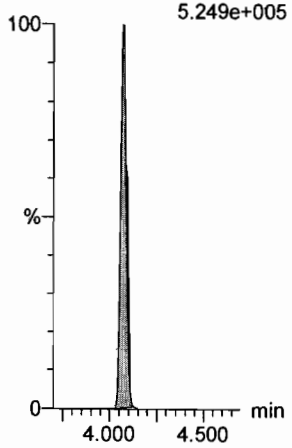
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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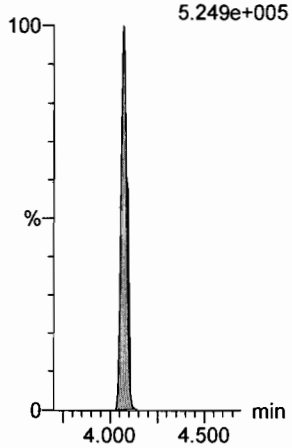
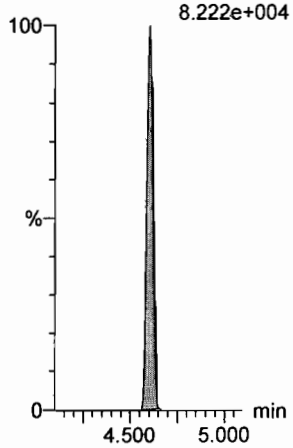
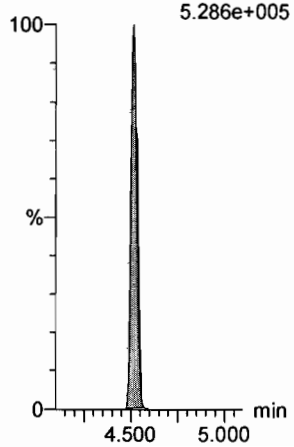


13C8-PFOS



13C5-PFNA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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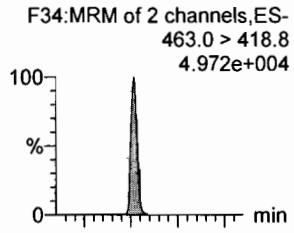
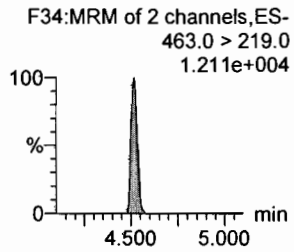
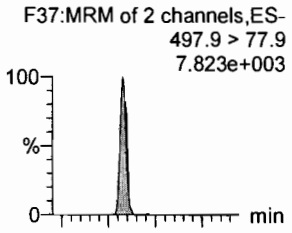
Name: 190712M2_8, Date: 12-Jul-2019, Time: 18:45:35, ID: ST190712M2-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

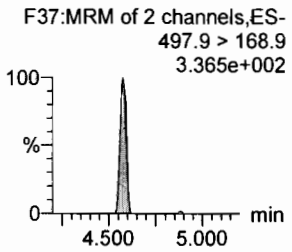
PFNA



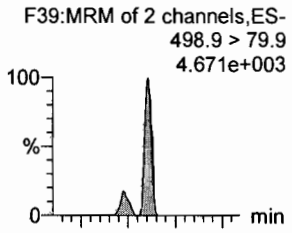


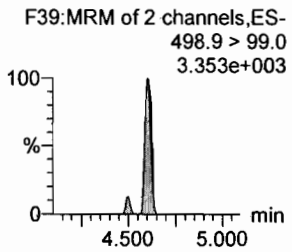
PFOSA



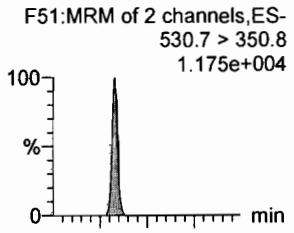


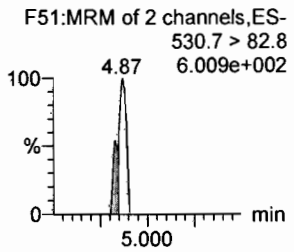
L-PFOS





9Cl-PF30NS





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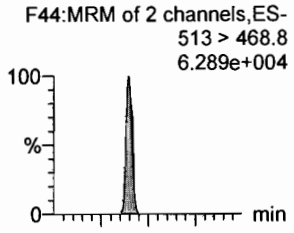
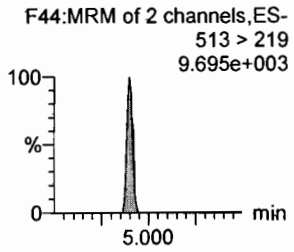
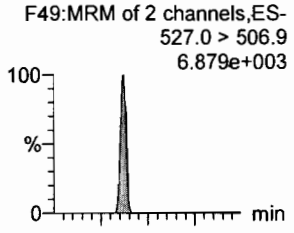
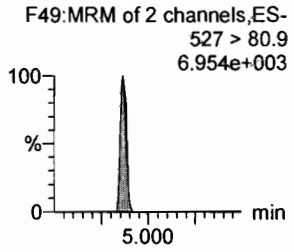


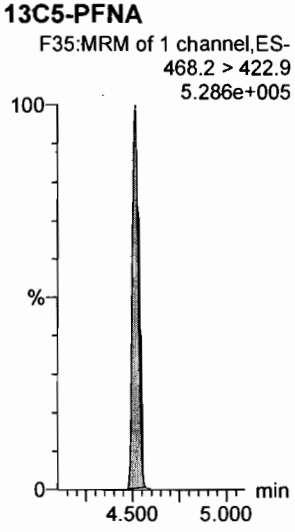


8:2 FTS

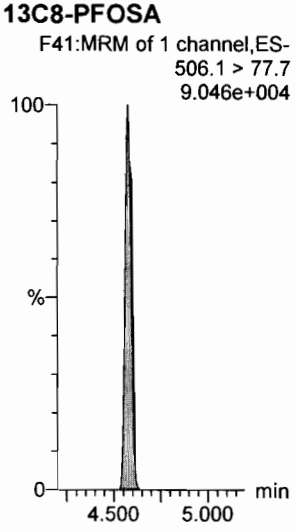




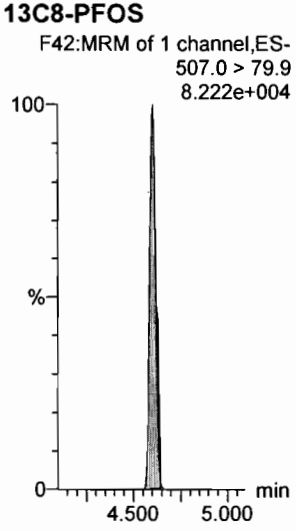
13C5-PFNA



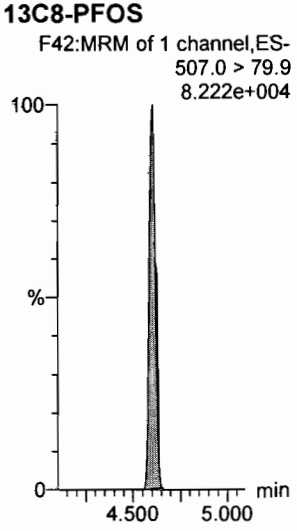
13C8-PFOSA



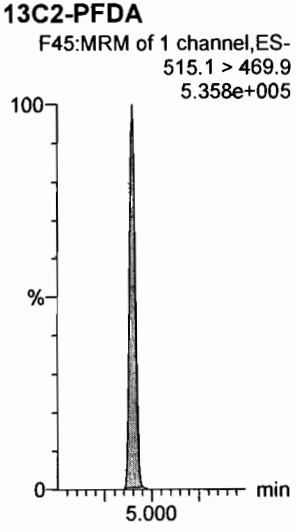
13C8-PFOS



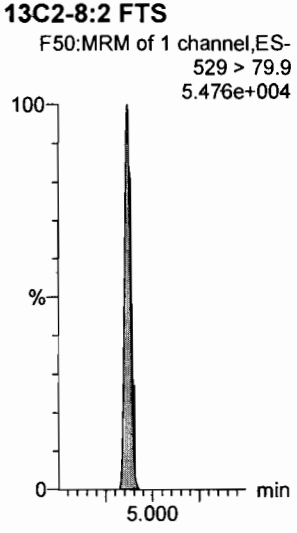
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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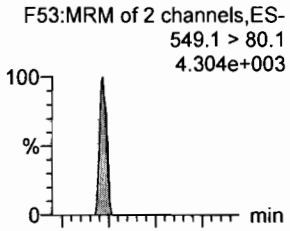
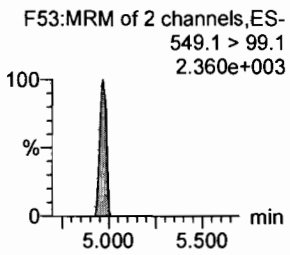
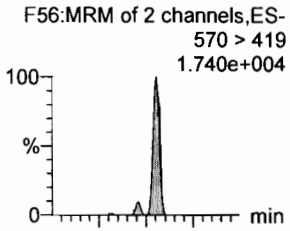
Name: 190712M2_8, Date: 12-Jul-2019, Time: 18:45:35, ID: ST190712M2-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

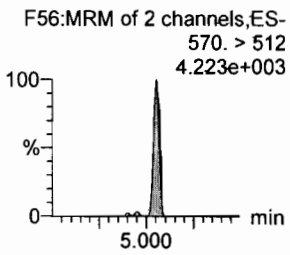
PFNS



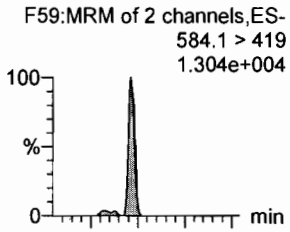


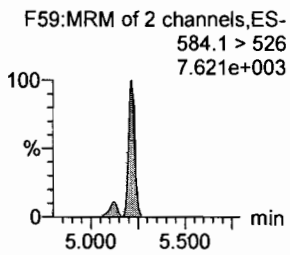
L-MeFOSAA





L-EtFOSAA





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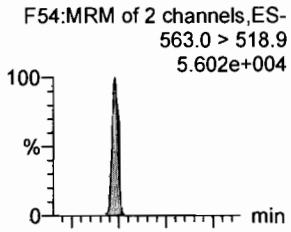
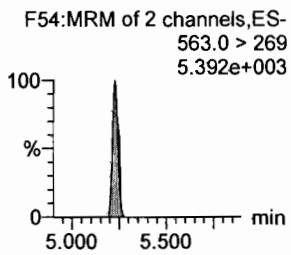
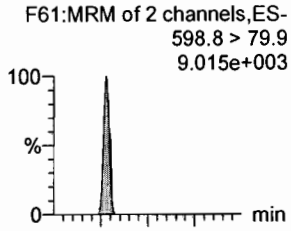
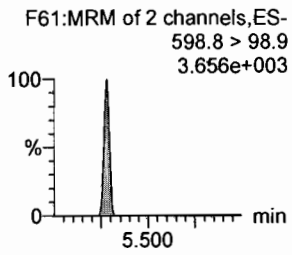


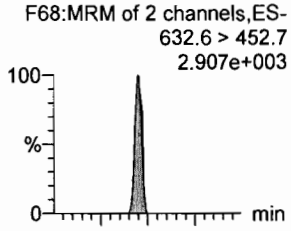


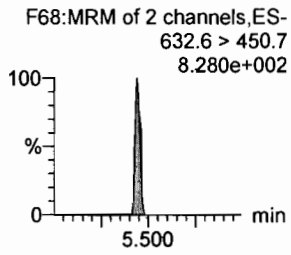
PFDS



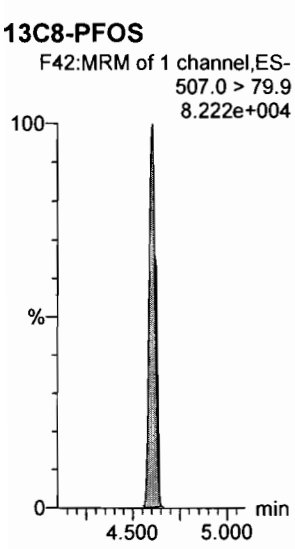


11Cl-PF30UdS

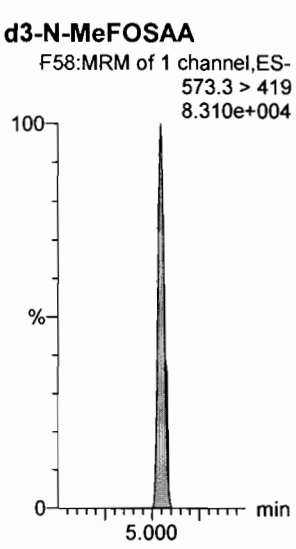




13C8-PFOS



d3-N-MeFOSAA



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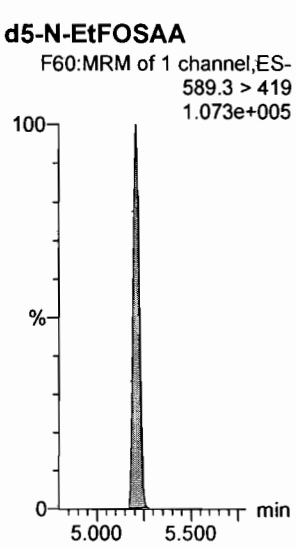
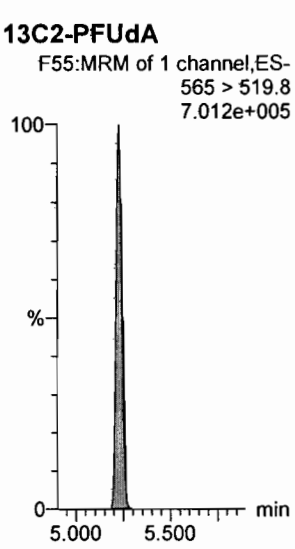
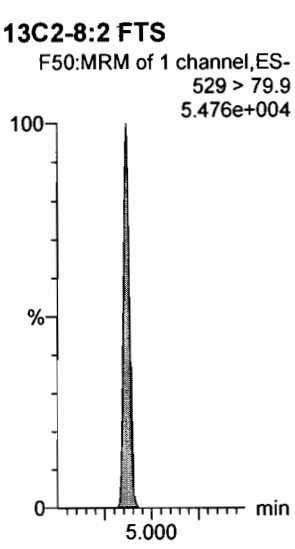


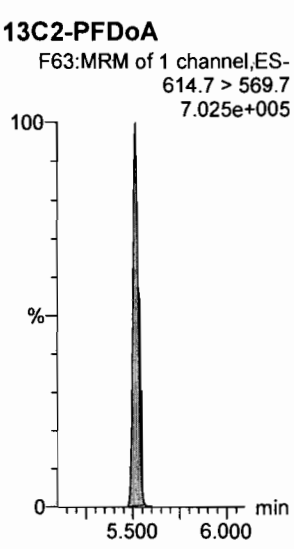
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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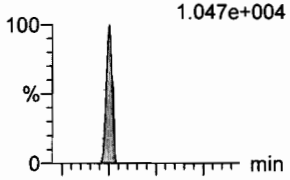
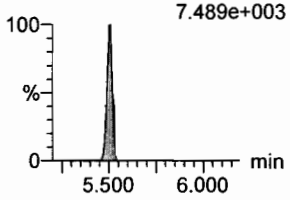
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_8, Date: 12-Jul-2019, Time: 18:45:35, ID: ST190712M2-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

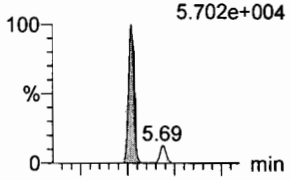
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
1.047e+004



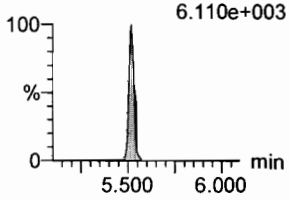
F66:MRM of 2 channels,ES-
627.0 > 80.9
7.489e+003



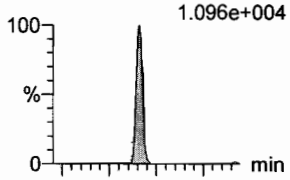
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
5.702e+004



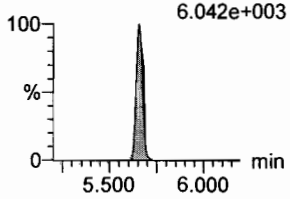
F62:MRM of 4 channels,ES-
612.9 > 318.8
6.110e+003



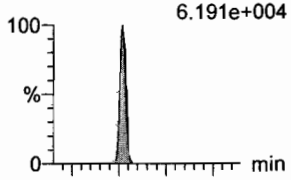
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
1.096e+004



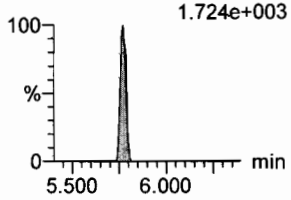
F43:MRM of 2 channels,ES-
512.1 > 219
6.042e+003



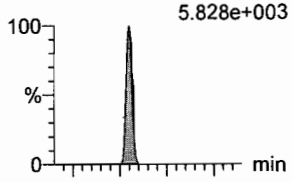
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
6.191e+004



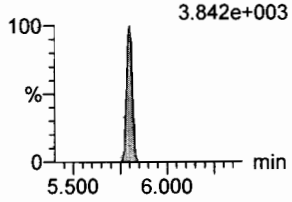
F70:MRM of 2 channels,ES-
662.9 > 319
1.724e+003



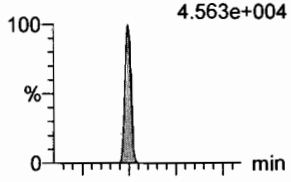
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
5.828e+003



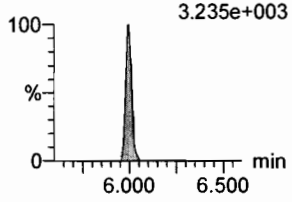
F71:MRM of 2 channels,ES-
698.8 > 98.9
3.842e+003



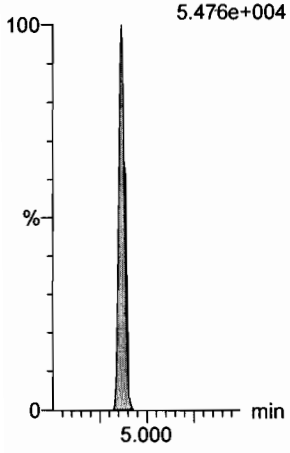
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
4.563e+004



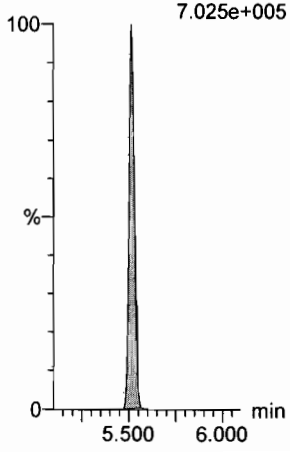
F72:MRM of 2 channels,ES-
713. > 369.0
3.235e+003



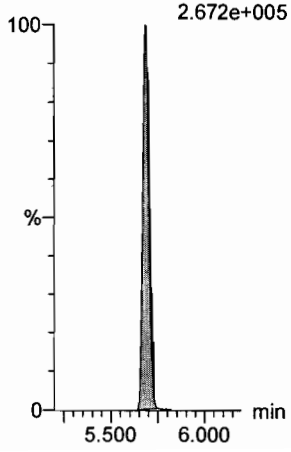
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
5.476e+004



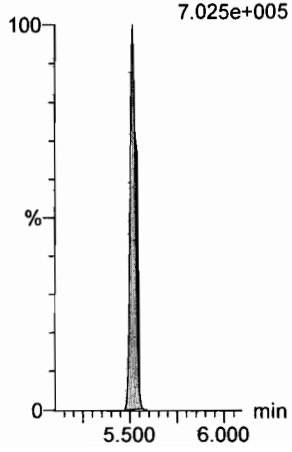
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
7.025e+005



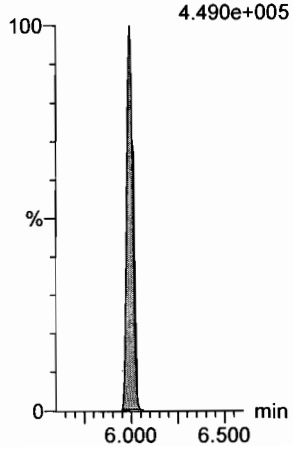
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
2.672e+005



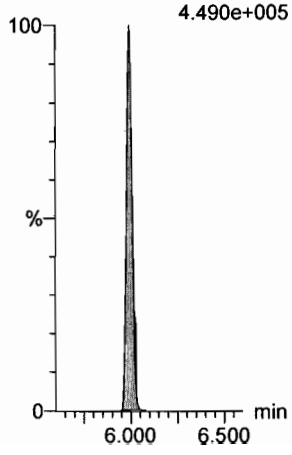
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
7.025e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.490e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.490e+005



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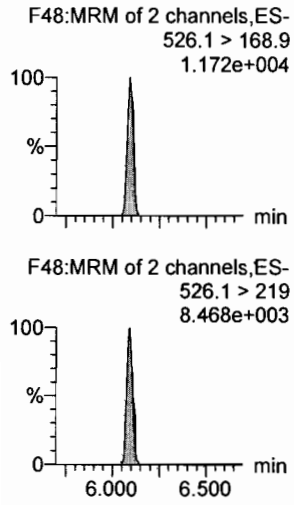
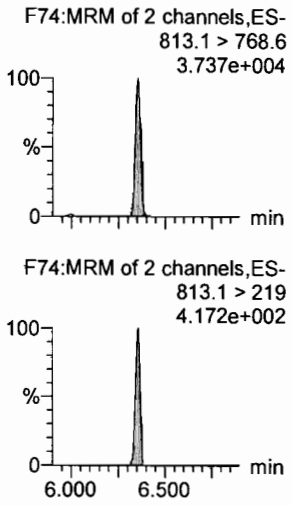
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_8, Date: 12-Jul-2019, Time: 18:45:35, ID: ST190712M2-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

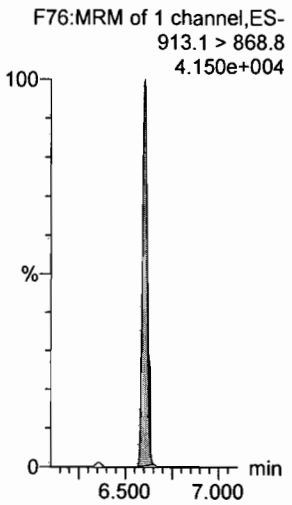
N-EtFOSA



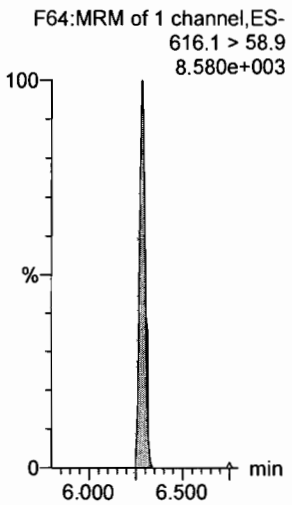
PFHxDA



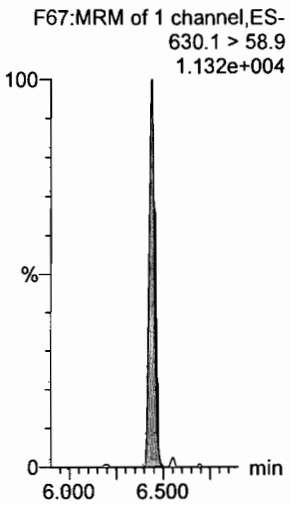
PFODA



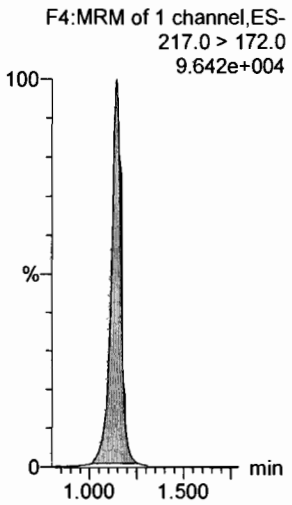
N-MeFOSE



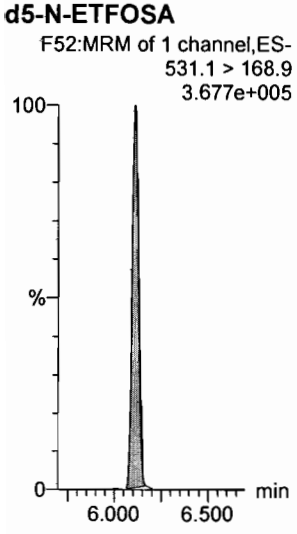
N-EtFOSE



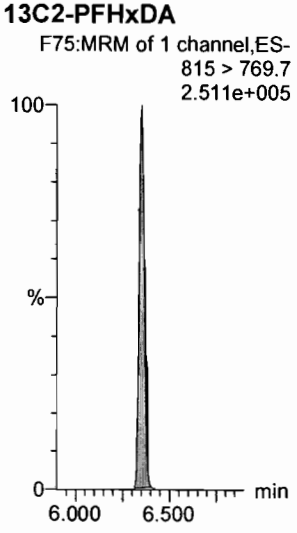
13C4-PFBA



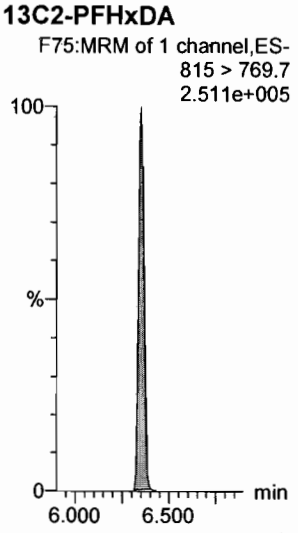
d5-N-ETFOSA



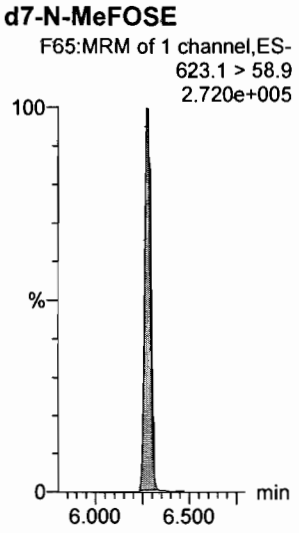
13C2-PFHxDA



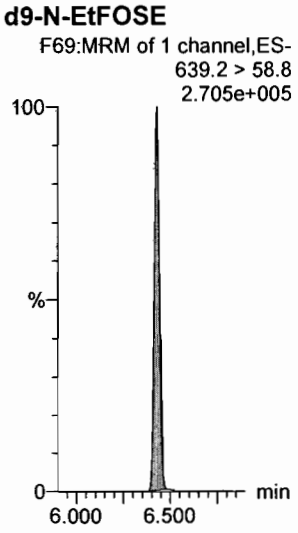
13C2-PFHxDA



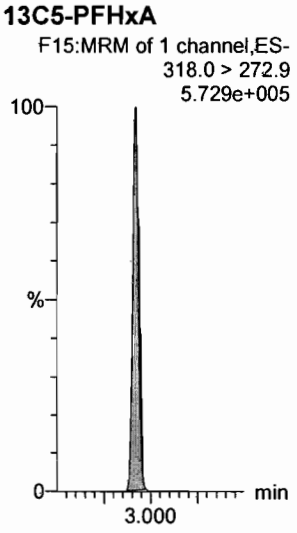
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA



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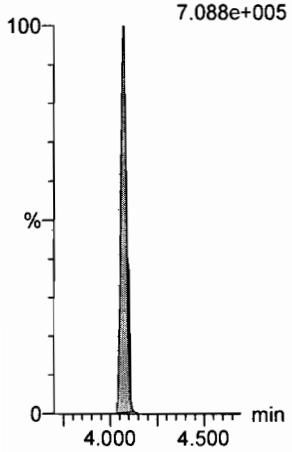
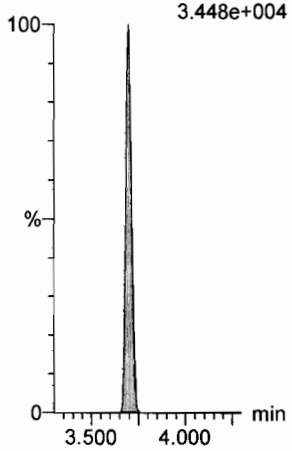
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_8, Date: 12-Jul-2019, Time: 18:45:35, ID: ST190712M2-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

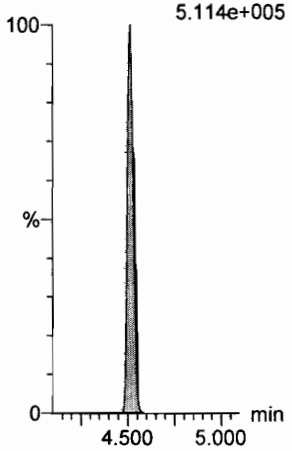
13C8-PFOA



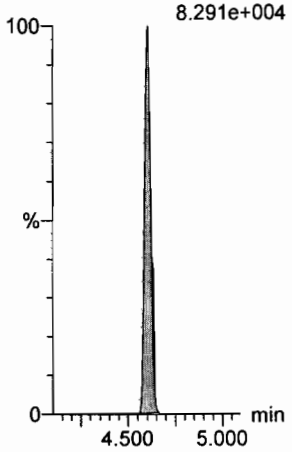
18O2-PFHxS



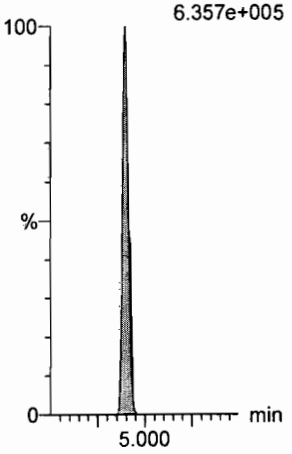
13C9-PFNA



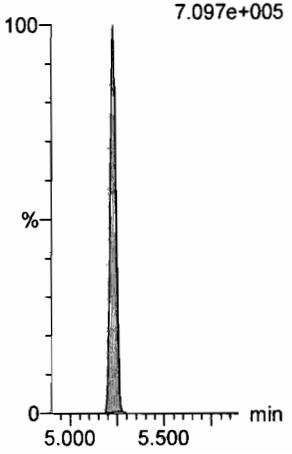
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Untitled

Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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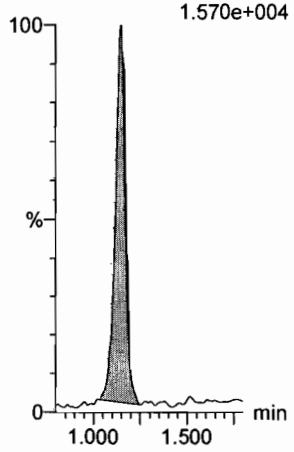
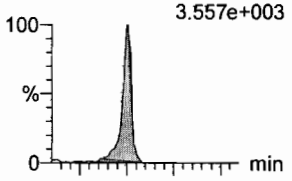
Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

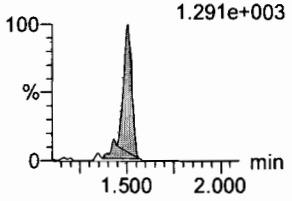
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.570e+004



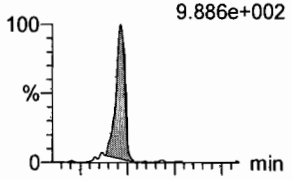
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
3.557e+003



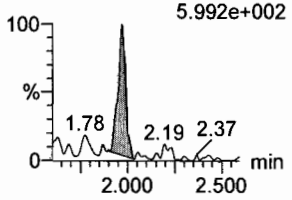
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.291e+003



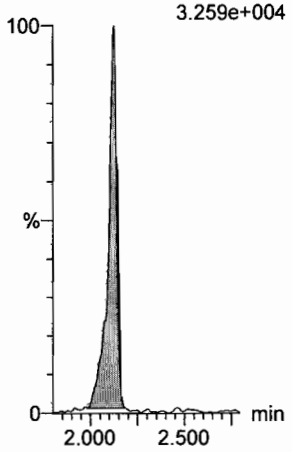
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
9.886e+002



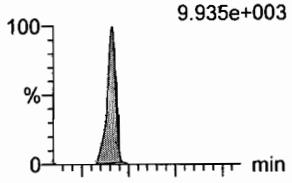
F5:MRM of 2 channels,ES-
240.9 > 116.9
5.992e+002



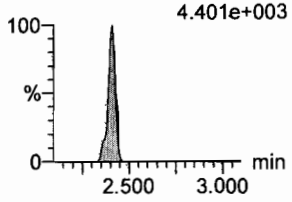
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
3.259e+004



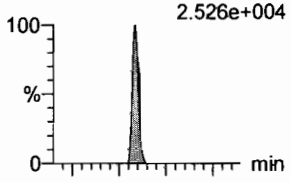
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
9.935e+003



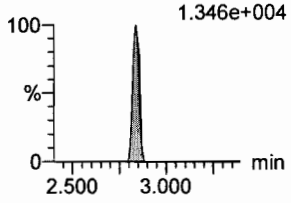
F11:MRM of 2 channels,ES-
299.0 > 99.0
4.401e+003



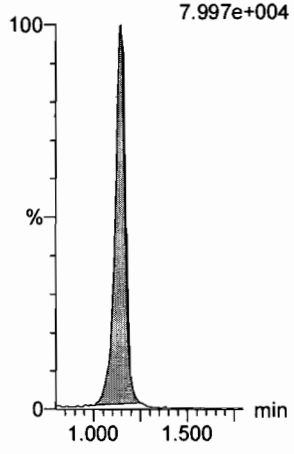
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
2.526e+004



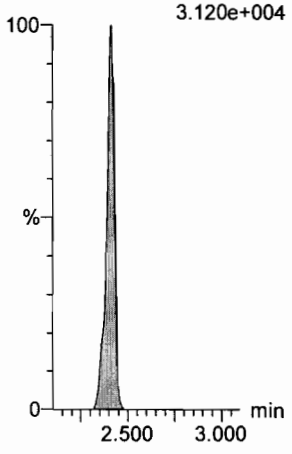
F16:MRM of 2 channels,ES-
327.0 > 80.9
1.346e+004



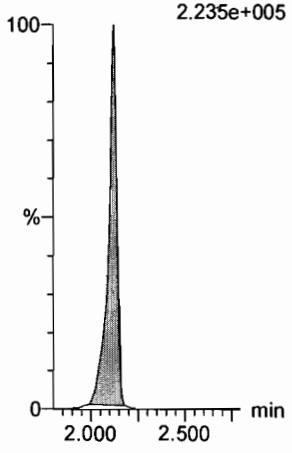
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
7.997e+004



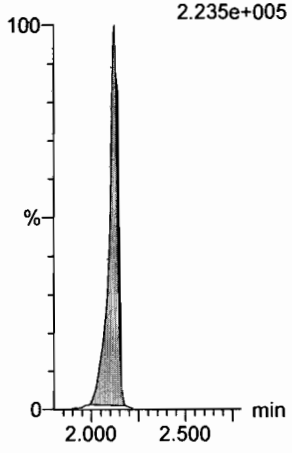
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.120e+004



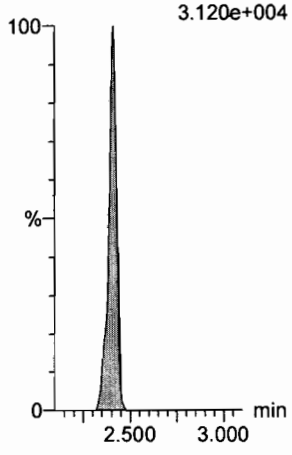
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.235e+005



13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.235e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.120e+004



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F17:MRM of 2 channels,ES-
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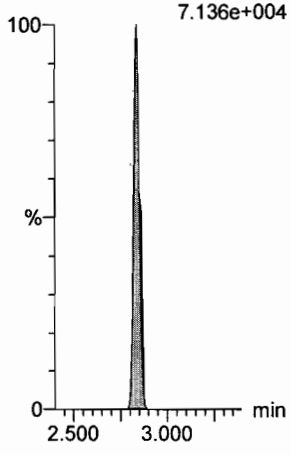

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

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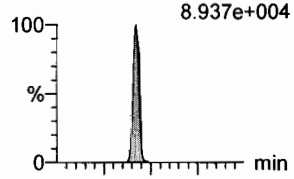

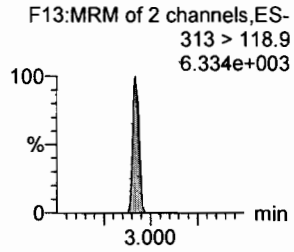

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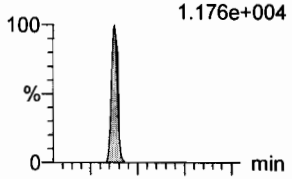
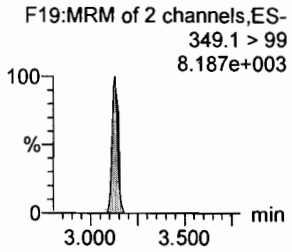
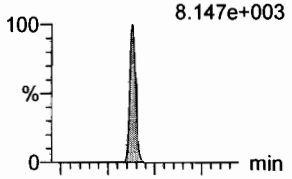
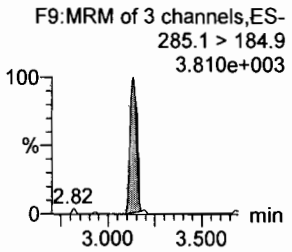


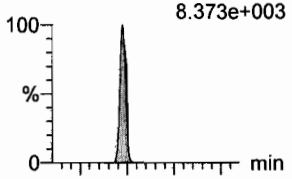


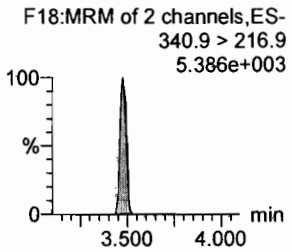
HFPO-DA





5:3 FTCA





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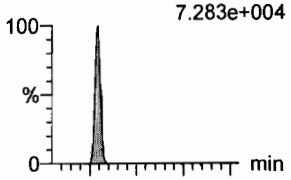

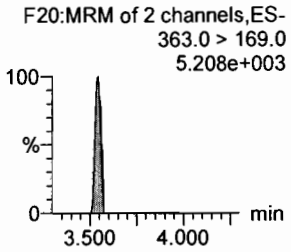

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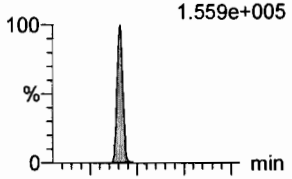

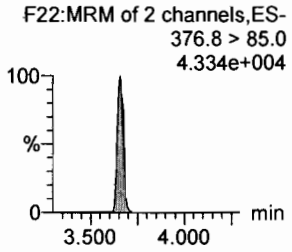

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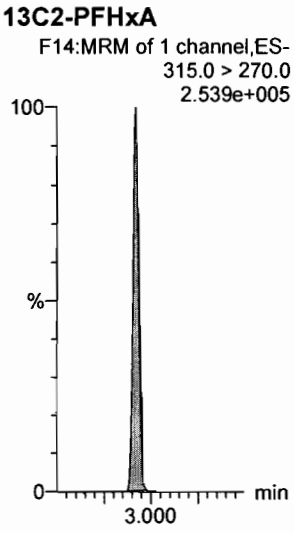

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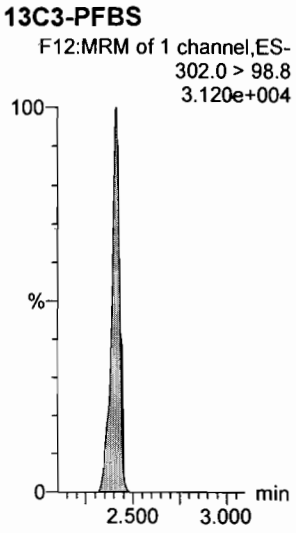

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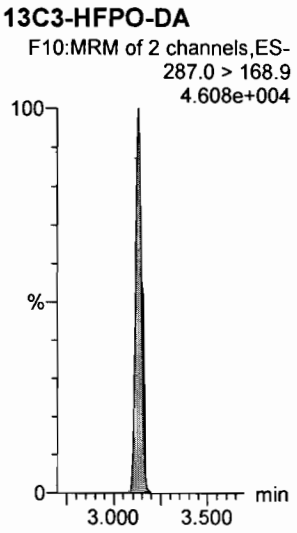

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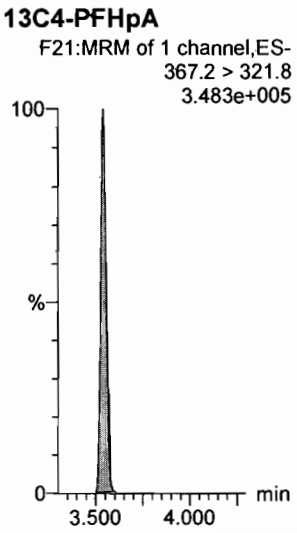

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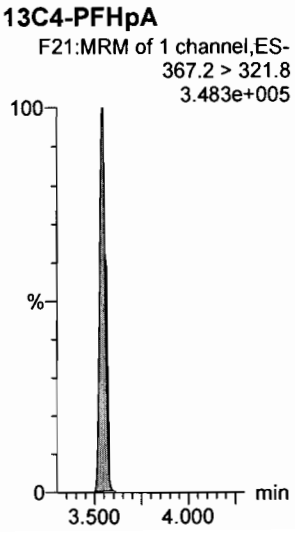

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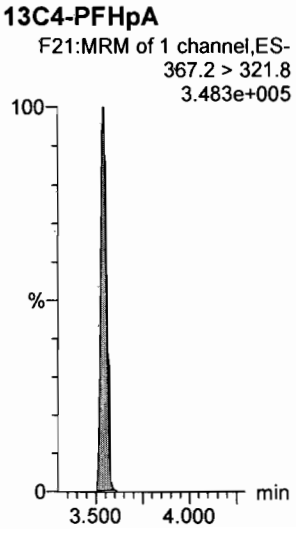

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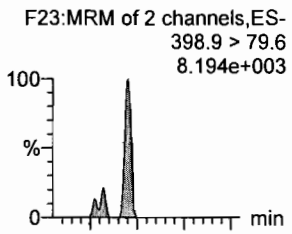
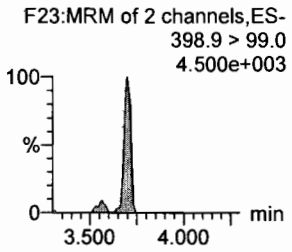
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

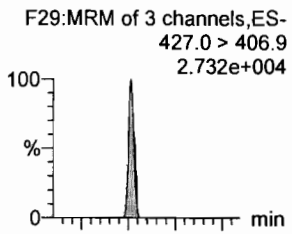
Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

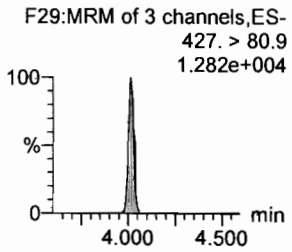
L-PFHxS





6:2 FTS





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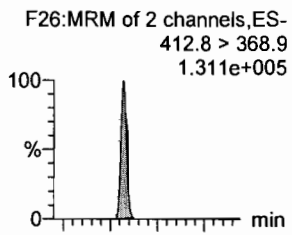

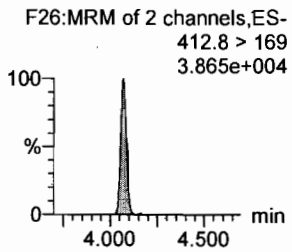

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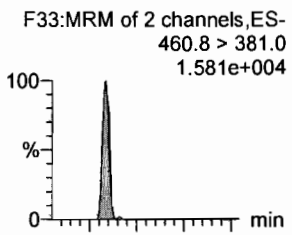

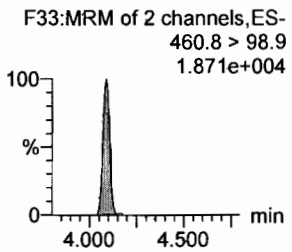

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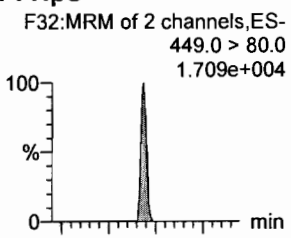

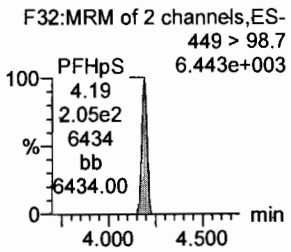

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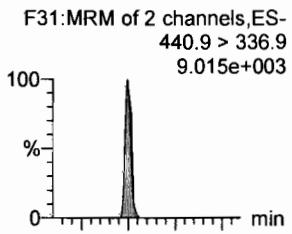

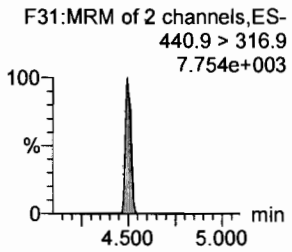

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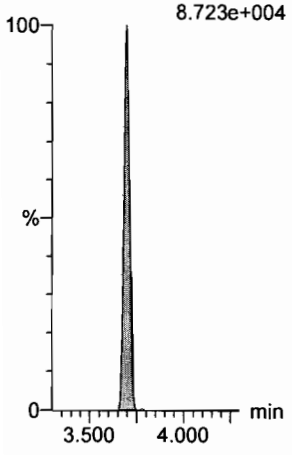

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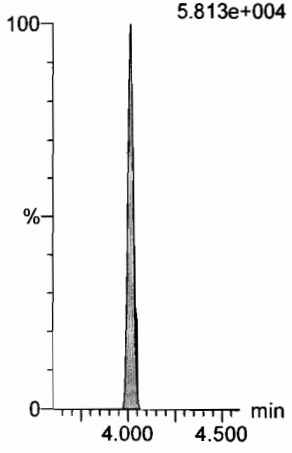

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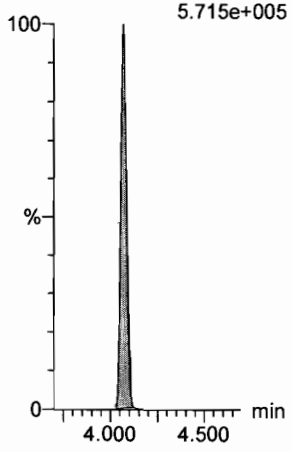

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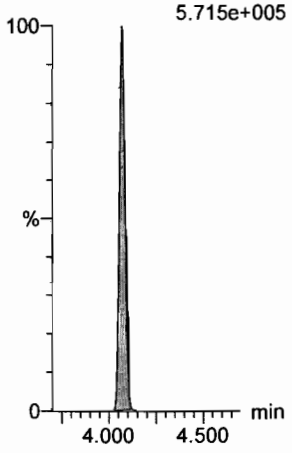
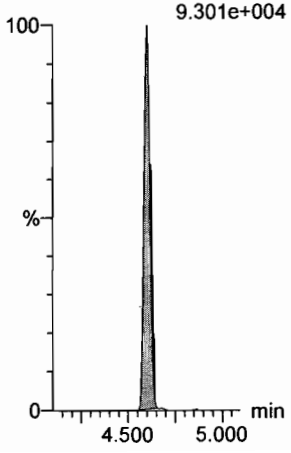


13C8-PFOS



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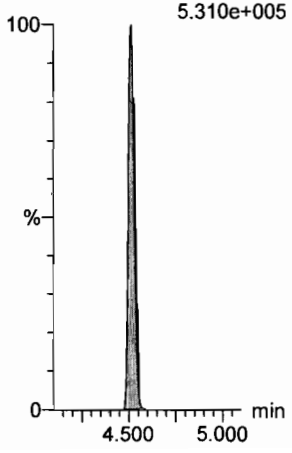

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

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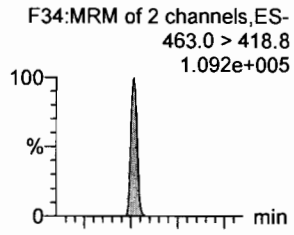

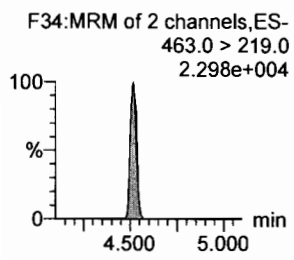

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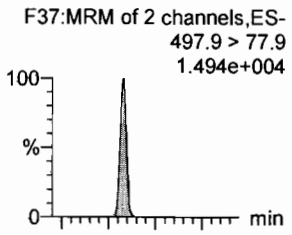
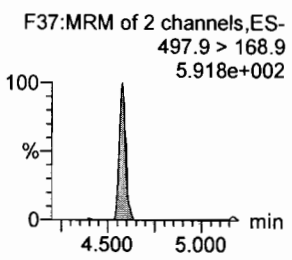
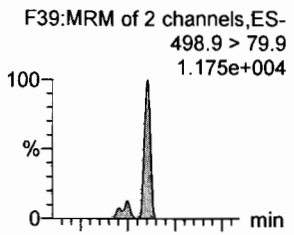
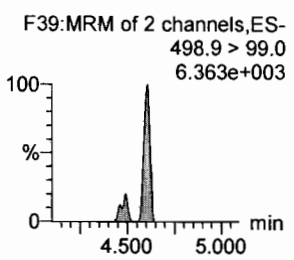




L-PFOS





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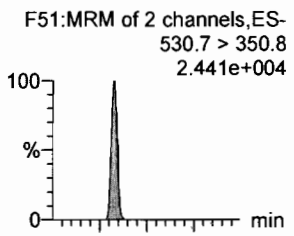

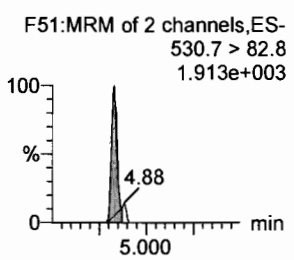

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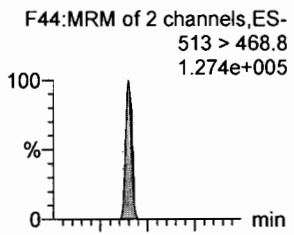

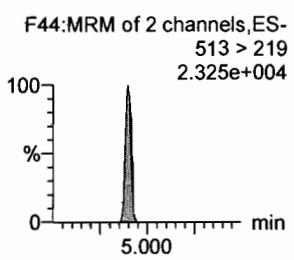

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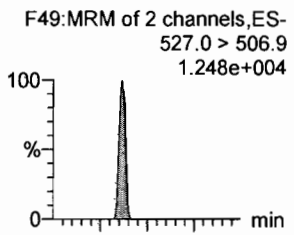

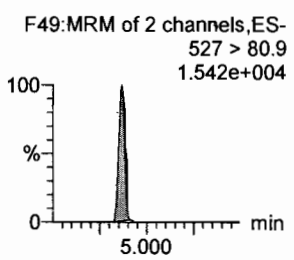

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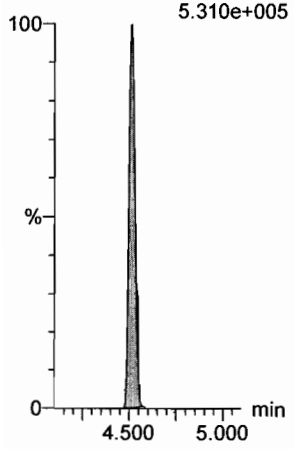

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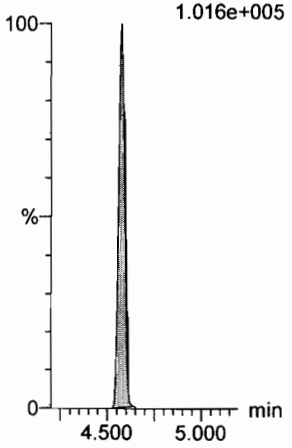

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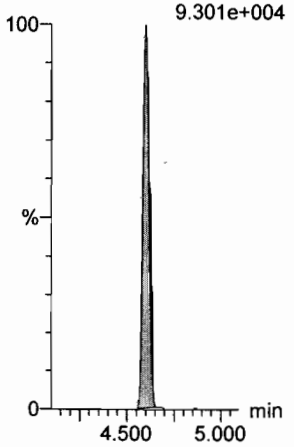

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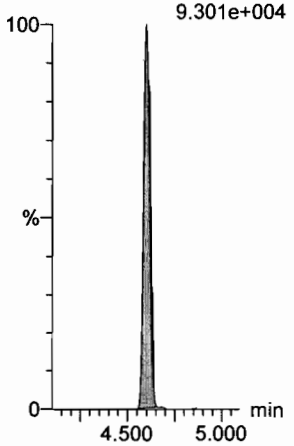
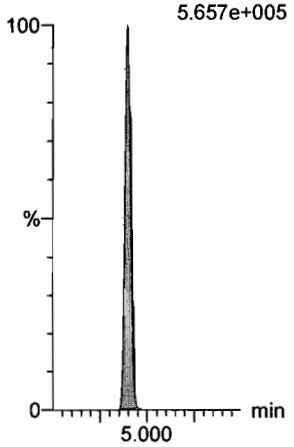
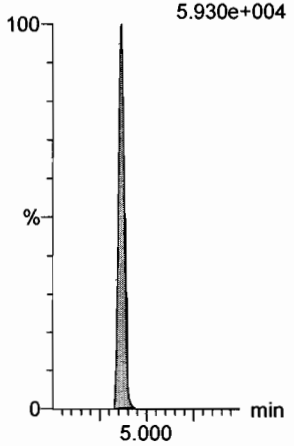


13C2-PFDA



13C2-8:2 FTS



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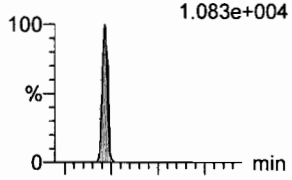
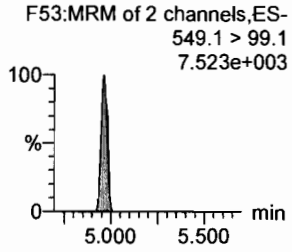
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

PFNS





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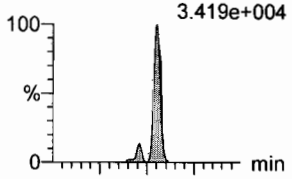
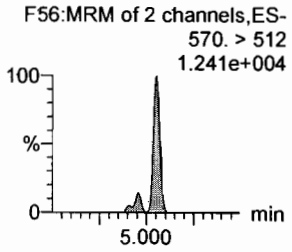
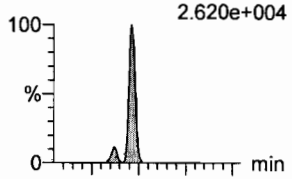
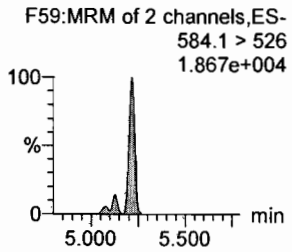




L-EtFOSAA





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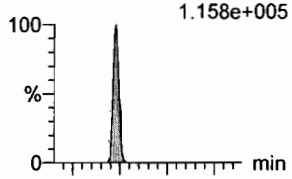
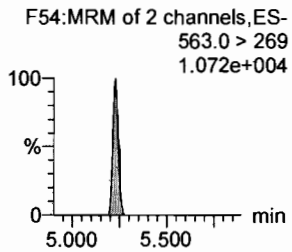
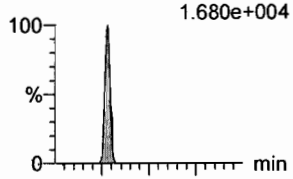
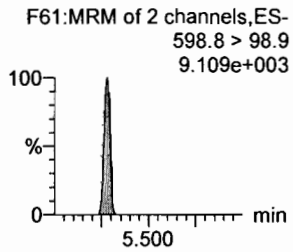


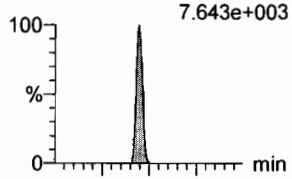


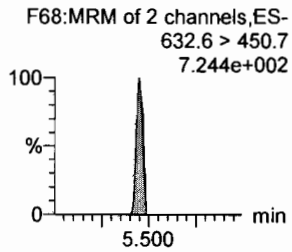
PFDS



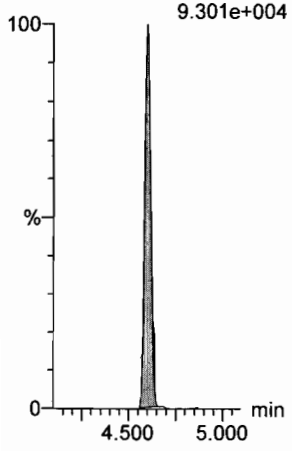


11Cl-PF30UdS

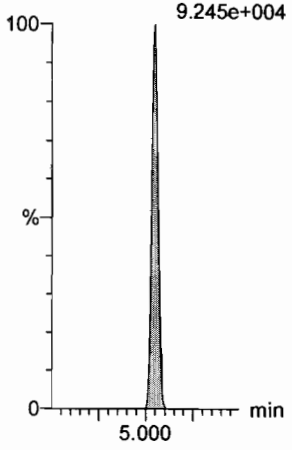




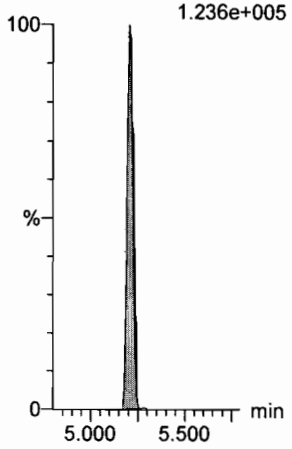
13C8-PFOS



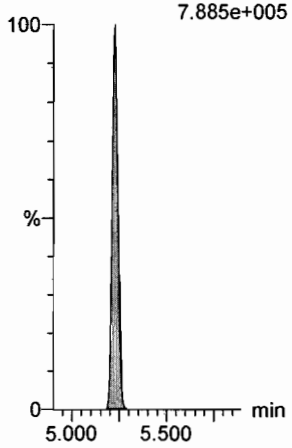
d3-N-MeFOSAA



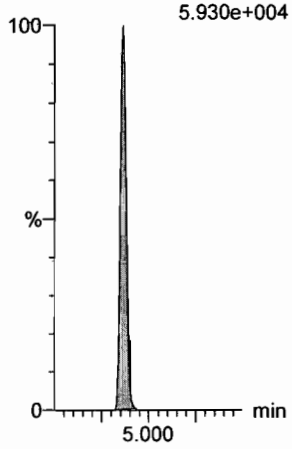
d5-N-EtFOSAA



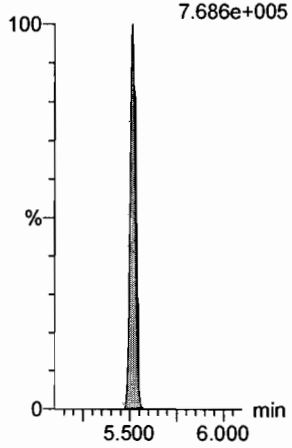
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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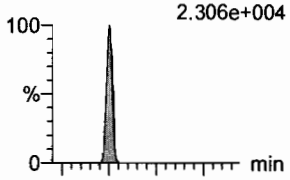
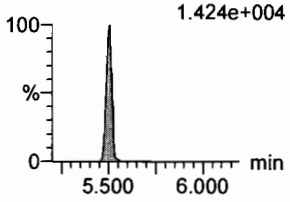
Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

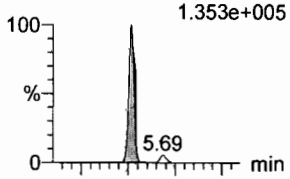
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
2.306e+004



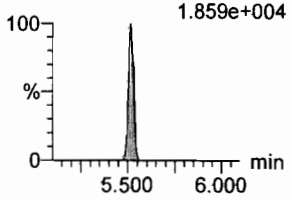
F66:MRM of 2 channels,ES-
627.0 > 80.9
1.424e+004



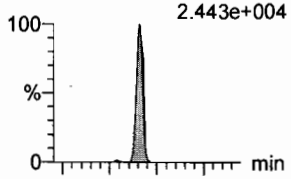
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
1.353e+005



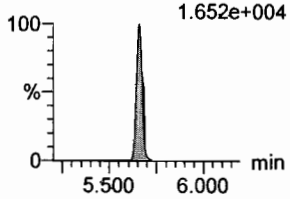
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.859e+004



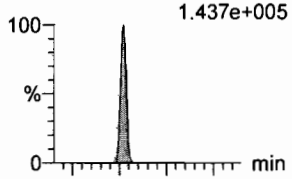
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
2.443e+004



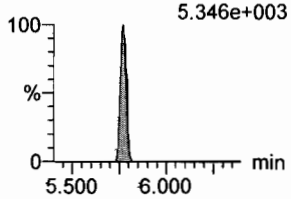
F43:MRM of 2 channels,ES-
512.1 > 219
1.652e+004



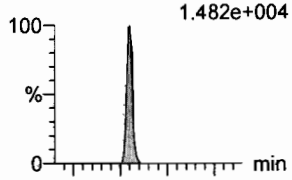
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
1.437e+005



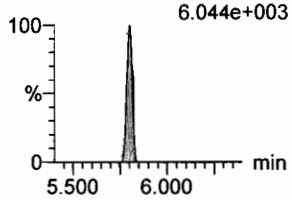
F70:MRM of 2 channels,ES-
662.9 > 319
5.346e+003



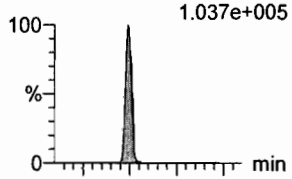
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
1.482e+004



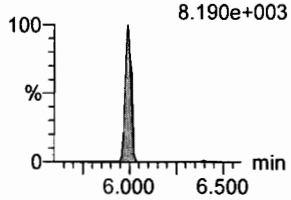
F71:MRM of 2 channels,ES-
698.8 > 98.9
6.044e+003



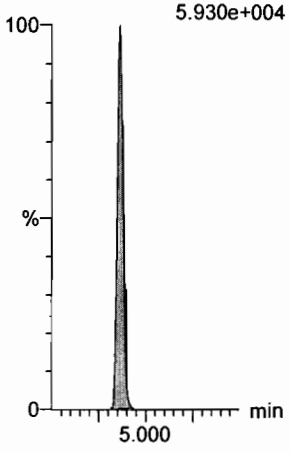
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
1.037e+005



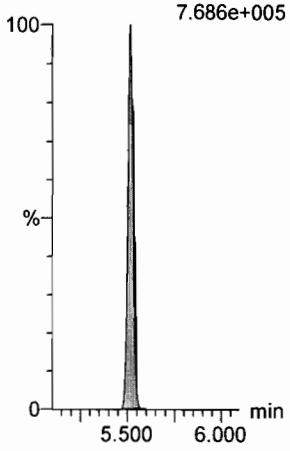
F72:MRM of 2 channels,ES-
713. > 369.0
8.190e+003



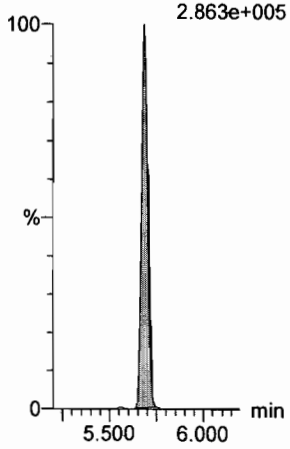
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
5.930e+004



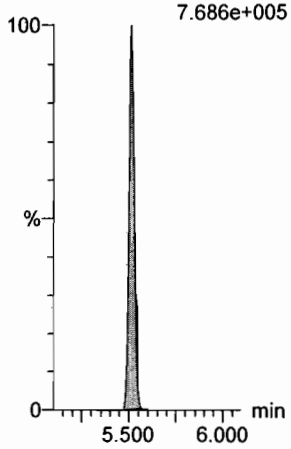
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
7.686e+005



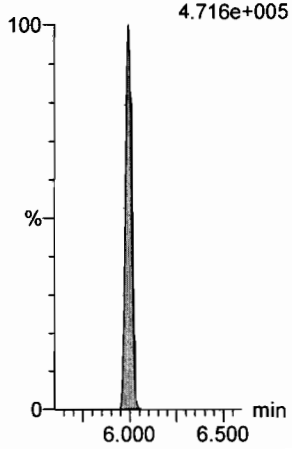
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
2.863e+005



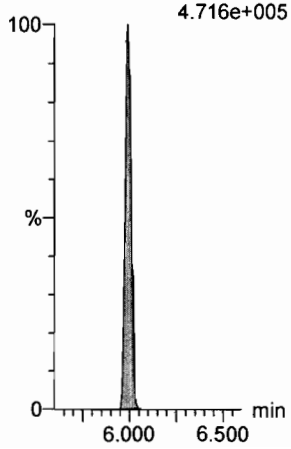
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
7.686e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.716e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.716e+005



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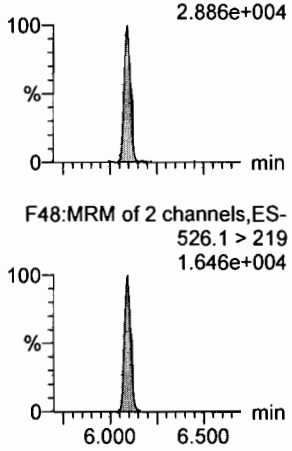
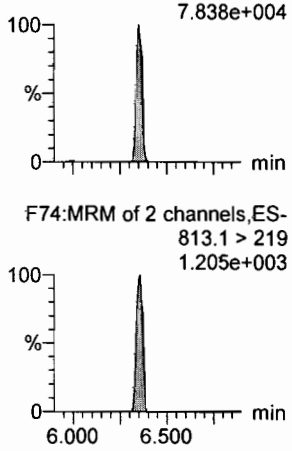
Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

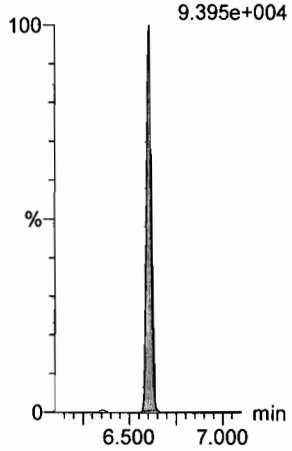
N-EtFOSA



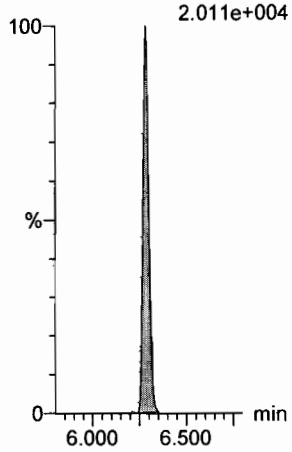
PFHxDA



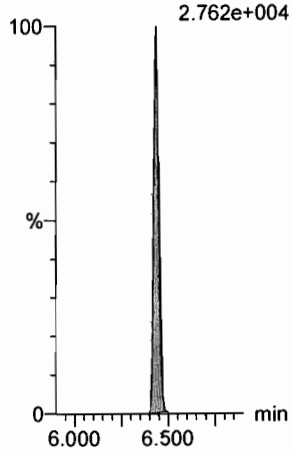
PFODA



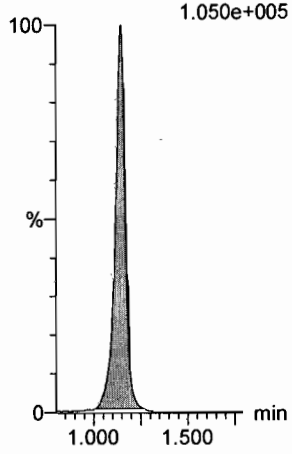
N-MeFOSE



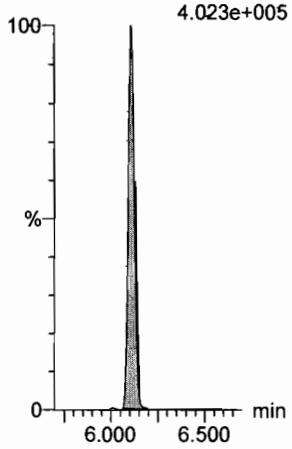
N-EtFOSE



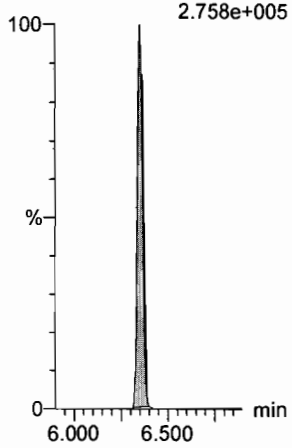
13C4-PFBA



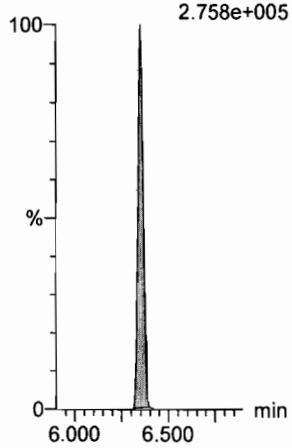
d5-N-ETFOSA



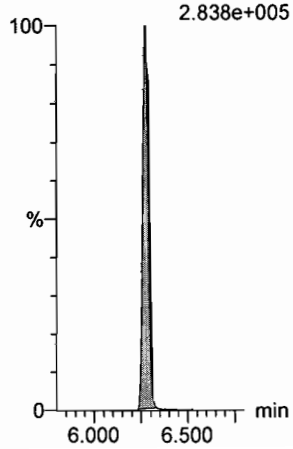
13C2-PFHxDA



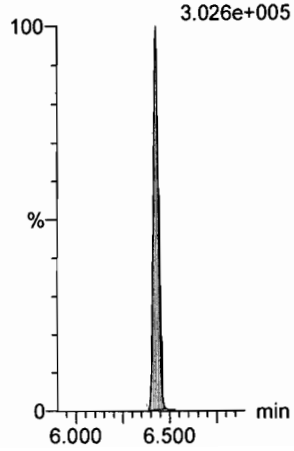
13C2-PFHxDA



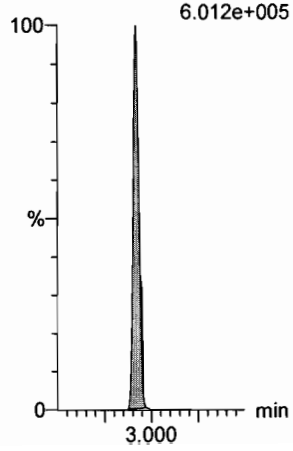
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

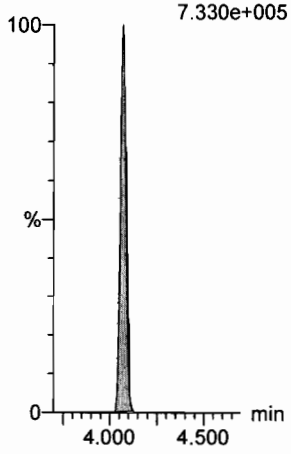


Dataset: Untitled

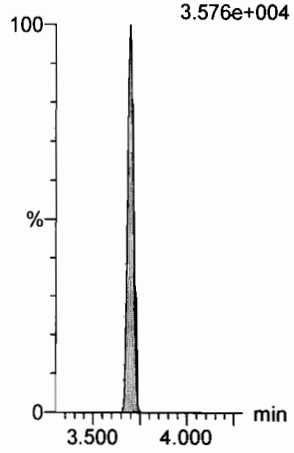
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_9, Date: 12-Jul-2019, Time: 18:56:14, ID: ST190712M2-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

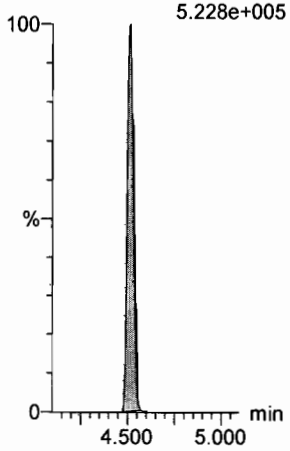
13C8-PFOA



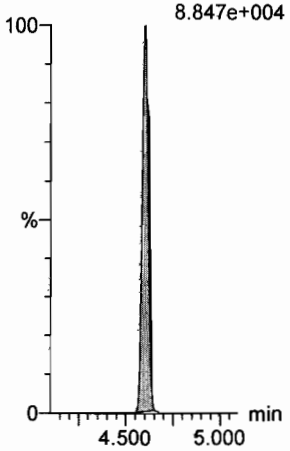
18O2-PFHxS



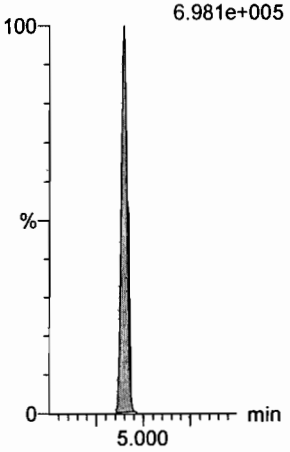
13C9-PFNA



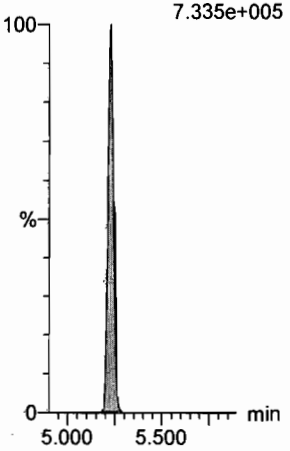
13C4-PFOS



13C6-PFDA



13C7-PFUdA

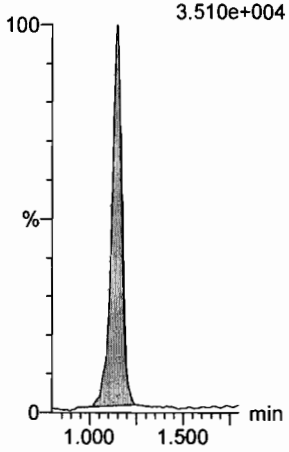


Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

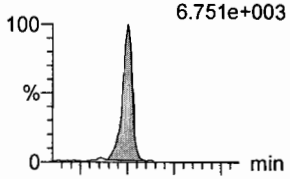
Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

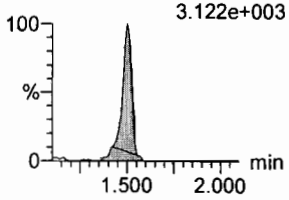
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
3.510e+004



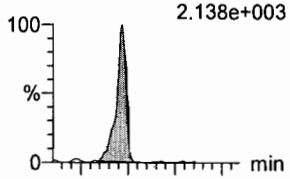
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
6.751e+003



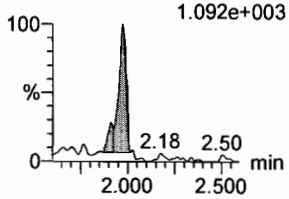
F6:MRM of 2 channels,ES-
248.9 > 98.9
3.122e+003



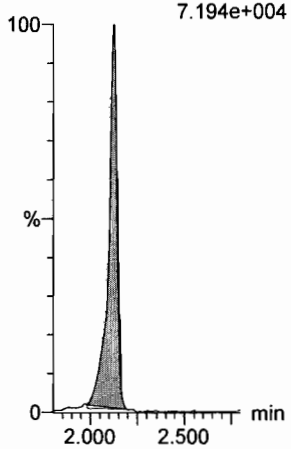
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
2.138e+003



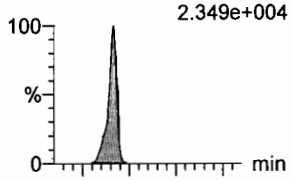
F5:MRM of 2 channels,ES-
240.9 > 116.9
1.092e+003



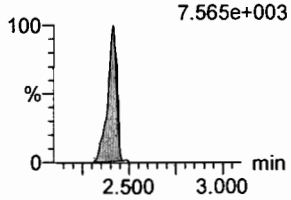
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
7.194e+004



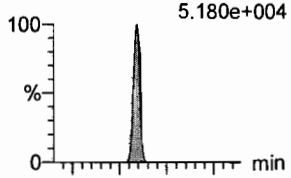
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
2.349e+004



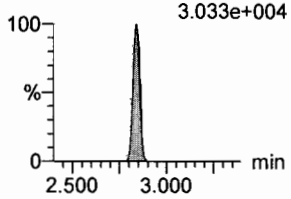
F11:MRM of 2 channels,ES-
299.0 > 99.0
7.565e+003



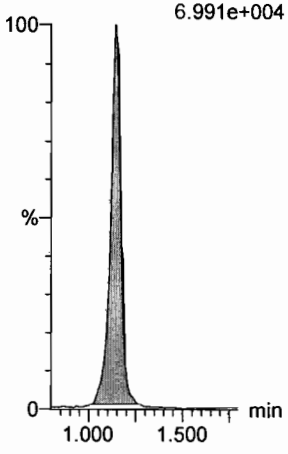
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
5.180e+004



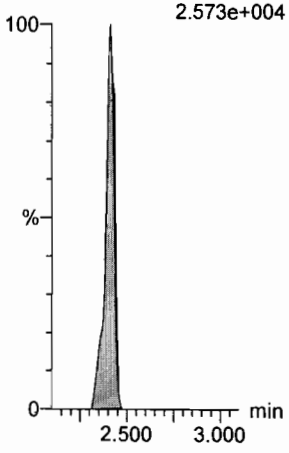
F16:MRM of 2 channels,ES-
327.0 > 80.9
3.033e+004



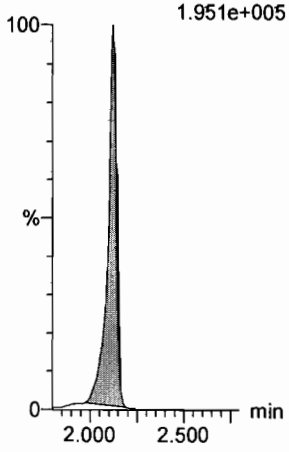
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
6.991e+004



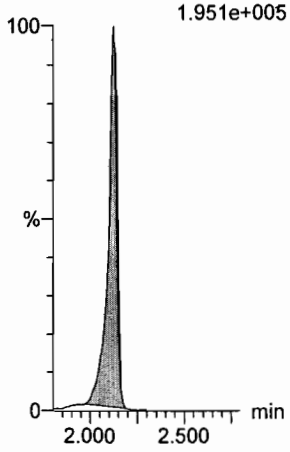
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
2.573e+004



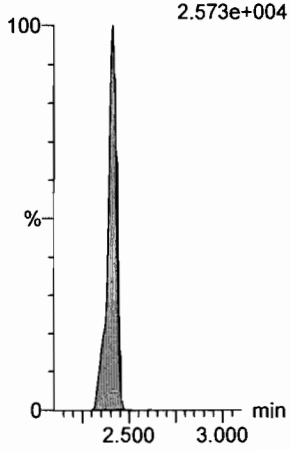
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.951e+005



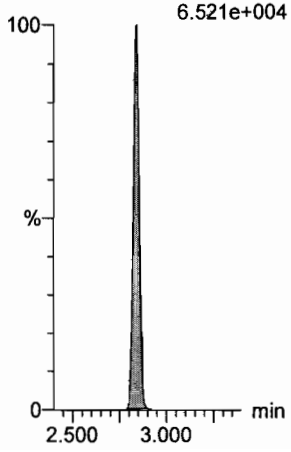
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.951e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
2.573e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.521e+004

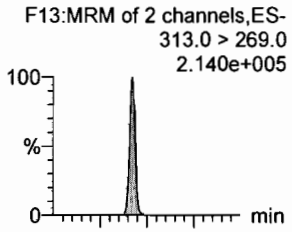


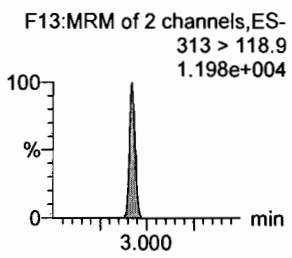
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

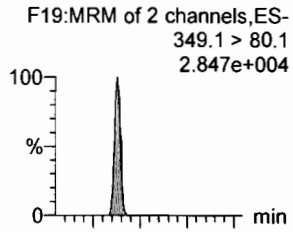
Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

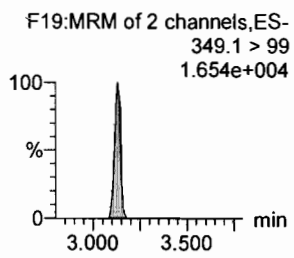
PFHxA



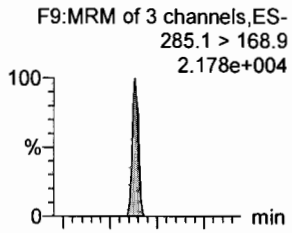


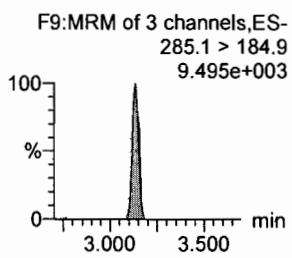
PFPeS



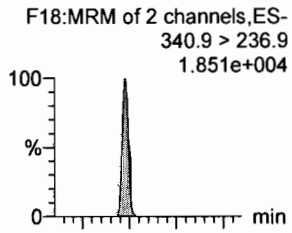


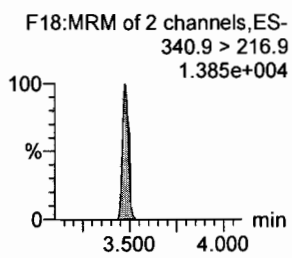
HFPO-DA



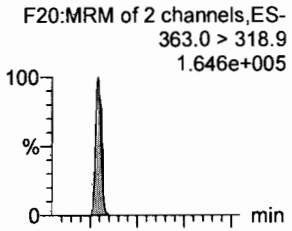


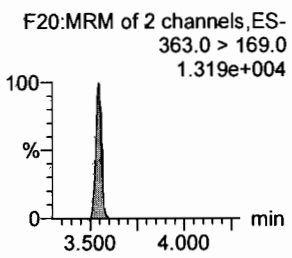
5:3 FTCA



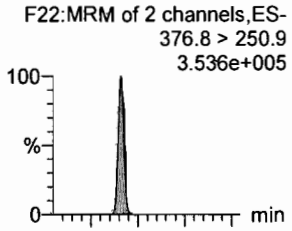


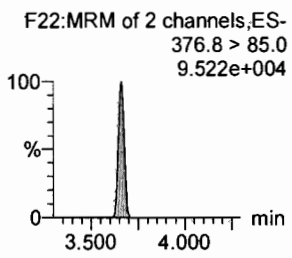
PFHpA



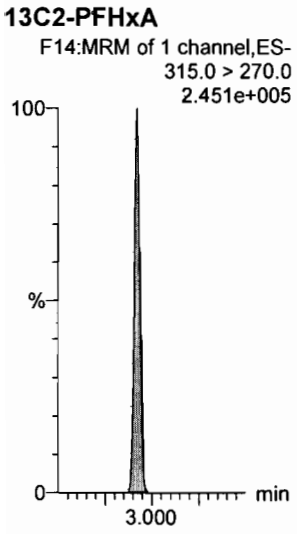


ADONA

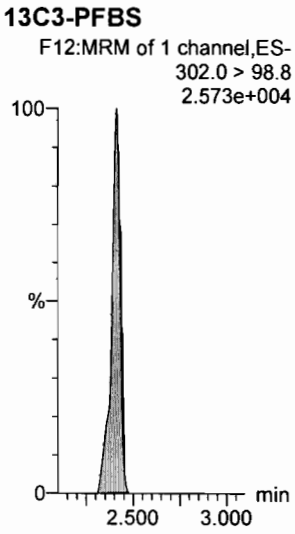




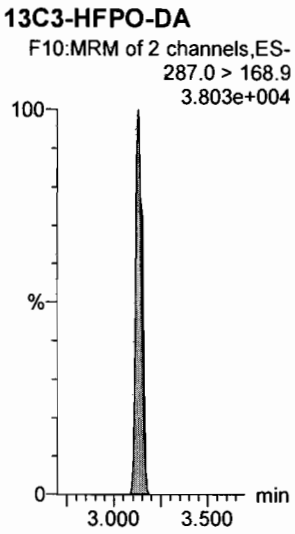
13C2-PFHxA



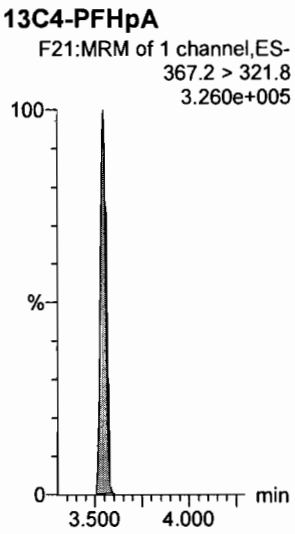
13C3-PFBS



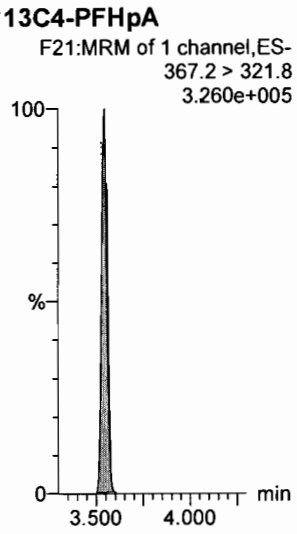
13C3-HFPO-DA



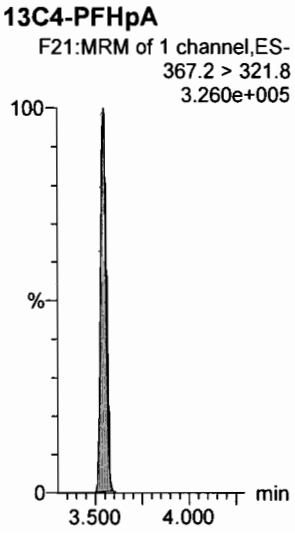
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

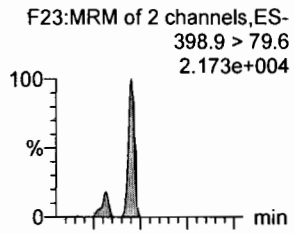


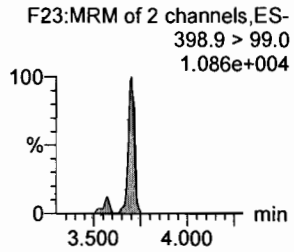
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

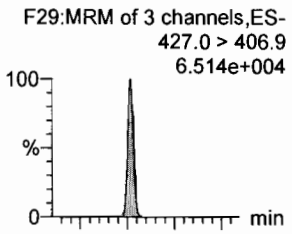
Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

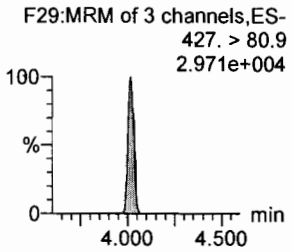
L-PFHxS



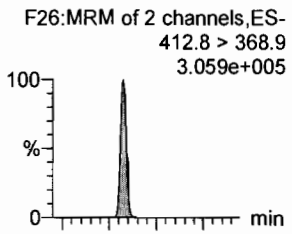


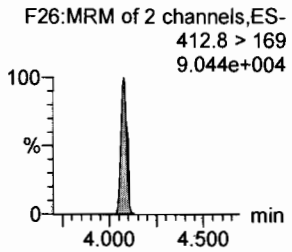
6:2 FTS



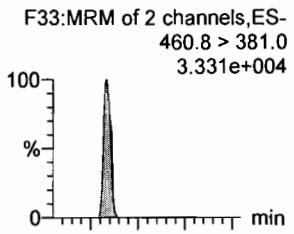


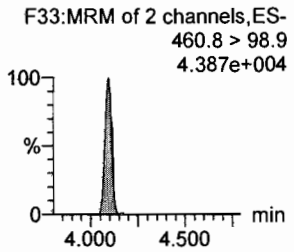
L-PFOA



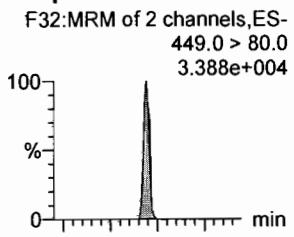


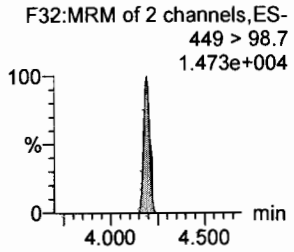
PFEChS



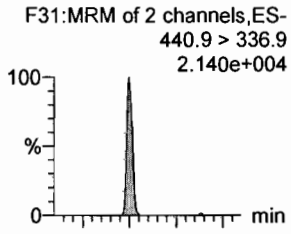


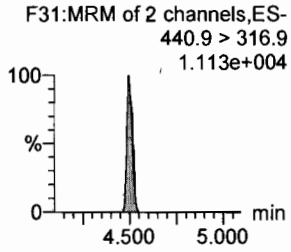
PFHpS



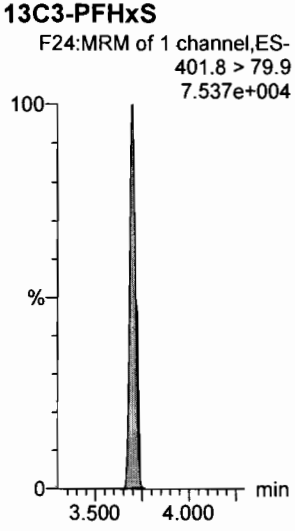


7:3 FTCA

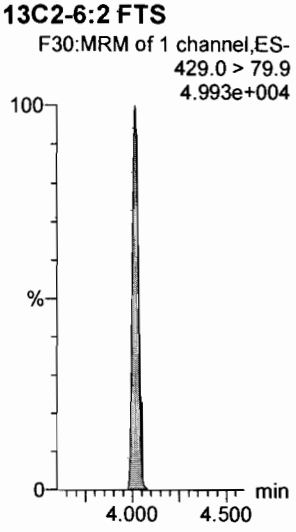




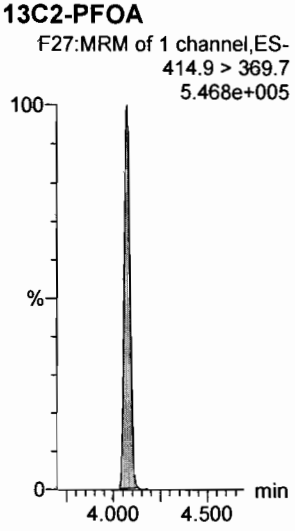
13C3-PFHxS



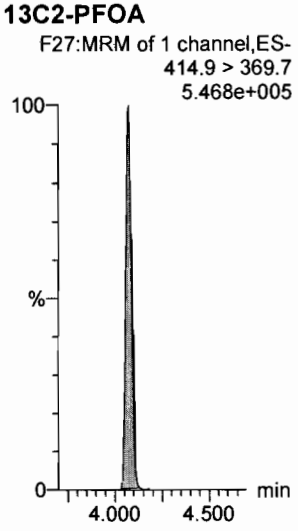
13C2-6:2 FTS



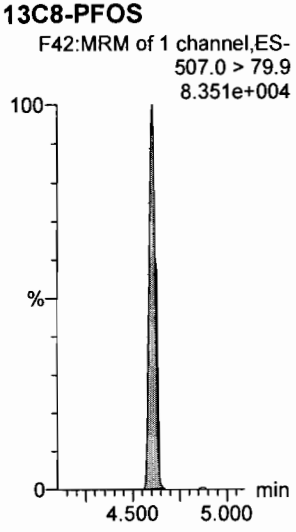
13C2-PFOA



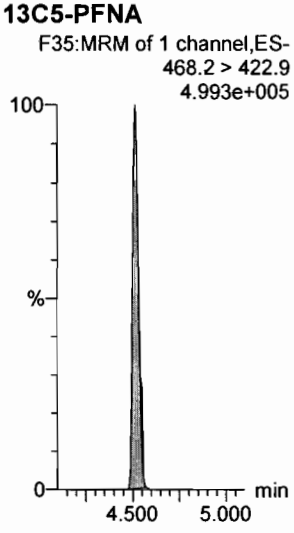
13C2-PFOA



13C8-PFOS



13C5-PFNA

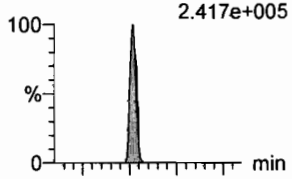


Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

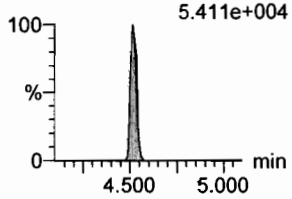
Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

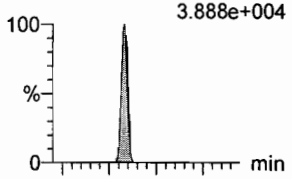
PFNA
F34:MRM of 2 channels,ES-
463.0 > 418.8
2.417e+005



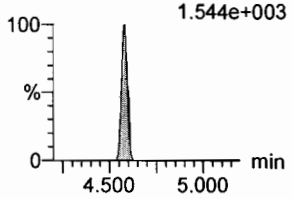
F34:MRM of 2 channels,ES-
463.0 > 219.0
5.411e+004



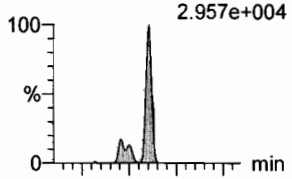
PFOSA
F37:MRM of 2 channels,ES-
497.9 > 77.9
3.888e+004



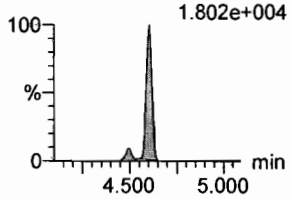
F37:MRM of 2 channels,ES-
497.9 > 168.9
1.544e+003



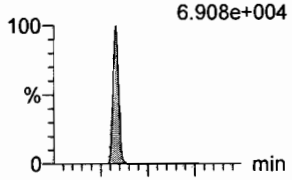
L-PFOS
F39:MRM of 2 channels,ES-
498.9 > 79.9
2.957e+004



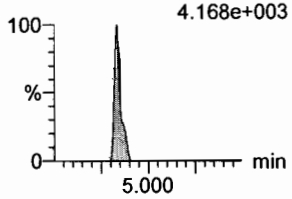
F39:MRM of 2 channels,ES-
498.9 > 99.0
1.802e+004



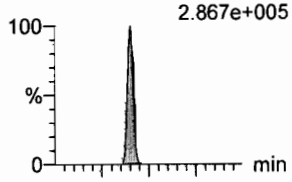
9CI-PF30NS
F51:MRM of 2 channels,ES-
530.7 > 350.8
6.908e+004



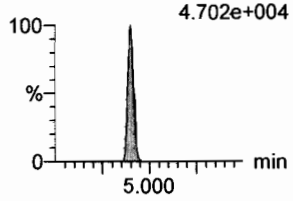
F51:MRM of 2 channels,ES-
530.7 > 82.8
4.168e+003



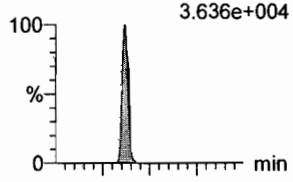
PFDA
F44:MRM of 2 channels,ES-
513 > 468.8
2.867e+005



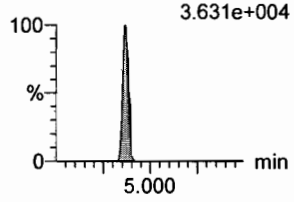
F44:MRM of 2 channels,ES-
513 > 219
4.702e+004



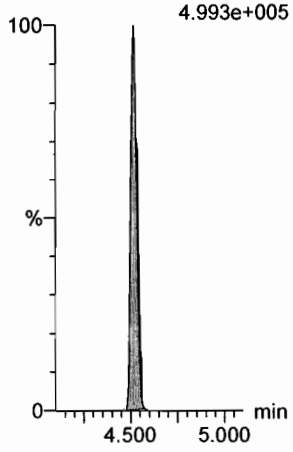
8:2 FTS
F49:MRM of 2 channels,ES-
527.0 > 506.9
3.636e+004



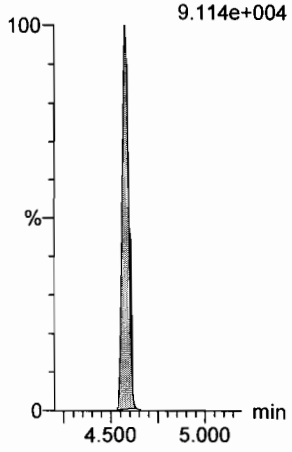
F49:MRM of 2 channels,ES-
527 > 80.9
3.631e+004



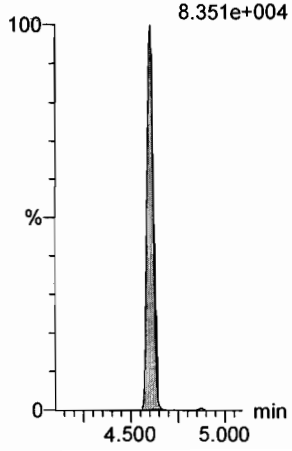
13C5-PFNA
F35:MRM of 1 channel,ES-
468.2 > 422.9
4.993e+005



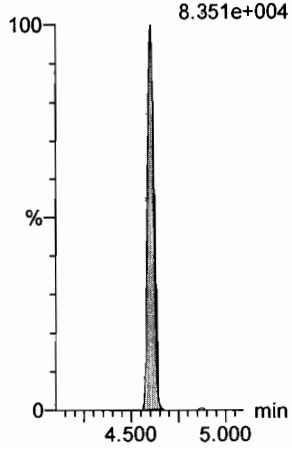
13C8-PFOSA
F41:MRM of 1 channel,ES-
506.1 > 77.7
9.114e+004



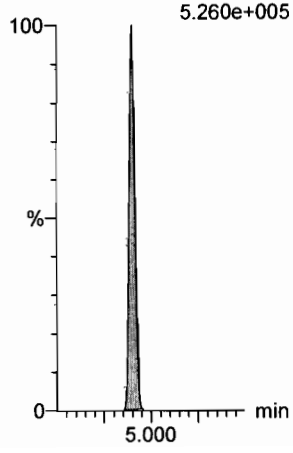
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
8.351e+004



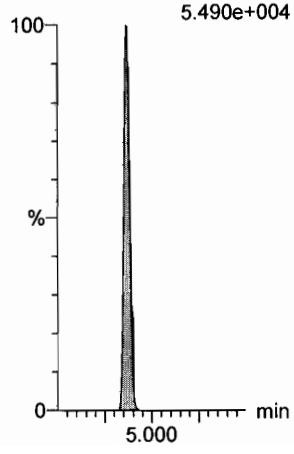
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
8.351e+004



13C2-PFDA
F45:MRM of 1 channel,ES-
515.1 > 469.9
5.260e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
5.490e+004

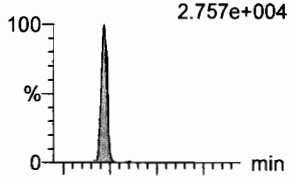


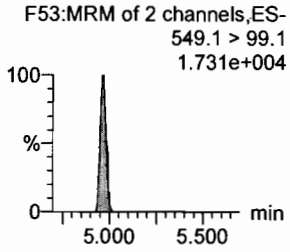
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

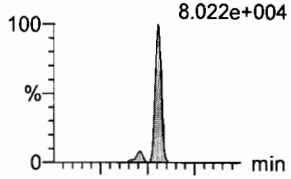
Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

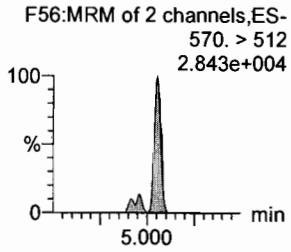
PFNS



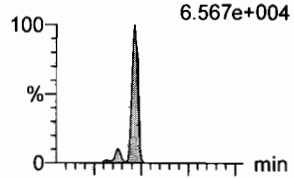


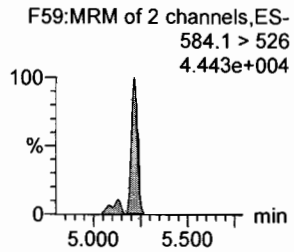
L-MeFOSAA



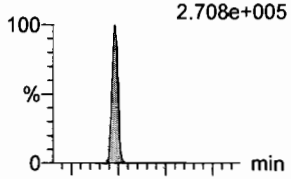


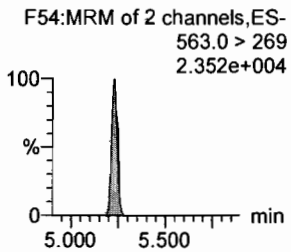
L-EtFOSAA



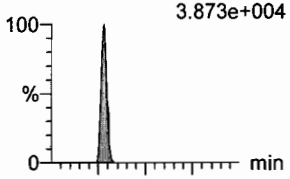


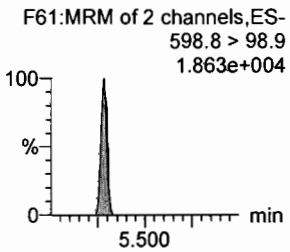
PFUdA



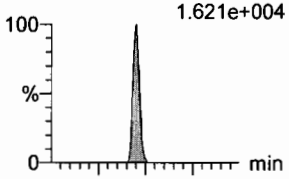


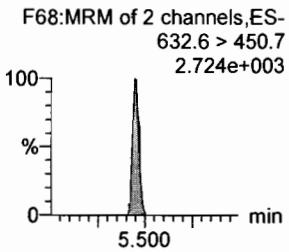
PFDS



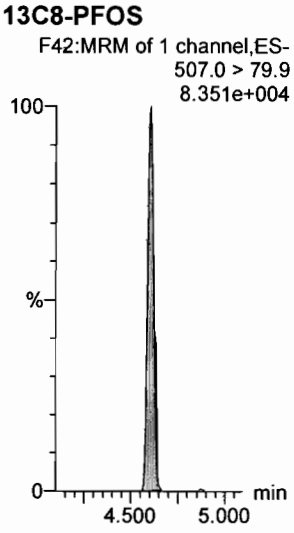


11Cl-PF30UdS

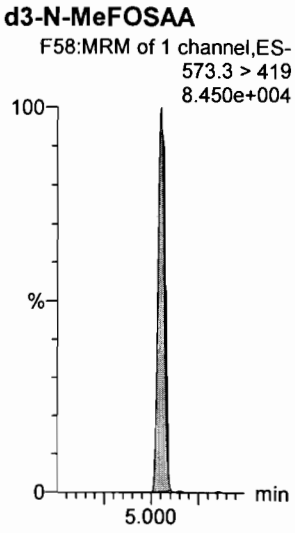




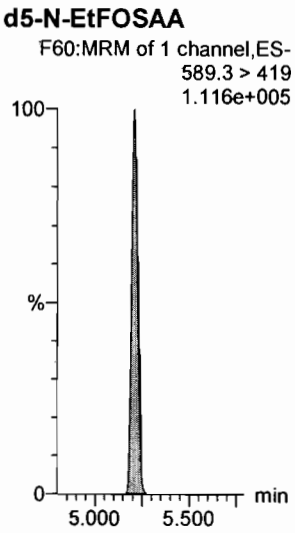
13C8-PFOS



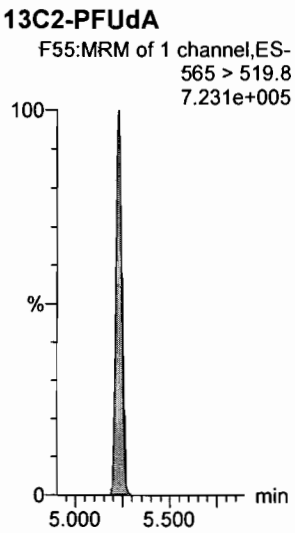
d3-N-MeFOSAA



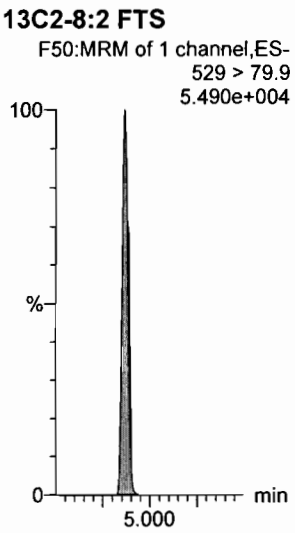
d5-N-EtFOSAA



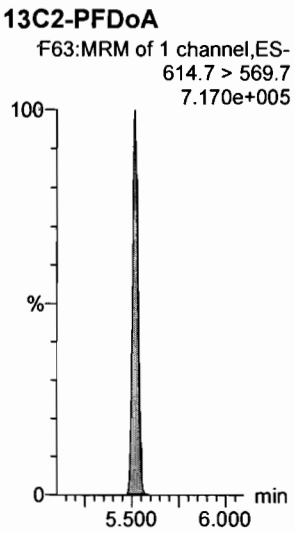
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

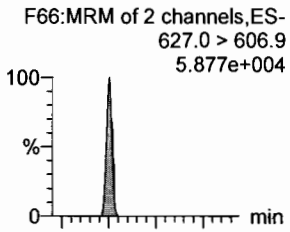


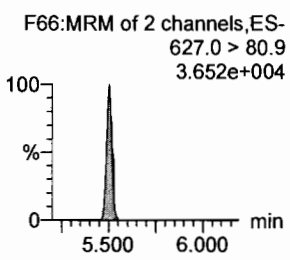
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

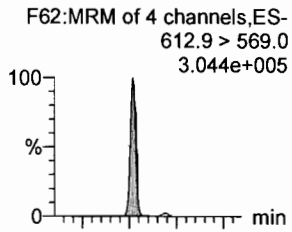
Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

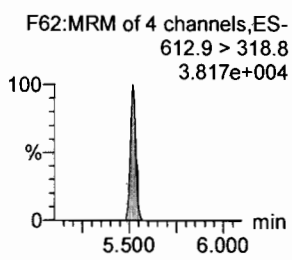
10:2 FTS



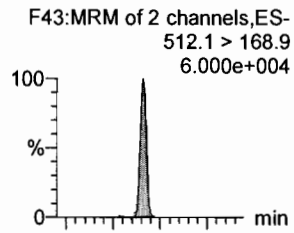


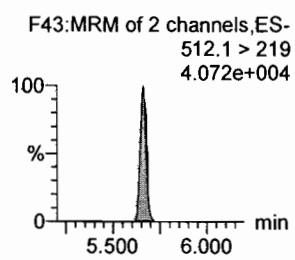
PFDoA



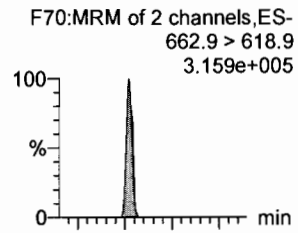


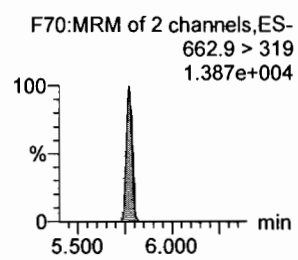
N-MeFOSA



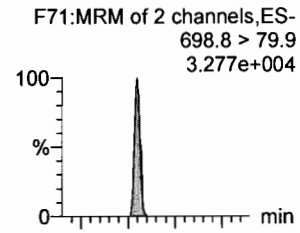


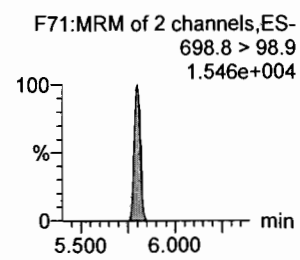
PFTrDA



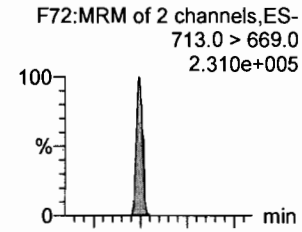


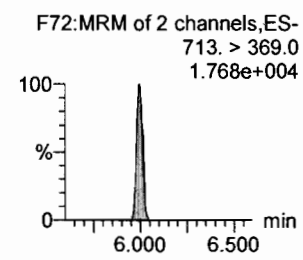
PFDoS



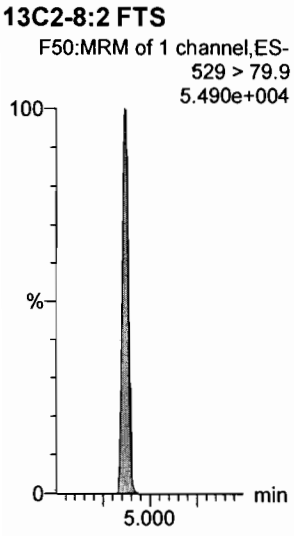


PFTeDA

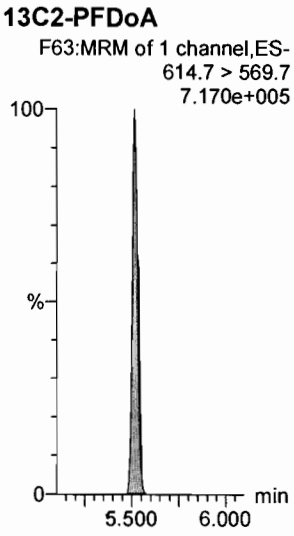




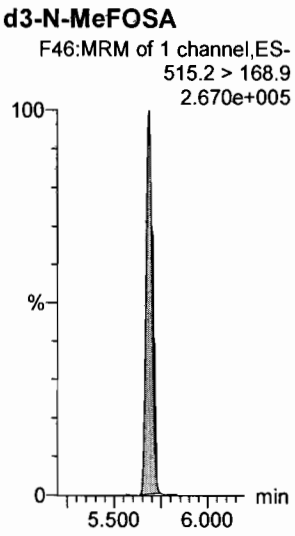
13C2-8:2 FTS



13C2-PFDoA



d3-N-MeFOSA



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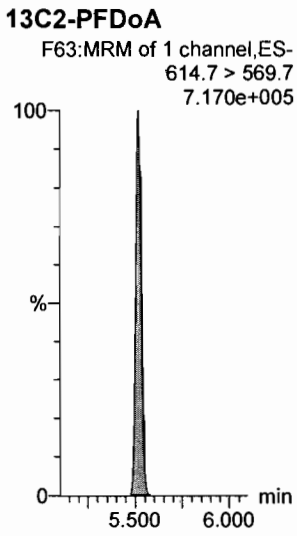

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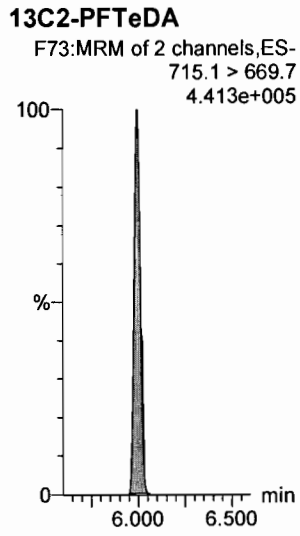
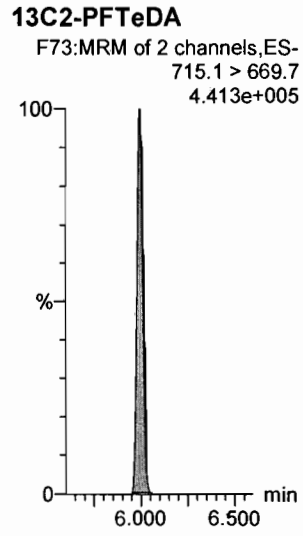


13C2-PFTeDA

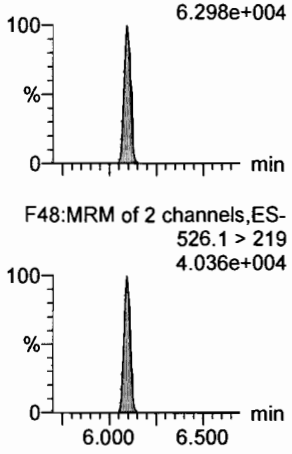


Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

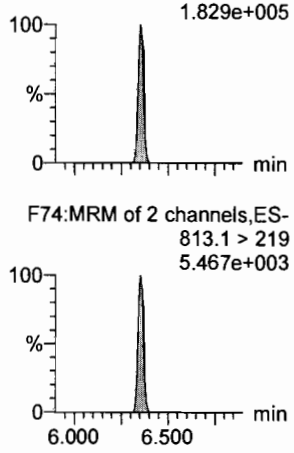
Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

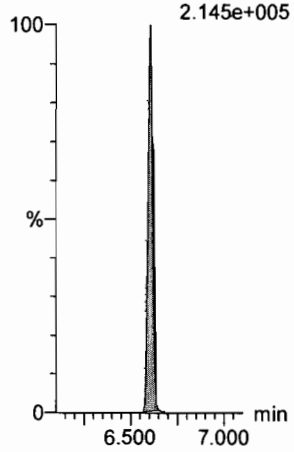
N-EtFOSA



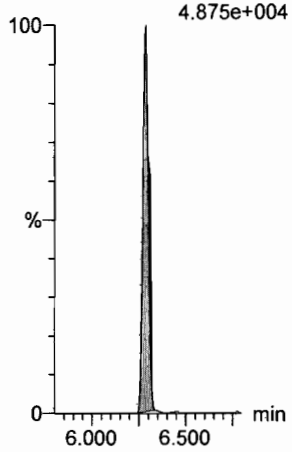
PFHxDA



PFODA



N-MeFOSE



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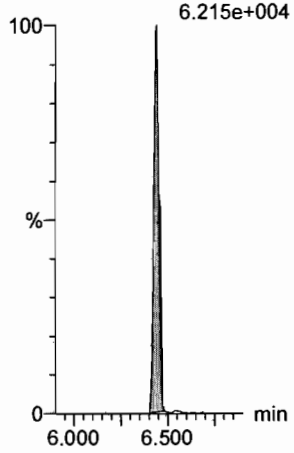
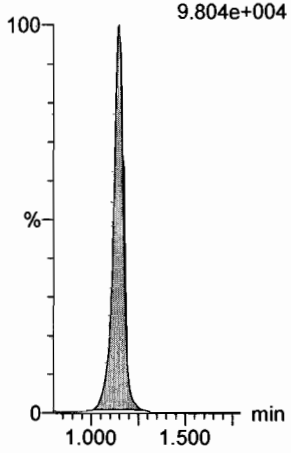
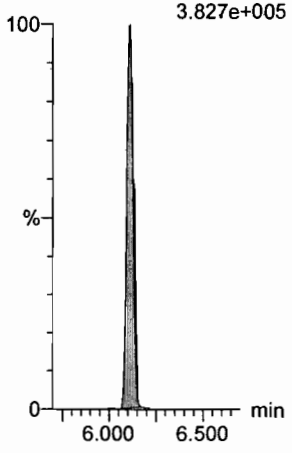


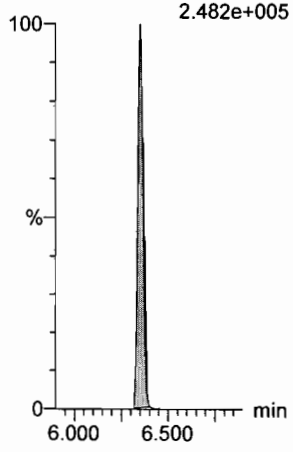
13C4-PFBA



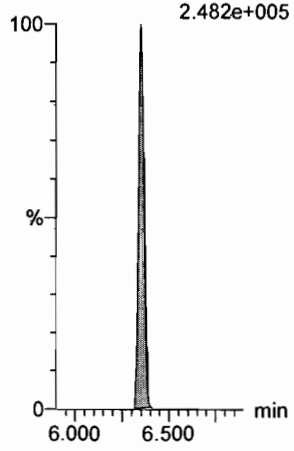
d5-N-ETFOSA



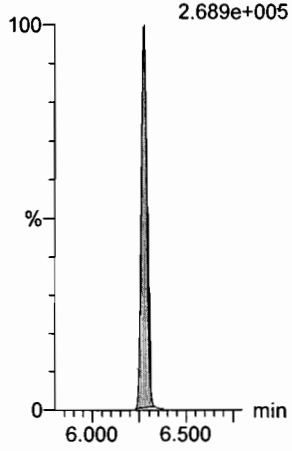
13C2-PFHxDA



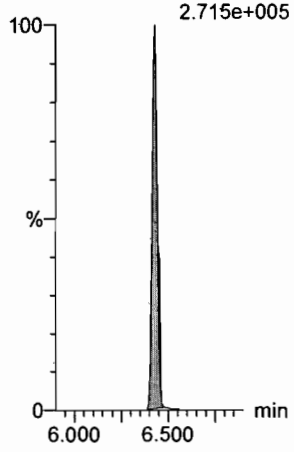
13C2-PFHxDA



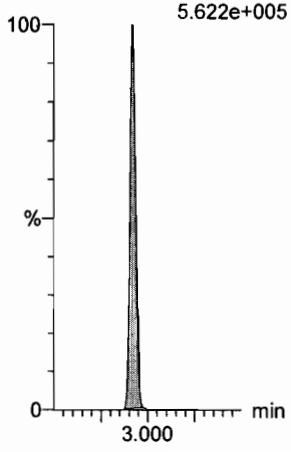
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

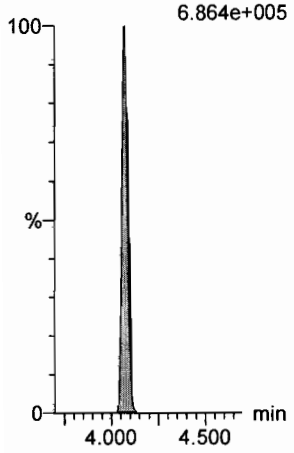


Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-crv.qld

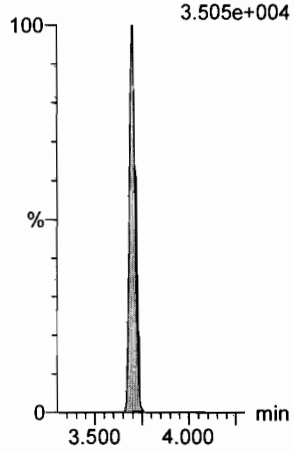
Last Altered: Sunday, July 14, 2019 13:34:47 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:35:08 Pacific Daylight Time

Name: 190712M2_10, Date: 12-Jul-2019, Time: 19:06:47, ID: ST190712M2-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

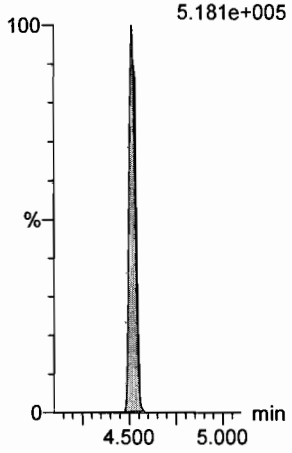
13C8-PFOA



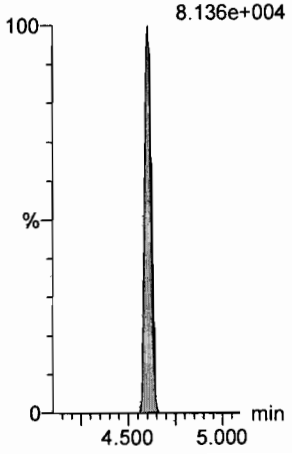
18O2-PFHxS



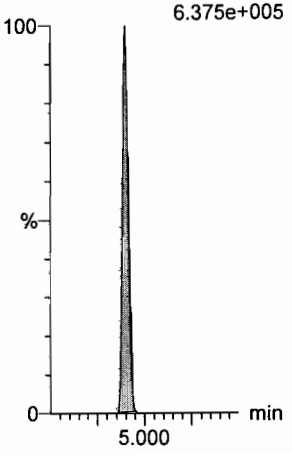
13C9-PFNA



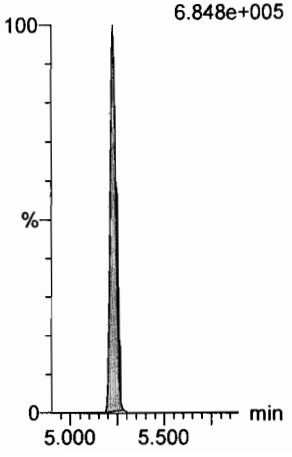
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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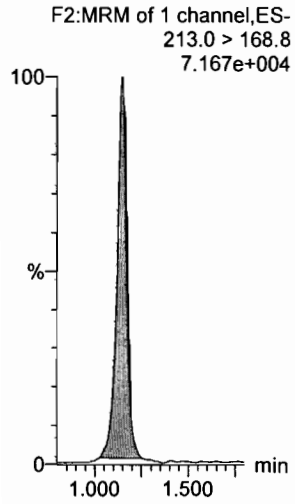
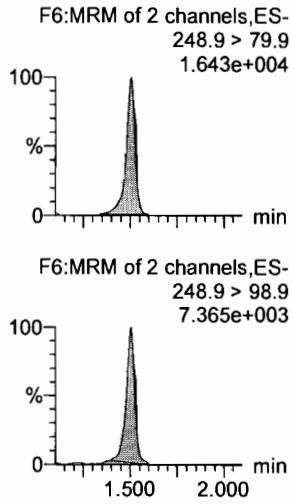
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

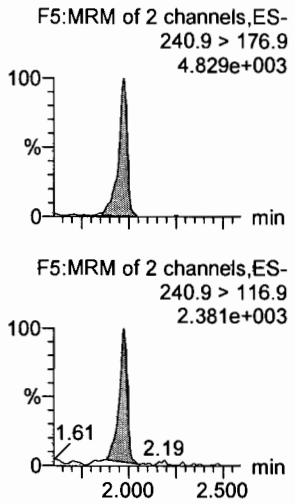
PFBA



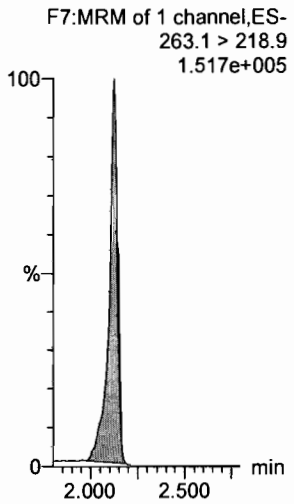
PFPrS



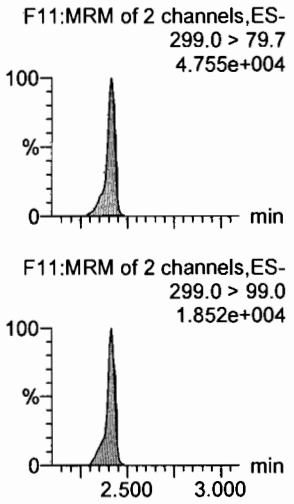
3:3 FTCA



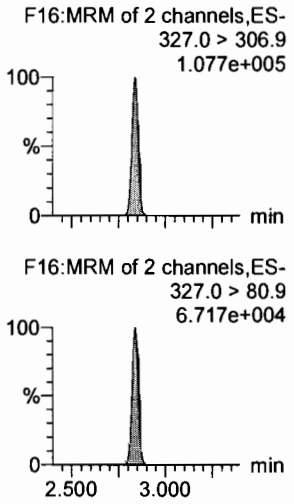
PFPeA



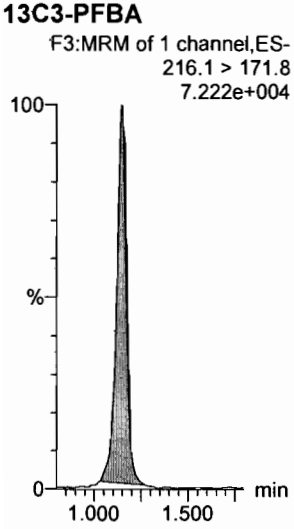
PFBS



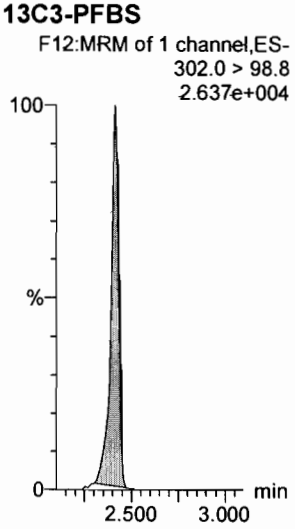
4:2 FTS



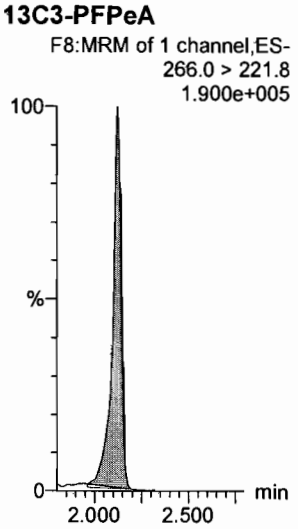
13C3-PFBA



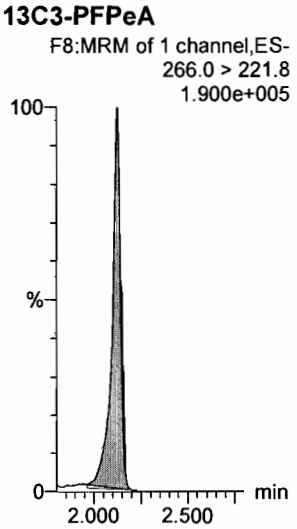
13C3-PFBS



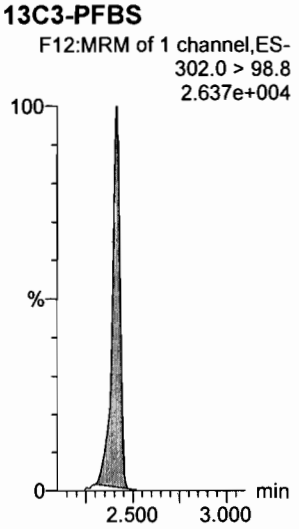
13C3-PFPeA



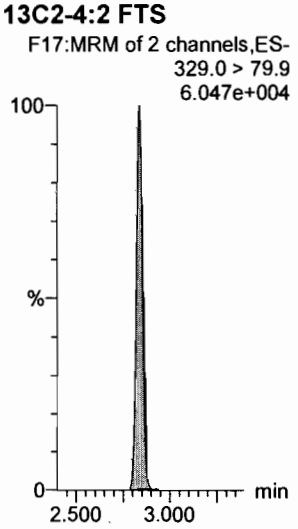
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS



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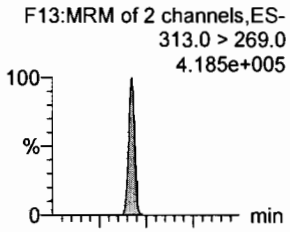
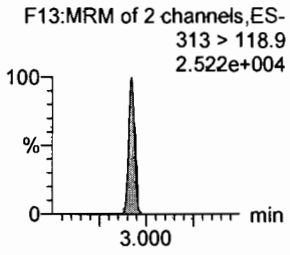
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

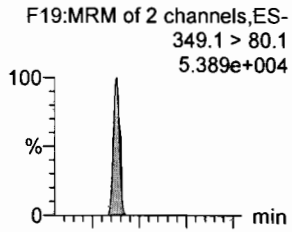
Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

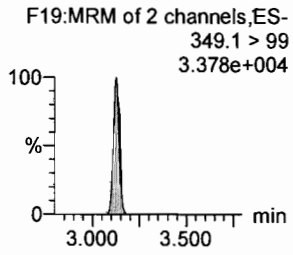
PFHxA



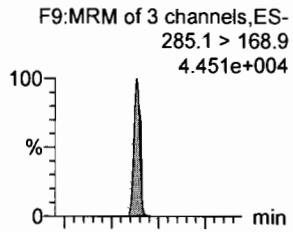


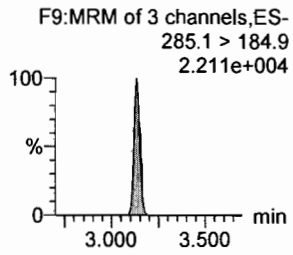
PFPeS



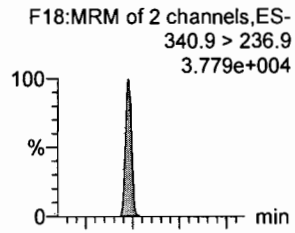


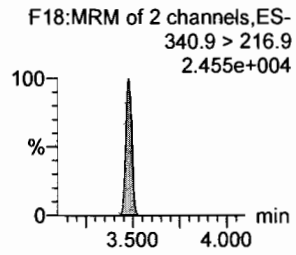
HFPO-DA





5:3 FTCA





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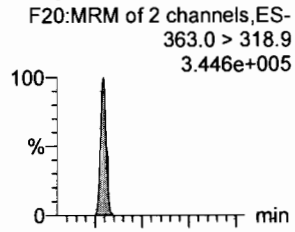

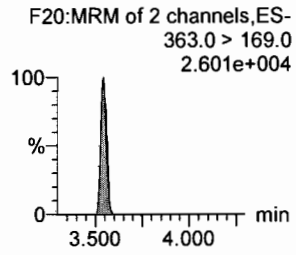

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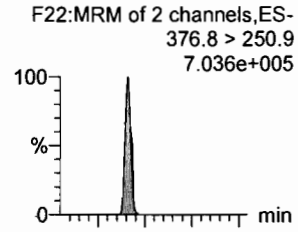
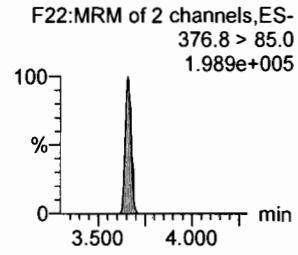
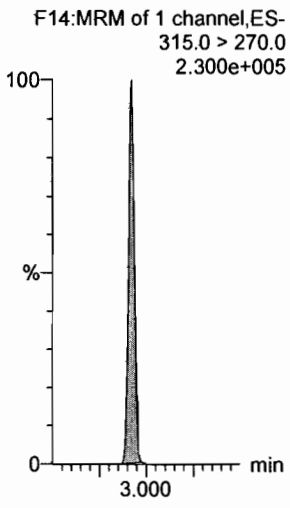
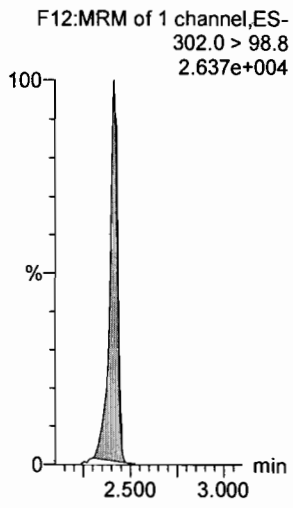




13C2-PFHxA



13C3-PFBS



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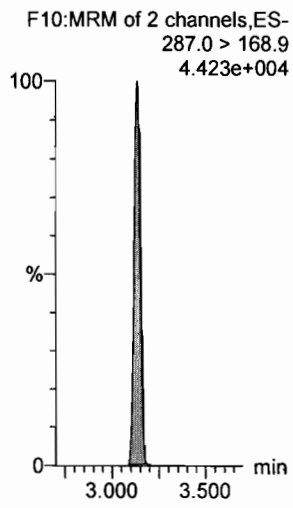

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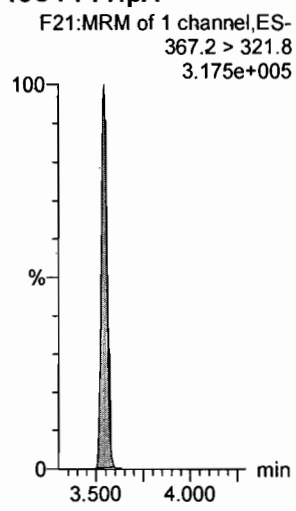

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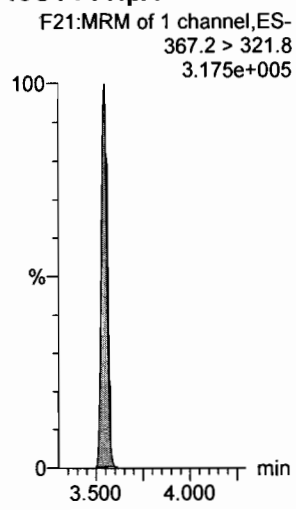

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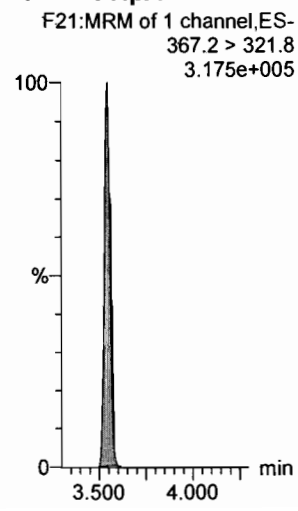

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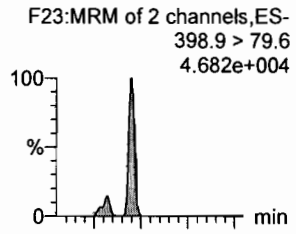
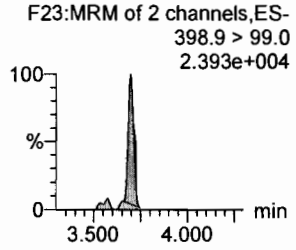
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

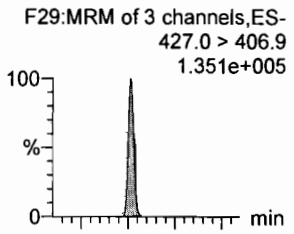
Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

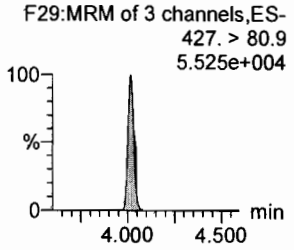
L-PFHxS



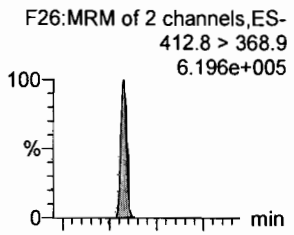


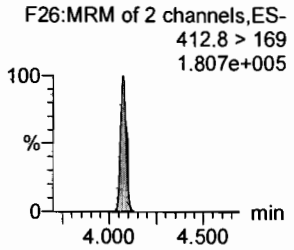
6:2 FTS





L-PFOA





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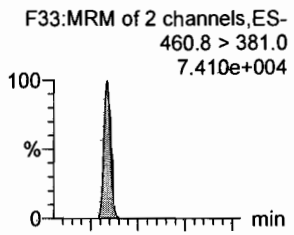

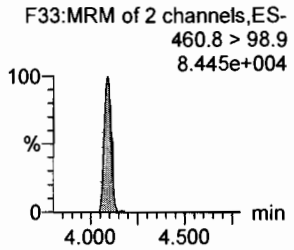

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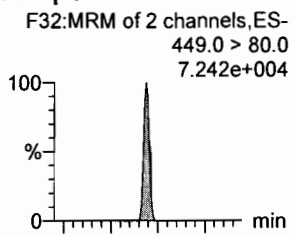
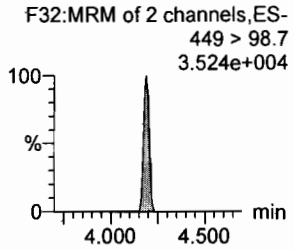
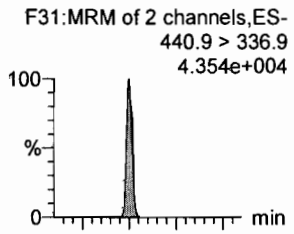
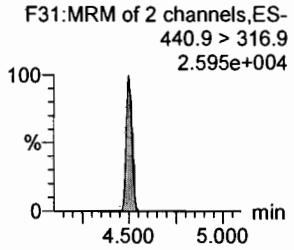


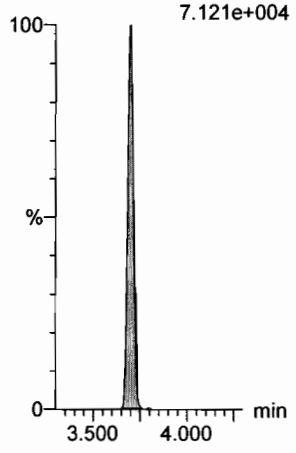


7:3 FTCA

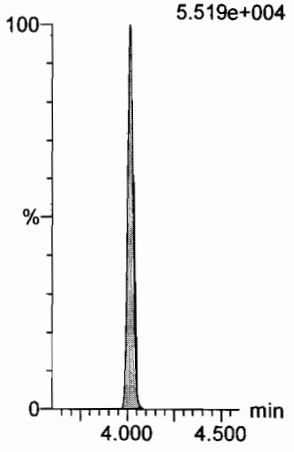




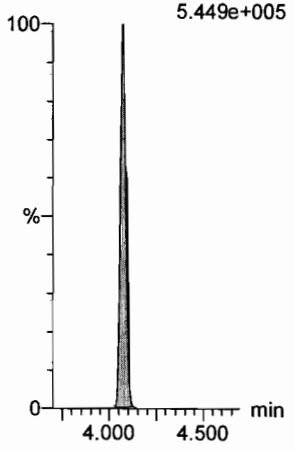
13C3-PFHxS



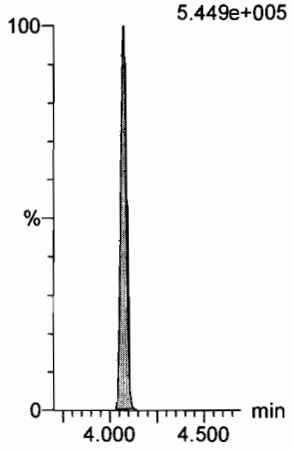
13C2-6:2 FTS



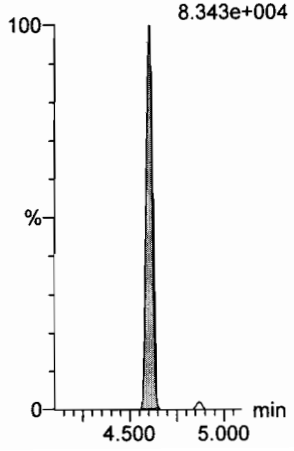
13C2-PFOA



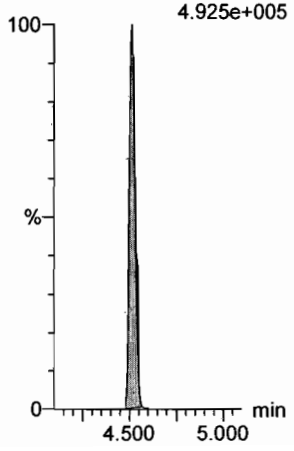
13C2-PFOA



13C8-PFOS



13C5-PFNA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

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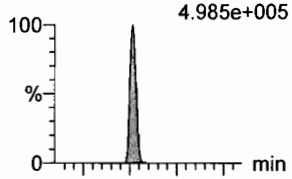
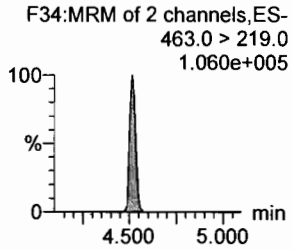
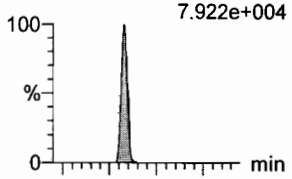
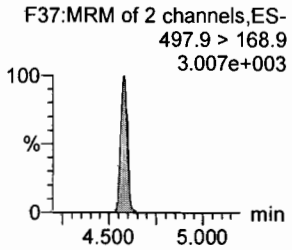


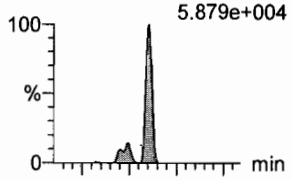


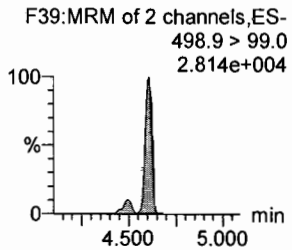
PFOSA





L-PFOS





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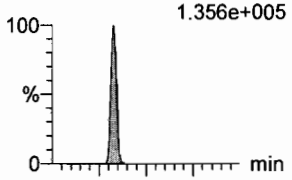

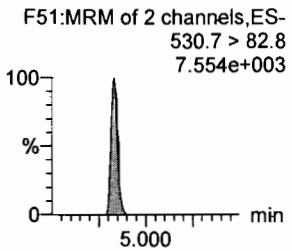

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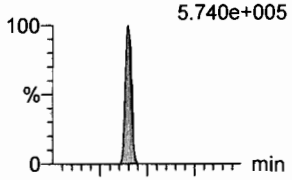
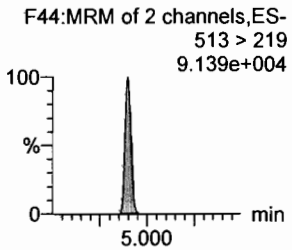
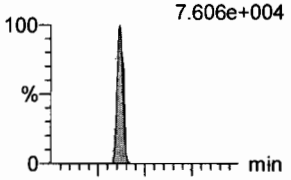
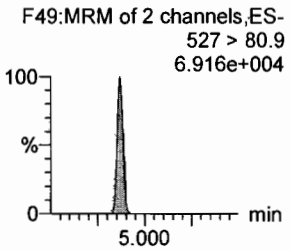




8:2 FTS





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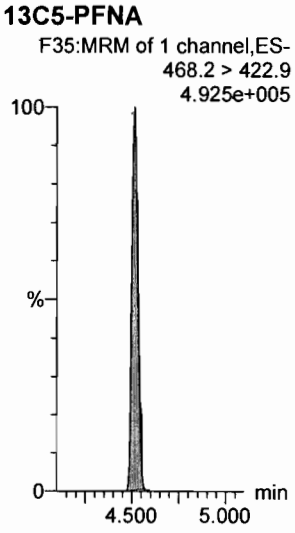

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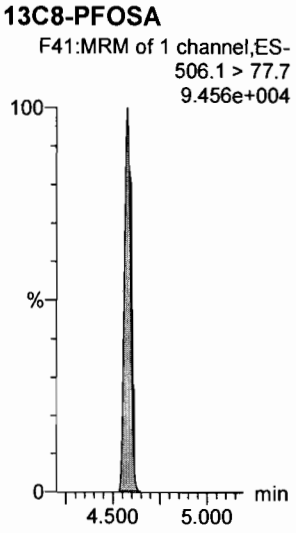

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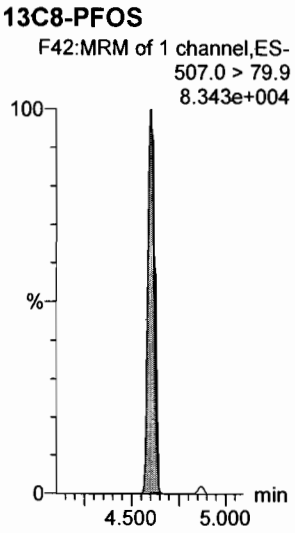

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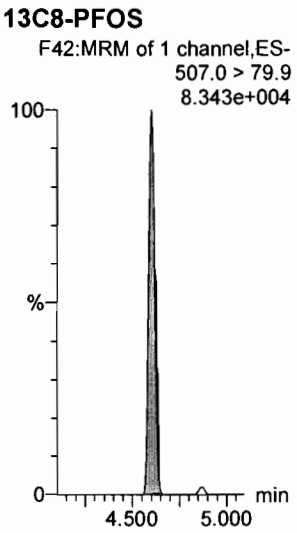

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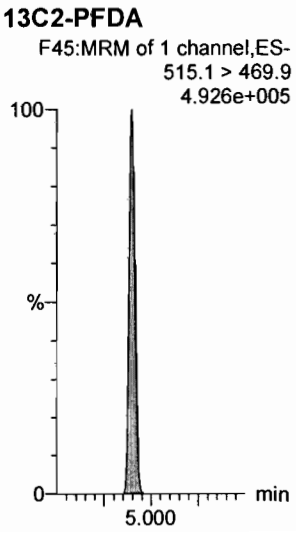
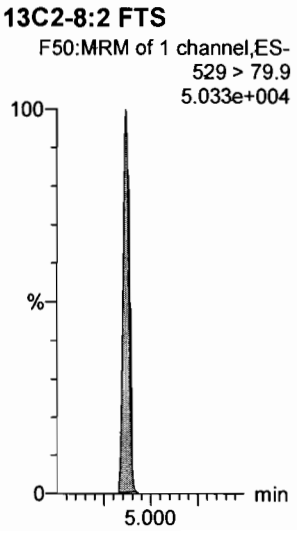


13C2-8:2 FTS



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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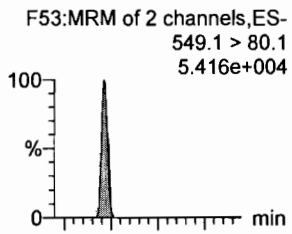
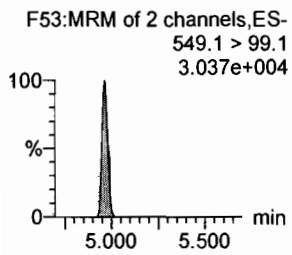
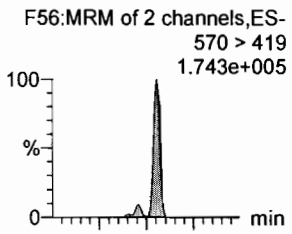
Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

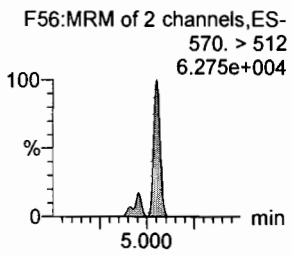
PFNS



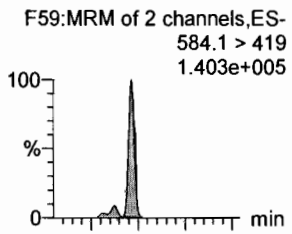


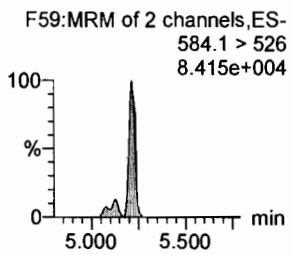
L-MeFOSAA



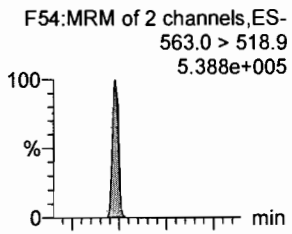


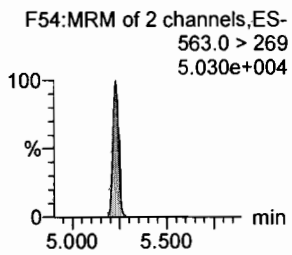
L-EtFOSAA





PFUdA





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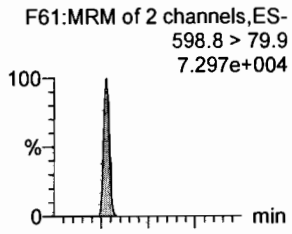
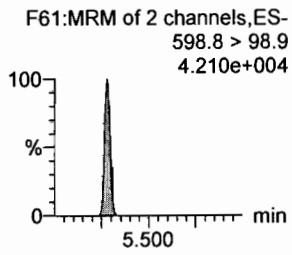
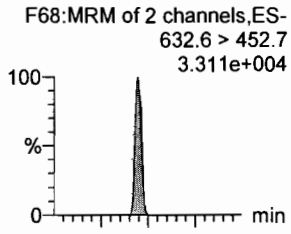
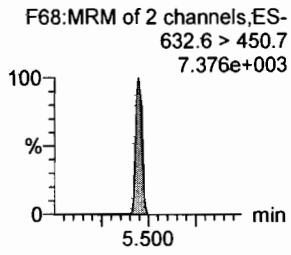


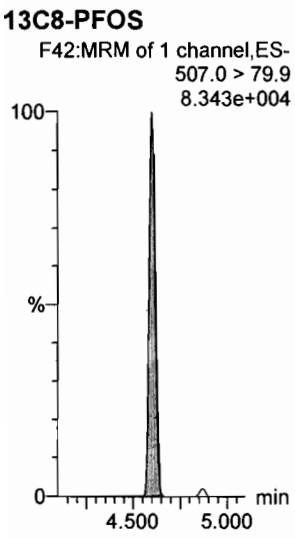


11Cl-PF30UdS

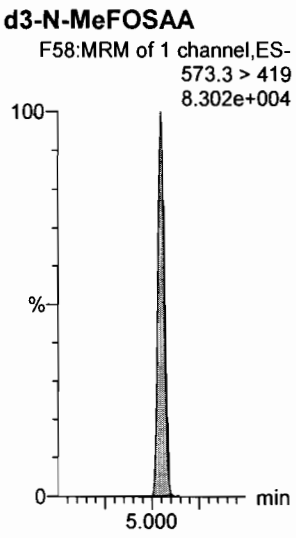




13C8-PFOS



d3-N-MeFOSAA



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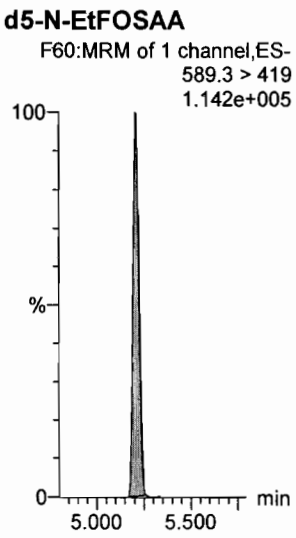

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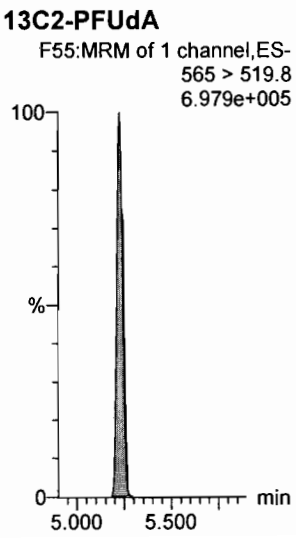
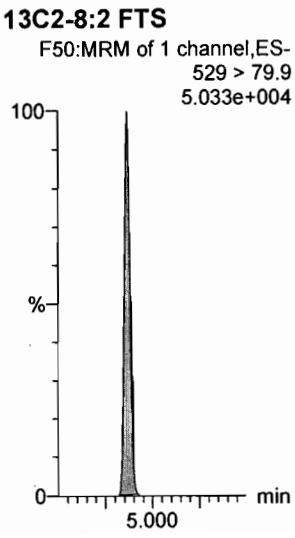
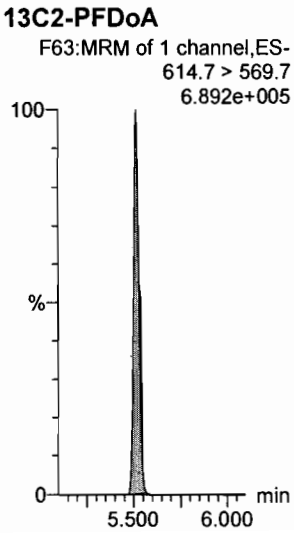


13C2-8:2 FTS



13C2-PFDoA



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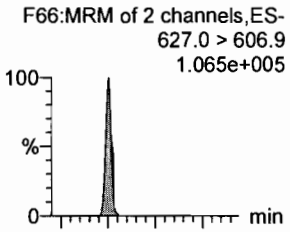
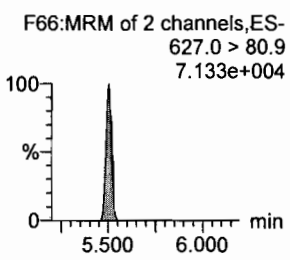
Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

10:2 FTS





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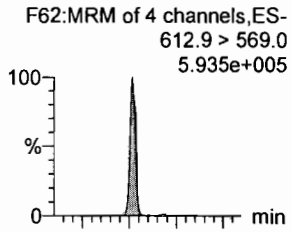

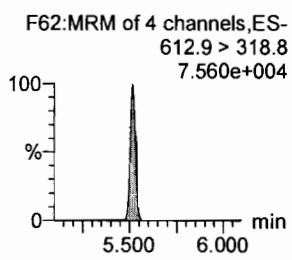

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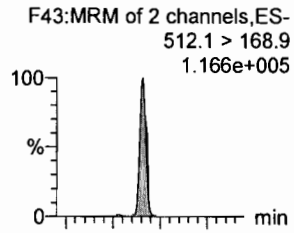

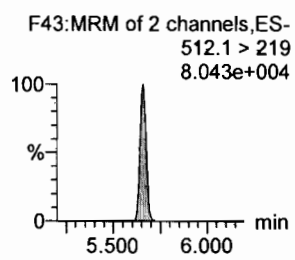

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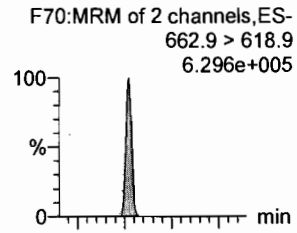
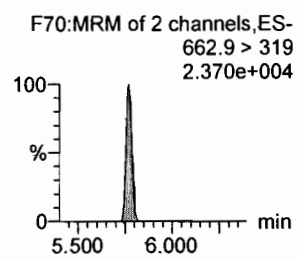
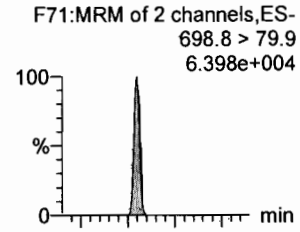
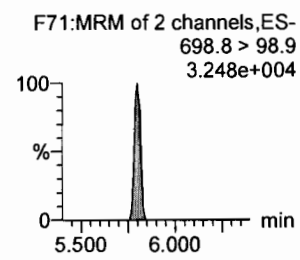




PFDoS





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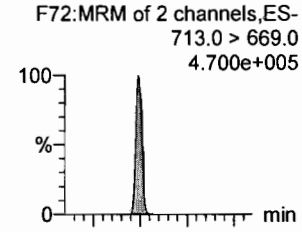
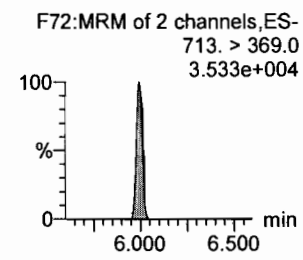
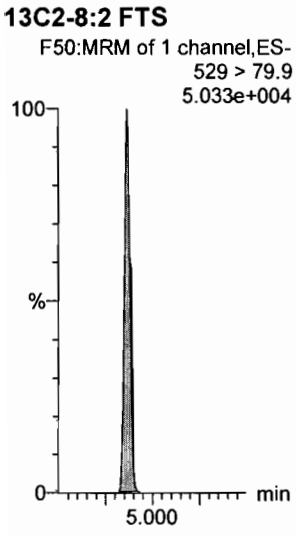
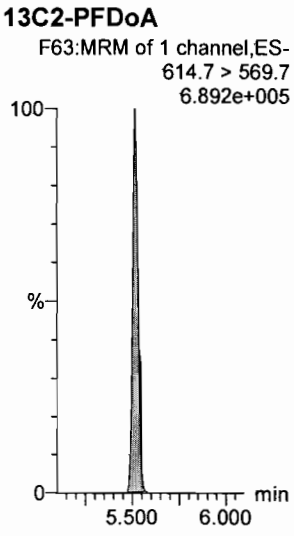




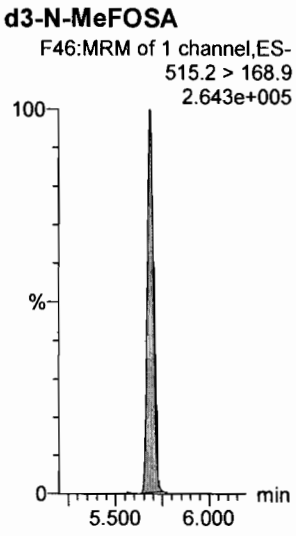
13C2-8:2 FTS



13C2-PFDoA



d3-N-MeFOSA



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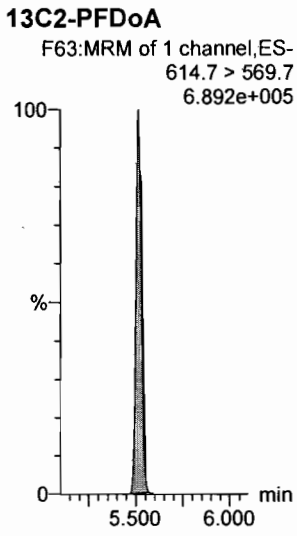

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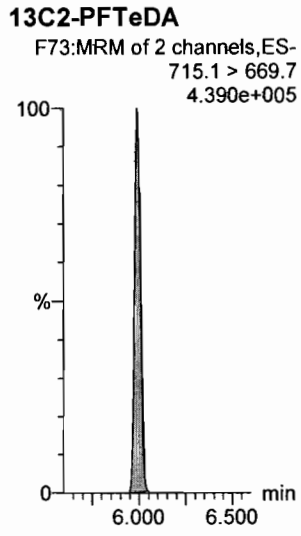

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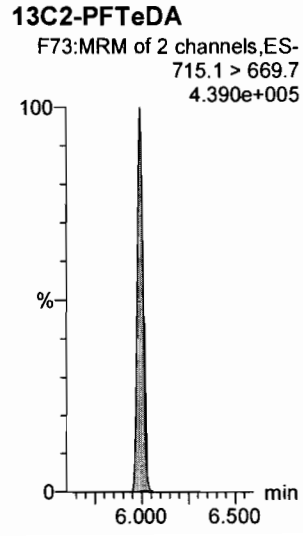

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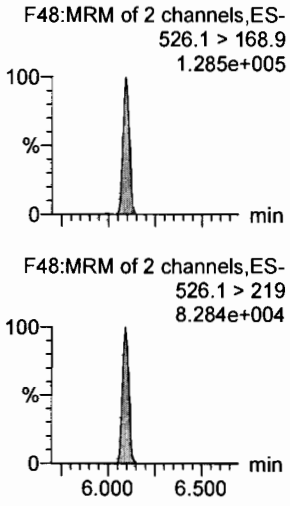
Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

N-EtFOSA



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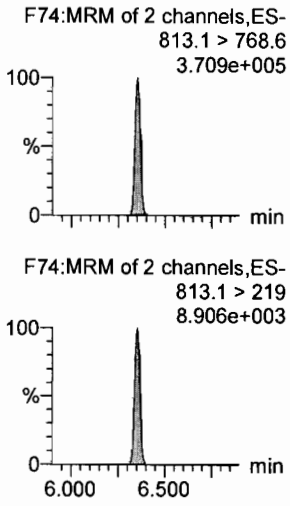

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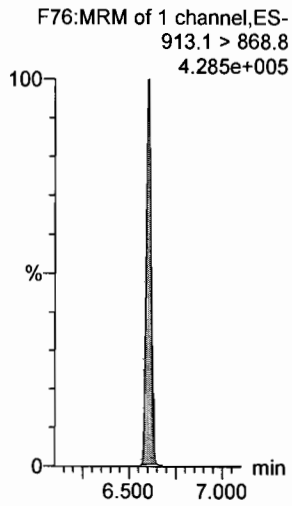
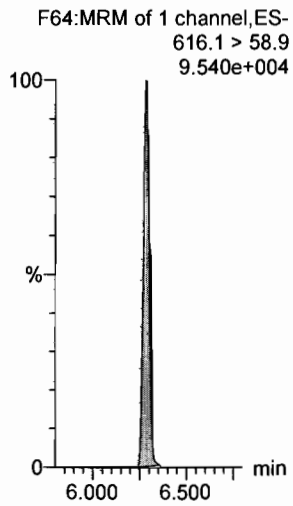


N-MeFOSE



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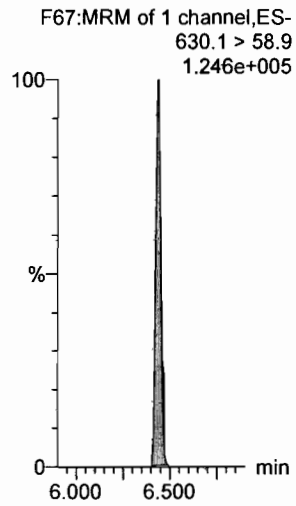
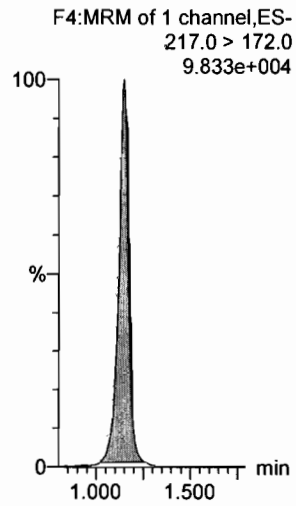
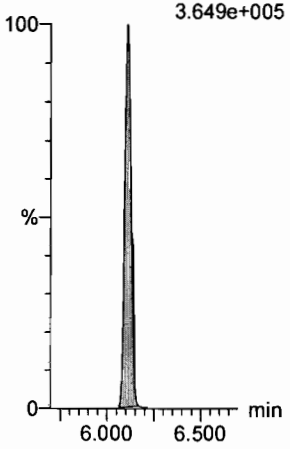


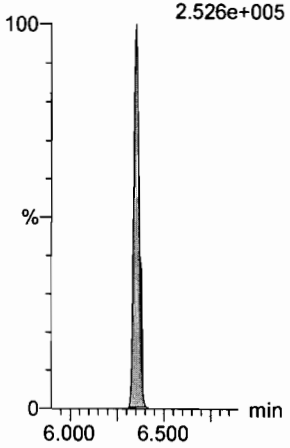
13C4-PFBA



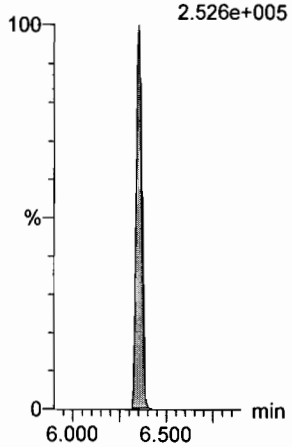
d5-N-ETFOSA



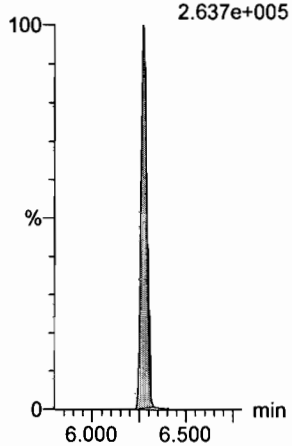
13C2-PFHxDA



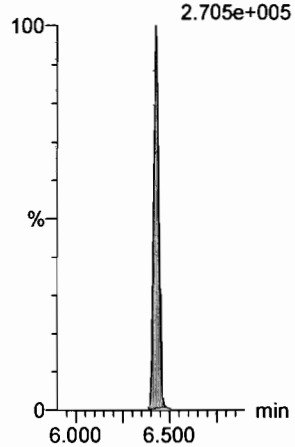
13C2-PFHxDA



d7-N-MeFOSE



d9-N-EtFOSE



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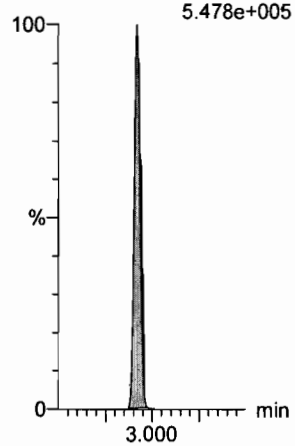

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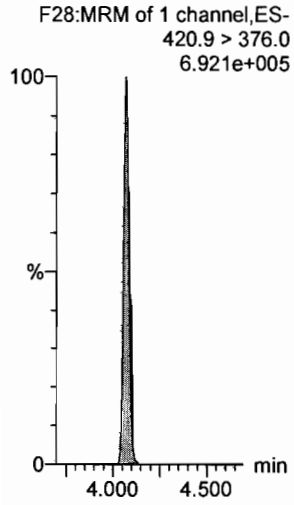
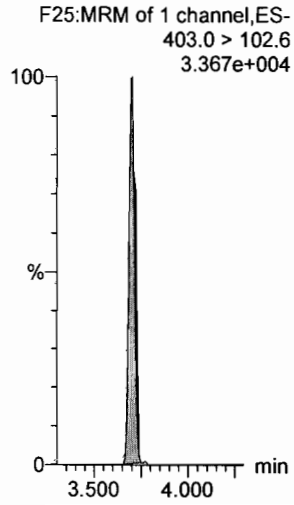
Name: 190712M2_11, Date: 12-Jul-2019, Time: 19:17:24, ID: ST190712M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

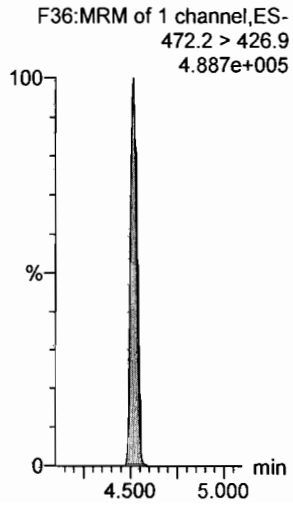
13C8-PFOA



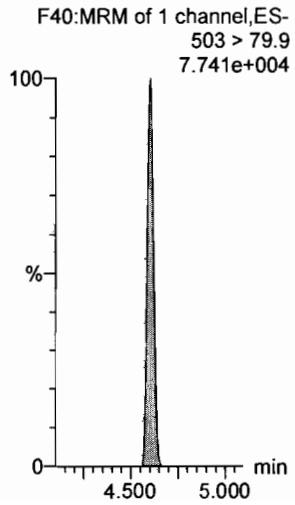
18O2-PFHxS



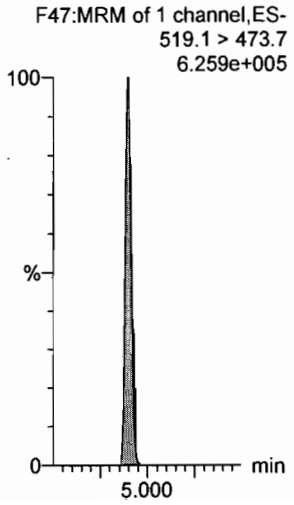
13C9-PFNA



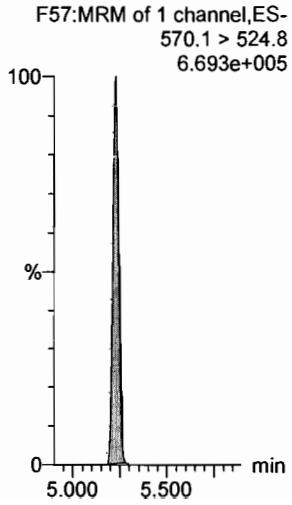
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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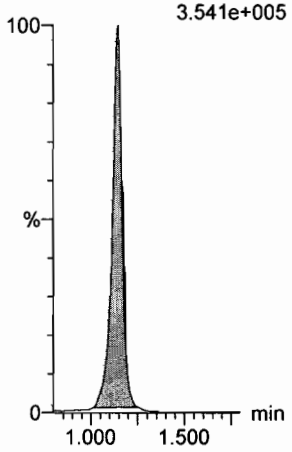
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

PFBA



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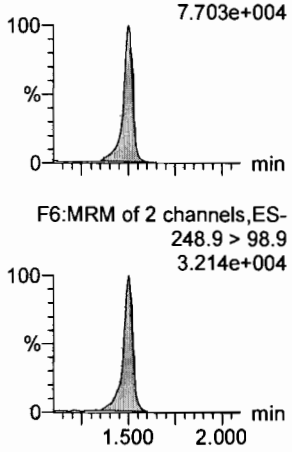
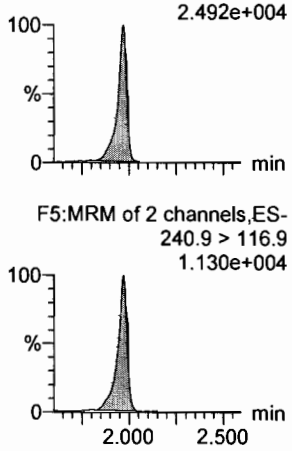


3:3 FTCA



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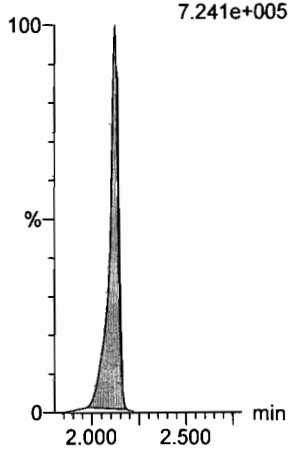
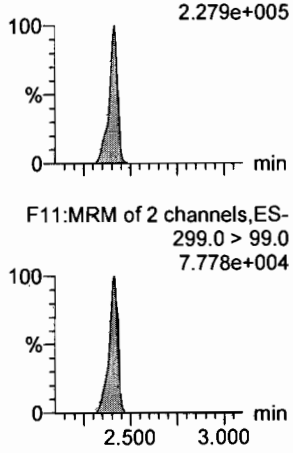
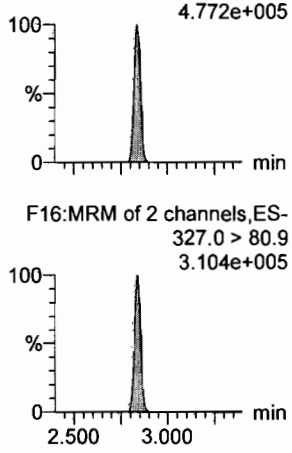


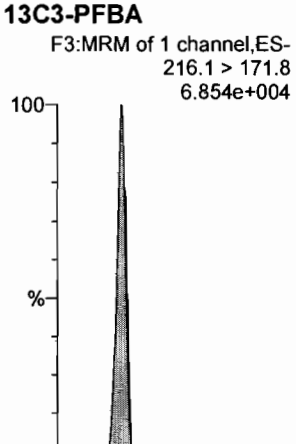
PFBS



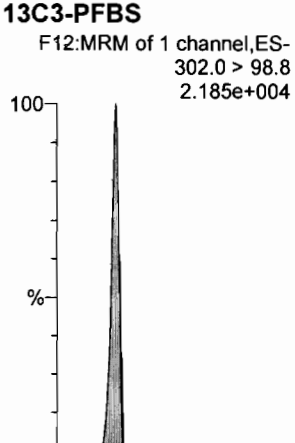
4:2 FTS



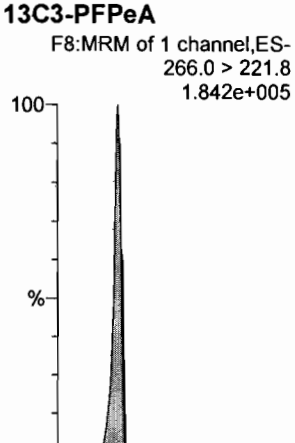
13C3-PFBA



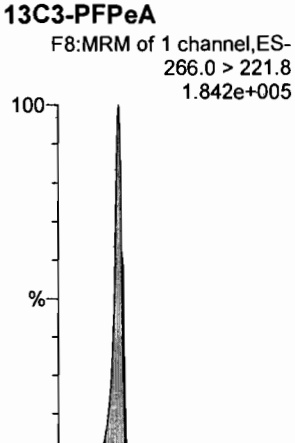
13C3-PFBS



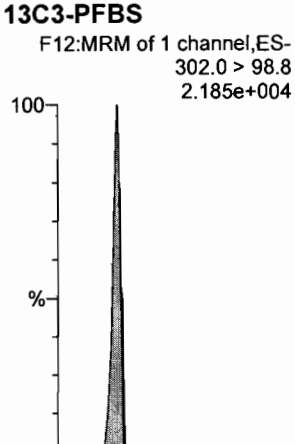
13C3-PFPeA



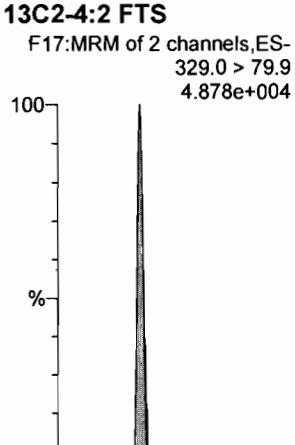
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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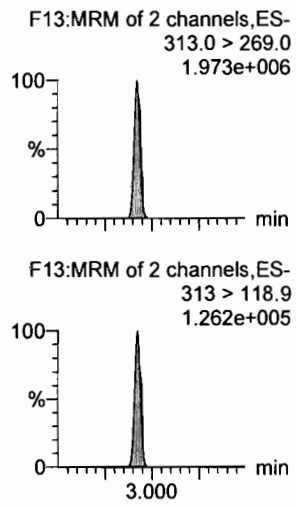
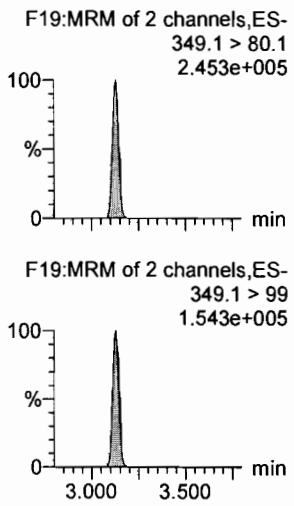
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

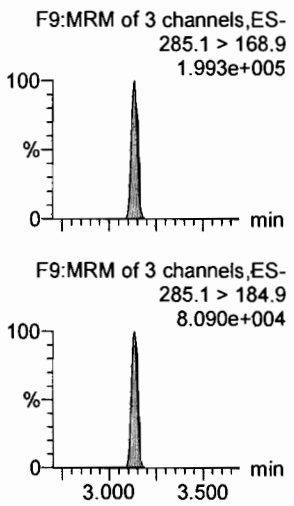
PFHxA



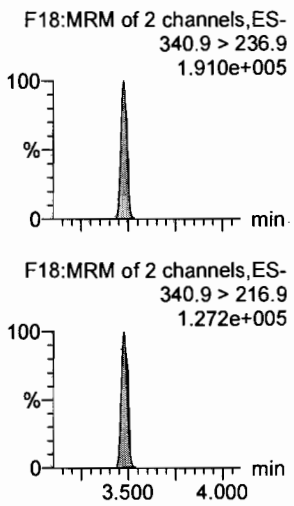
PFPeS



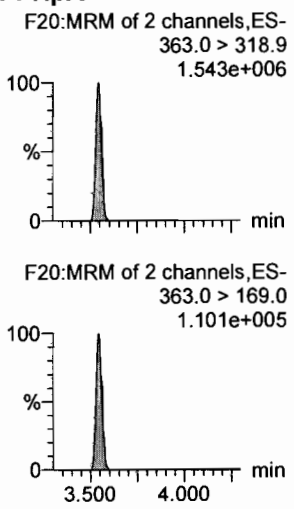
HFPO-DA



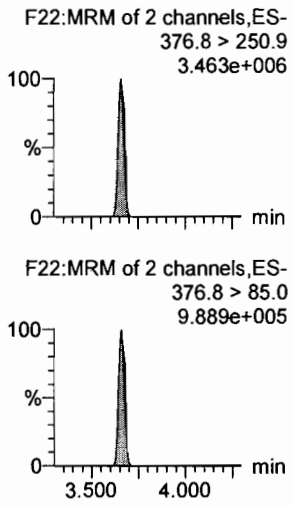
5:3 FTCA



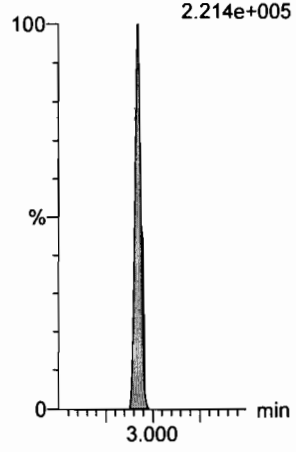
PFHpA



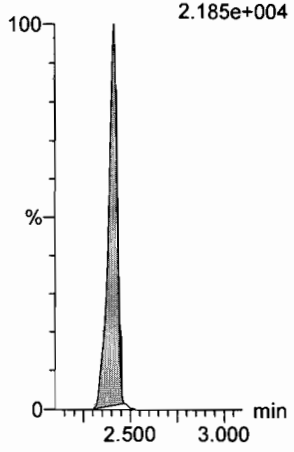
ADONA



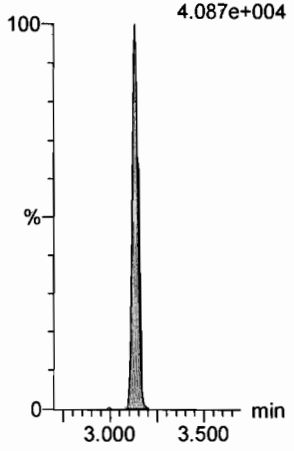
13C2-PFHxA



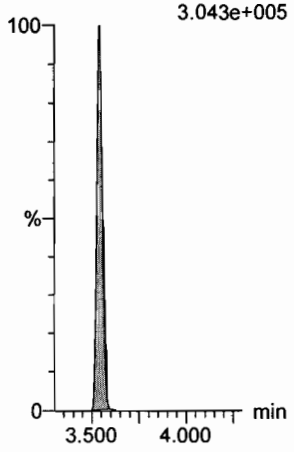
13C3-PFBS



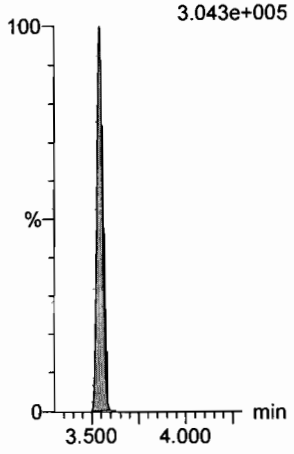
13C3-HFPO-DA



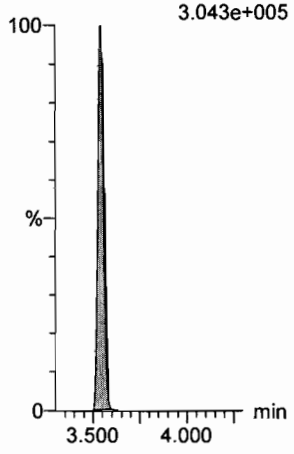
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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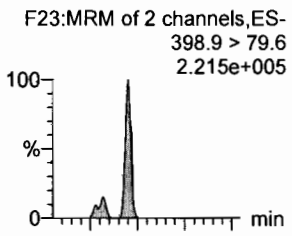
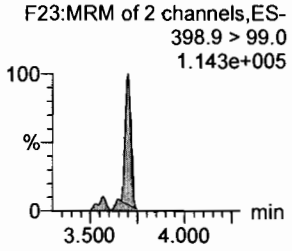
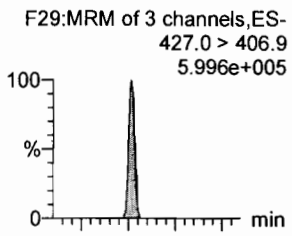
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

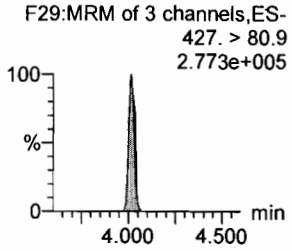
L-PFHxS



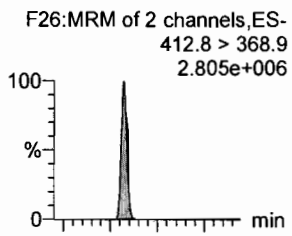


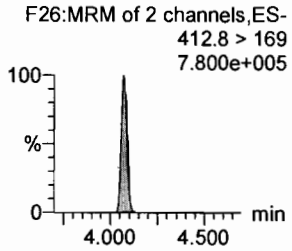
6:2 FTS



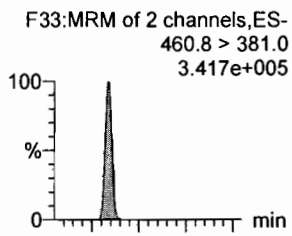


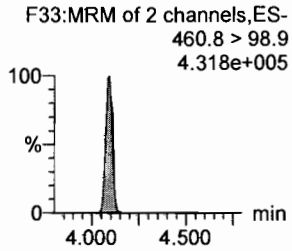
L-PFOA



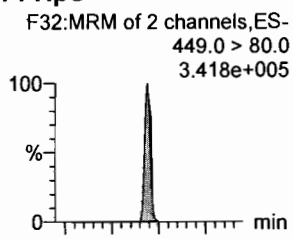


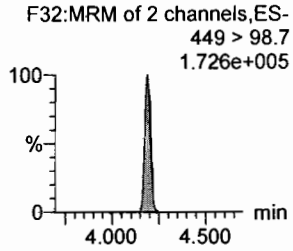
PFEChS



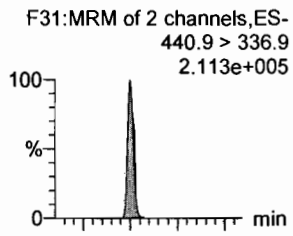


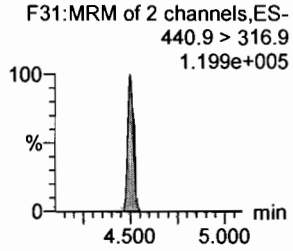
PFHpS



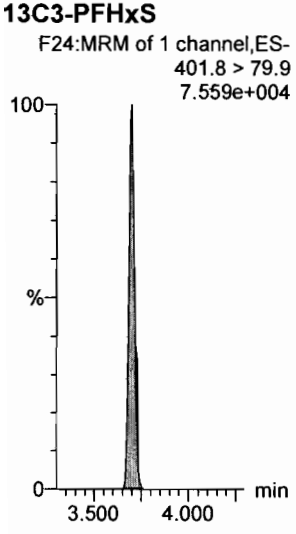


7:3 FTCA

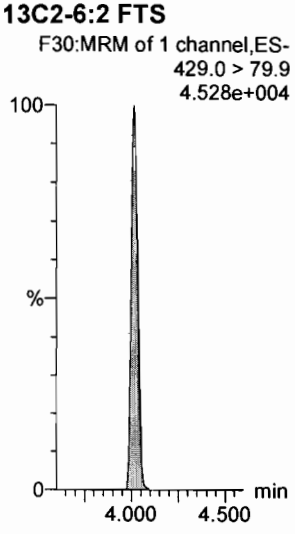




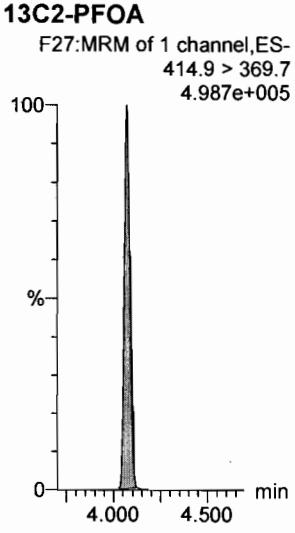
13C3-PFHxS



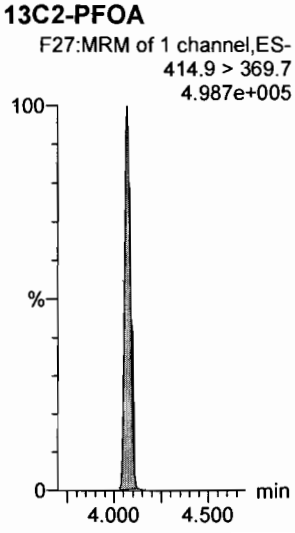
13C2-6:2 FTS



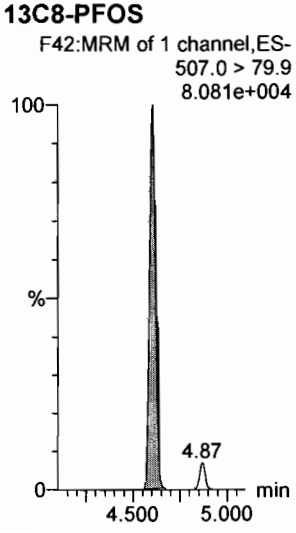
13C2-PFOA



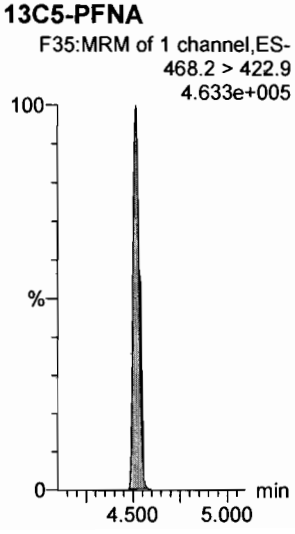
13C2-PFOA



13C8-PFOS



13C5-PFNA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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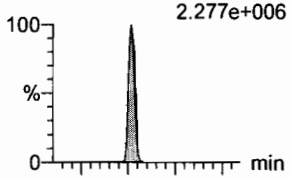
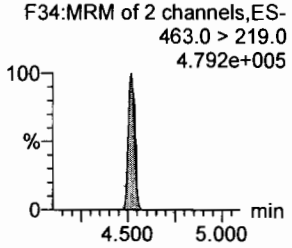
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

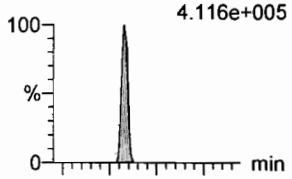
PFNA
F34:MRM of 2 channels,ES-
463.0 > 418.8
2.277e+006



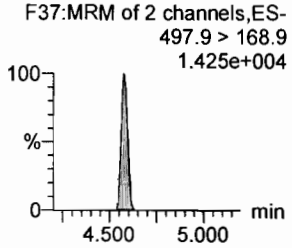
F34:MRM of 2 channels,ES-
463.0 > 219.0
4.792e+005



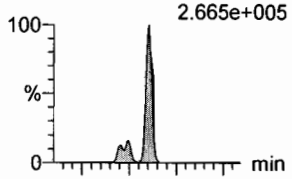
PFOSA
F37:MRM of 2 channels,ES-
497.9 > 77.9
4.116e+005



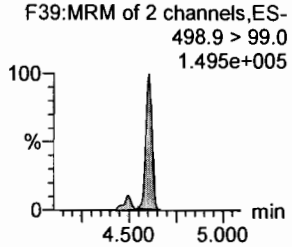
F37:MRM of 2 channels,ES-
497.9 > 168.9
1.425e+004



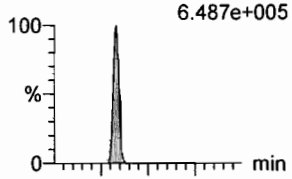
L-PFOS
F39:MRM of 2 channels,ES-
498.9 > 79.9
2.665e+005



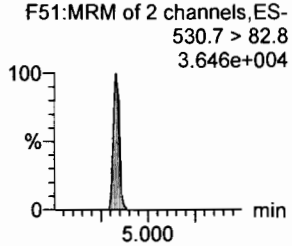
F39:MRM of 2 channels,ES-
498.9 > 99.0
1.495e+005



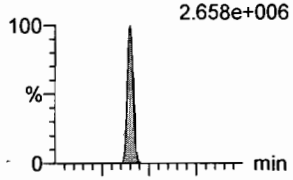
9Cl-PF30NS
F51:MRM of 2 channels,ES-
530.7 > 350.8
6.487e+005



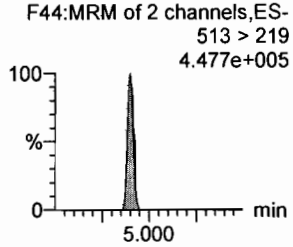
F51:MRM of 2 channels,ES-
530.7 > 82.8
3.646e+004



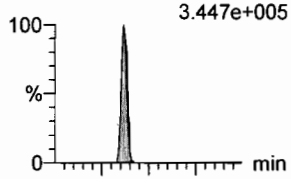
PFDA
F44:MRM of 2 channels,ES-
513 > 468.8
2.658e+006



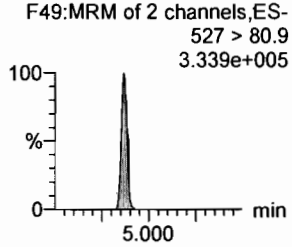
F44:MRM of 2 channels,ES-
513 > 219
4.477e+005



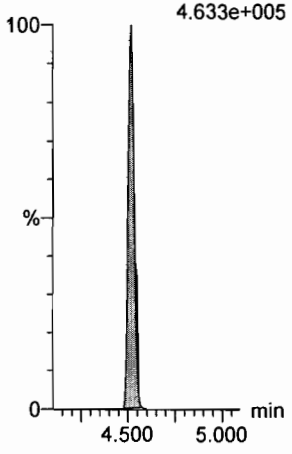
8:2 FTS
F49:MRM of 2 channels,ES-
527.0 > 506.9
3.447e+005



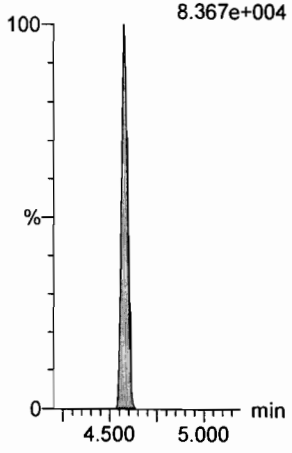
F49:MRM of 2 channels,ES-
527 > 80.9
3.339e+005



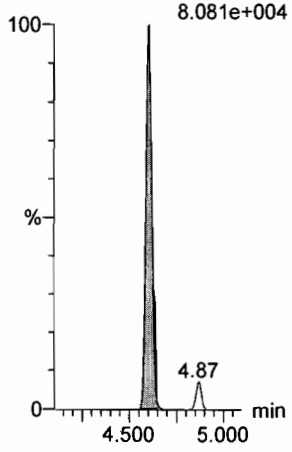
13C5-PFNA
F35:MRM of 1 channel,ES-
468.2 > 422.9
4.633e+005



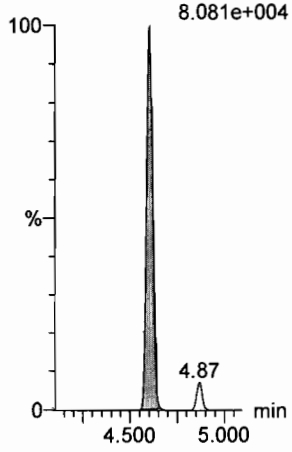
13C8-PFOSA
F41:MRM of 1 channel,ES-
506.1 > 77.7
8.367e+004



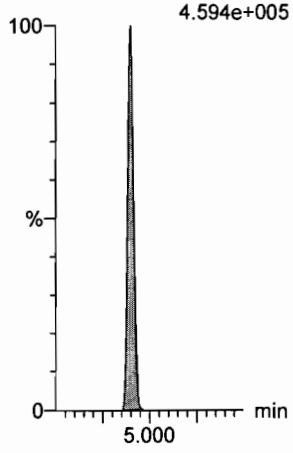
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
8.081e+004



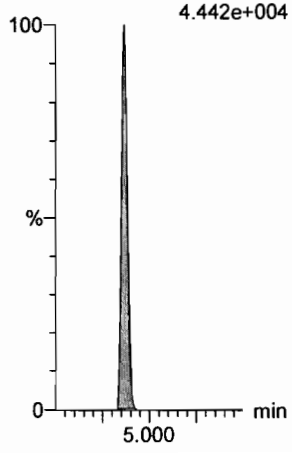
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
8.081e+004



13C2-PFDA
F45:MRM of 1 channel,ES-
515.1 > 469.9
4.594e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
4.442e+004



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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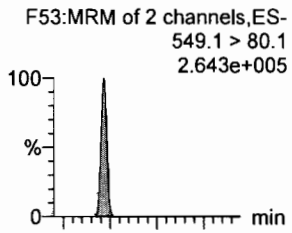
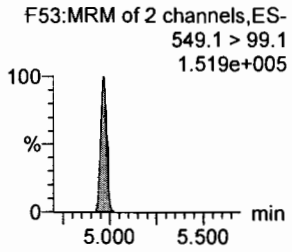
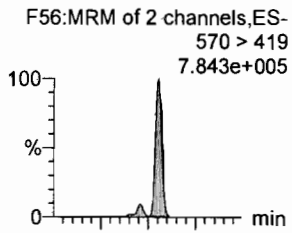
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

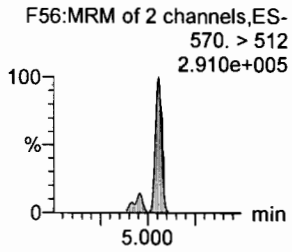
PFNS



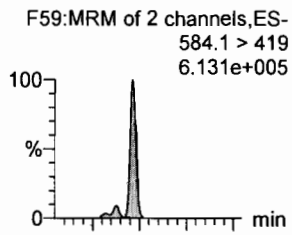


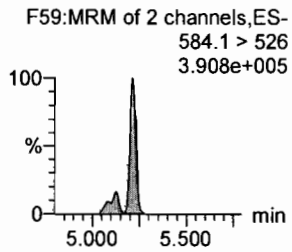
L-MeFOSAA



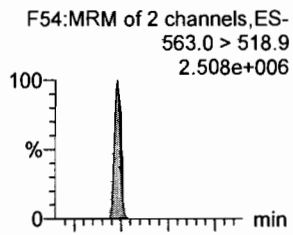


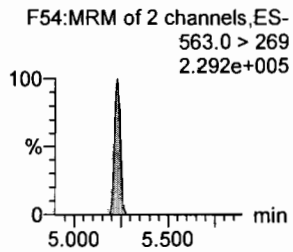
L-EtFOSAA



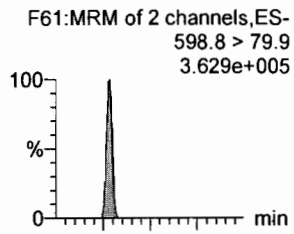


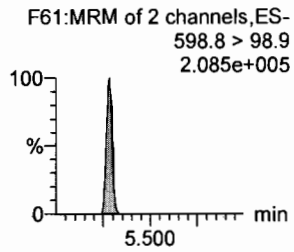
PFUdA



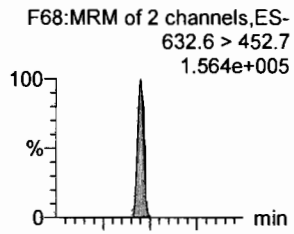


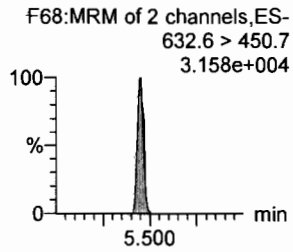
PFDS



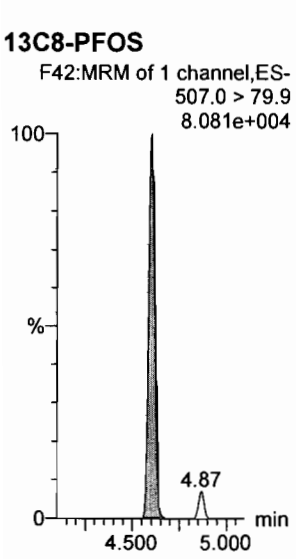


11Cl-PF30UdS

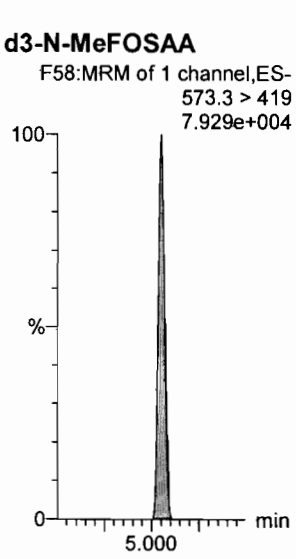




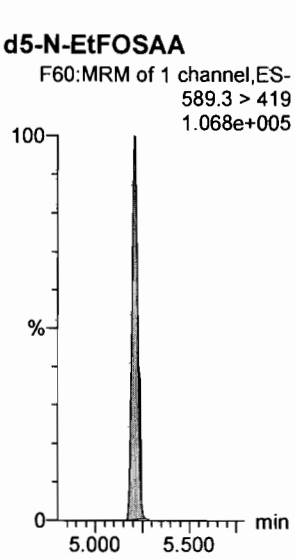
13C8-PFOS



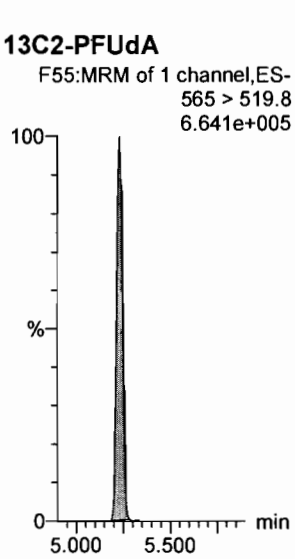
d3-N-MeFOSAA



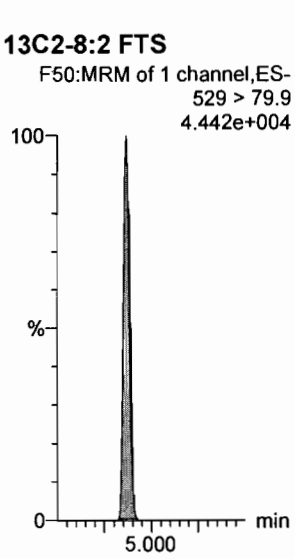
d5-N-EtFOSAA



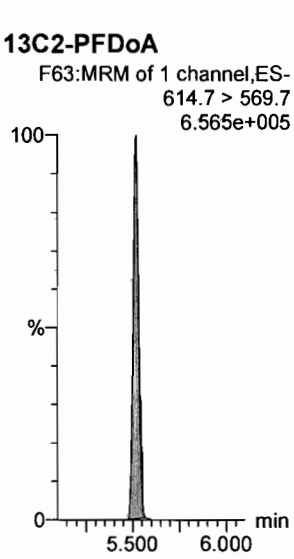
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



Dataset: Untitled

Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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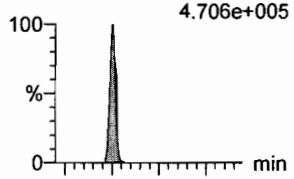
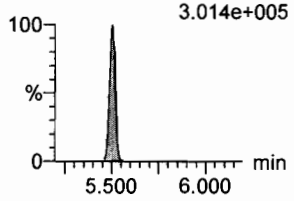
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

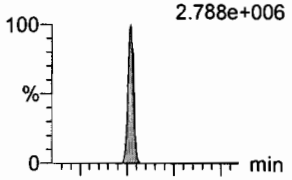
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
4.706e+005



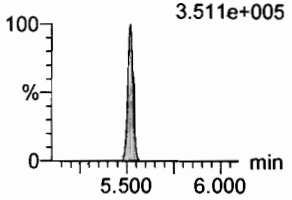
F66:MRM of 2 channels,ES-
627.0 > 80.9
3.014e+005



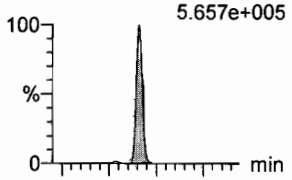
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
2.788e+006



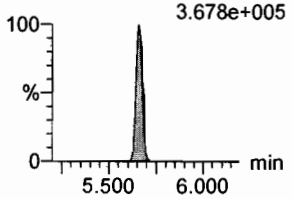
F62:MRM of 4 channels,ES-
612.9 > 318.8
3.511e+005



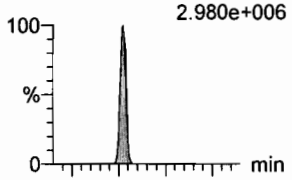
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
5.657e+005



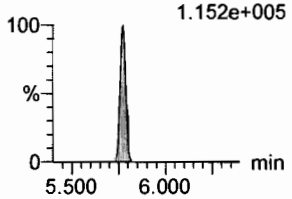
F43:MRM of 2 channels,ES-
512.1 > 219
3.678e+005



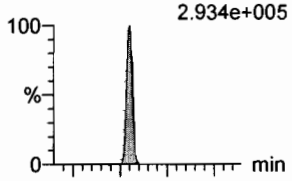
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
2.980e+006



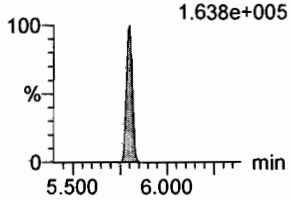
F70:MRM of 2 channels,ES-
662.9 > 319
1.152e+005



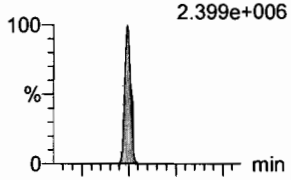
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
2.934e+005



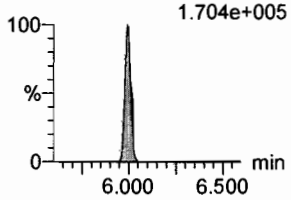
F71:MRM of 2 channels,ES-
698.8 > 98.9
1.638e+005



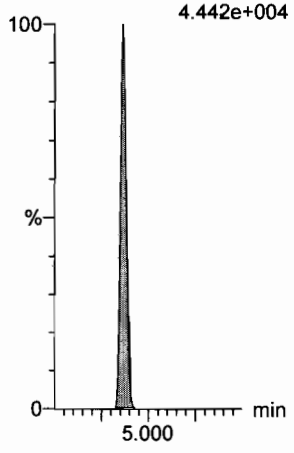
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
2.399e+006



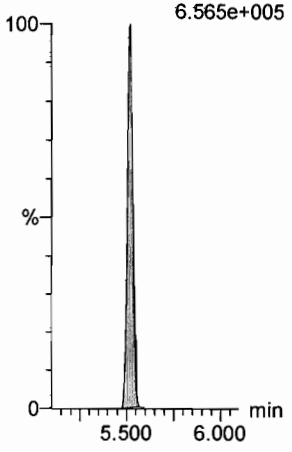
F72:MRM of 2 channels,ES-
713. > 369.0
1.704e+005



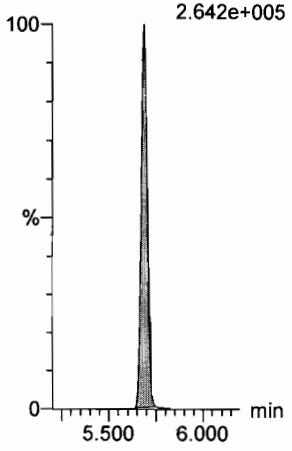
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
4.442e+004



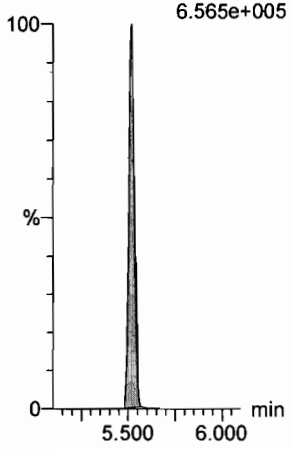
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
6.565e+005



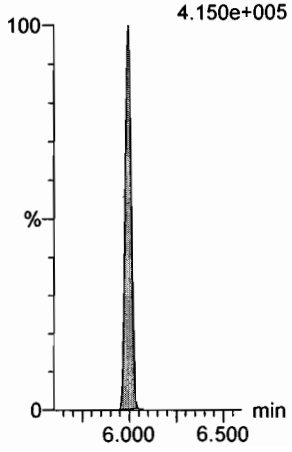
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
2.642e+005



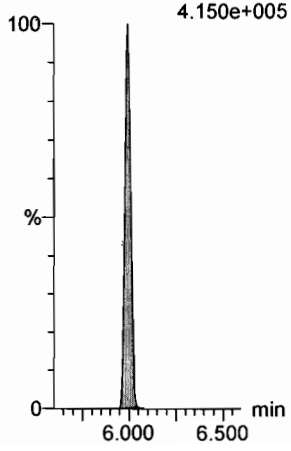
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
6.565e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.150e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.150e+005



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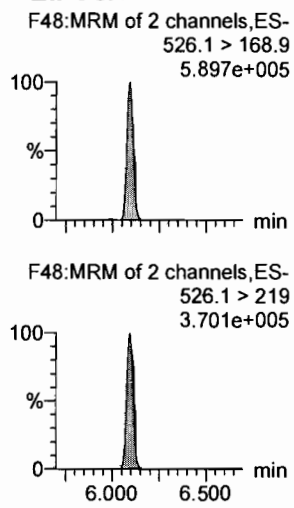
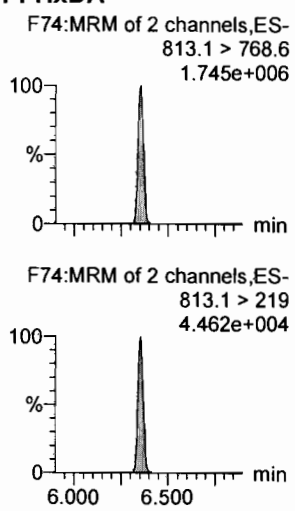
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

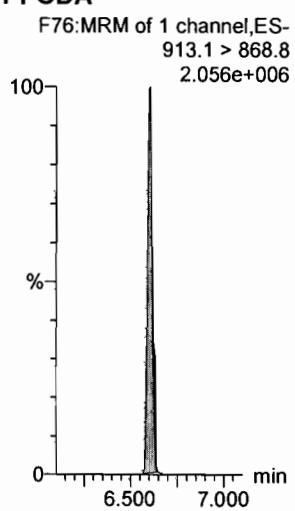
N-EtFOSA



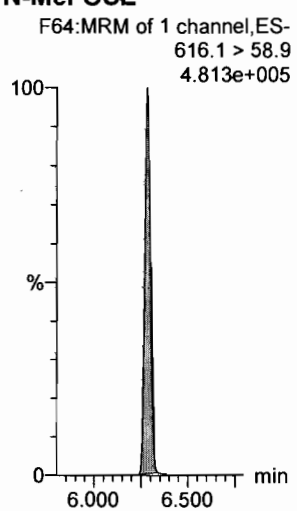
PFHxDA



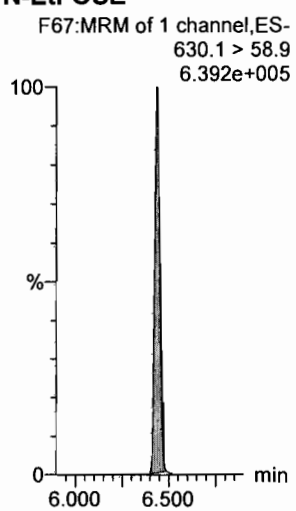
PFODA



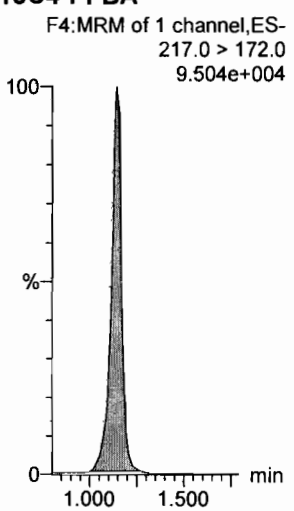
N-MeFOSE



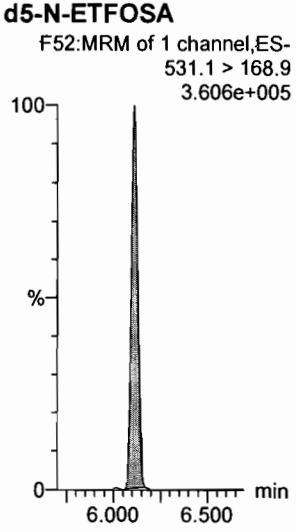
N-EtFOSE



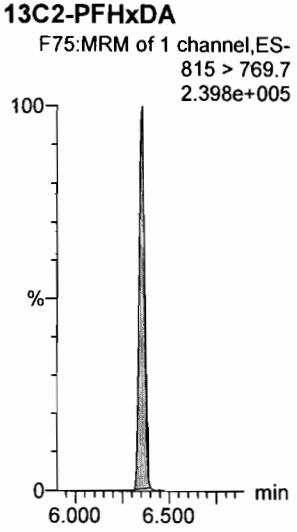
13C4-PFBA



d5-N-ETFOSA



13C2-PFHxDA



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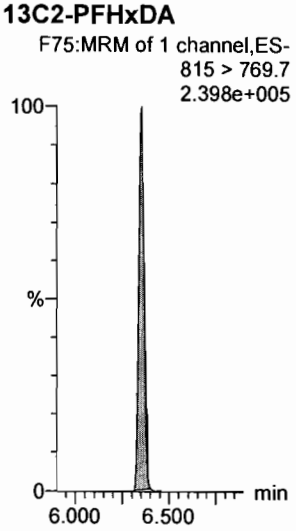
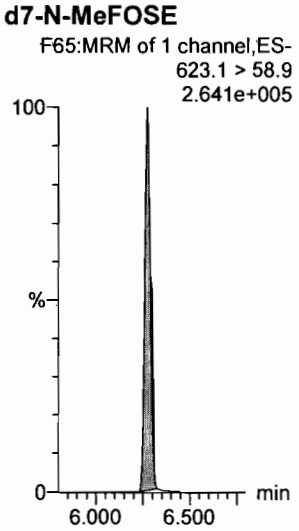


d7-N-MeFOSE



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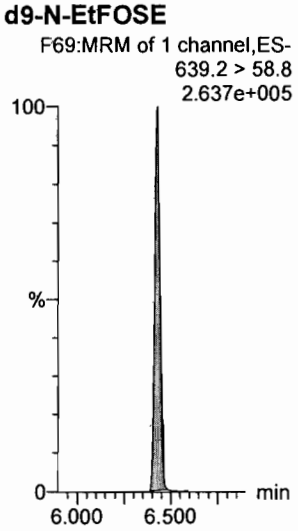
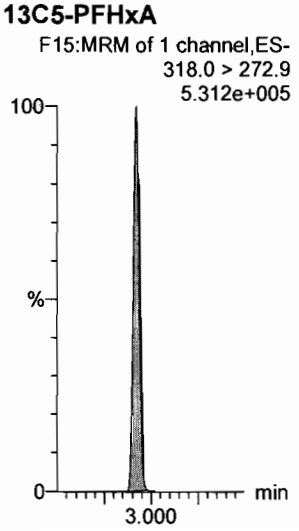


13C5-PFHxA



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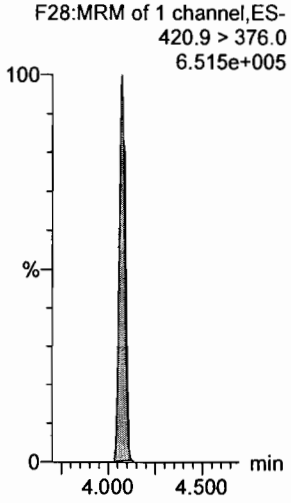
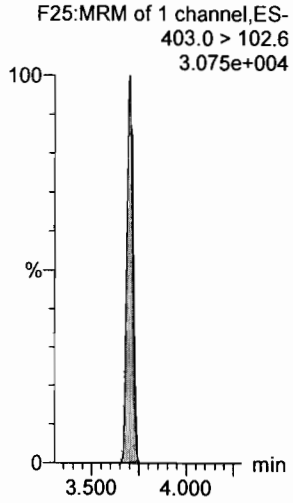
Name: 190712M2_12, Date: 12-Jul-2019, Time: 19:27:57, ID: ST190712M2-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

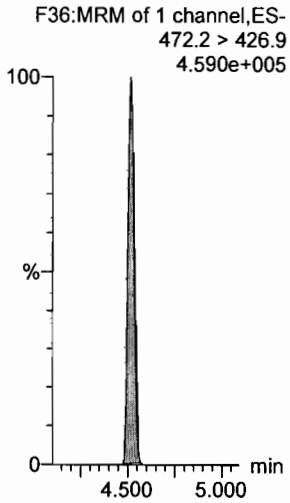
13C8-PFOA



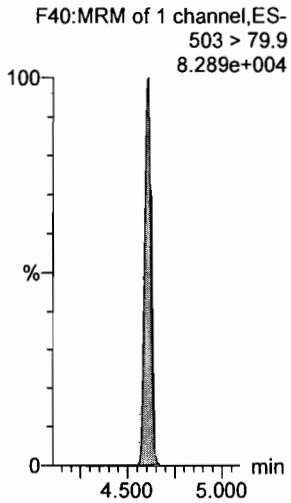
18O2-PFHxS



13C9-PFNA



13C4-PFOS



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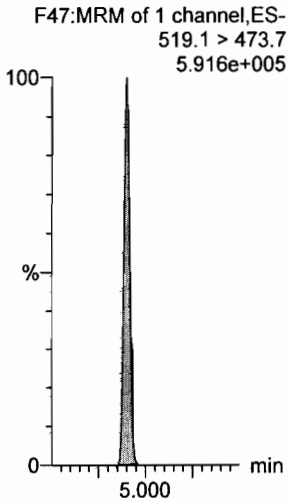

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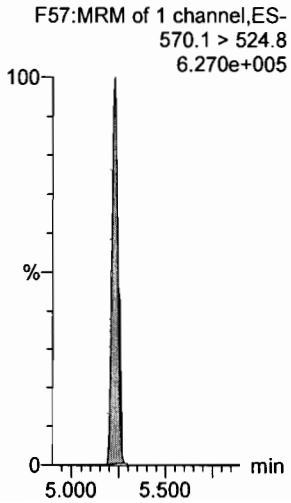

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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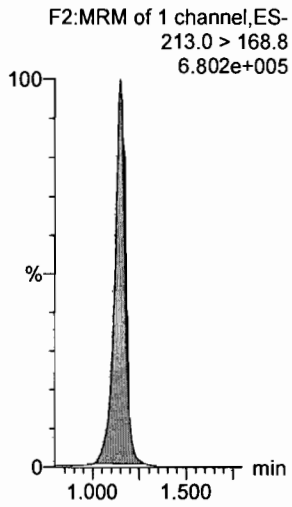
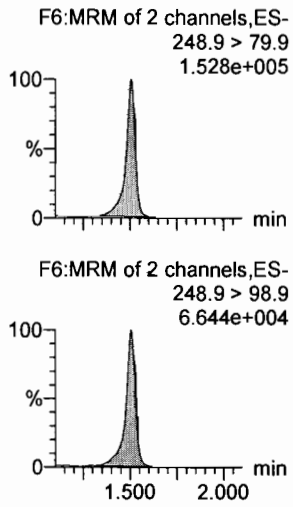
Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

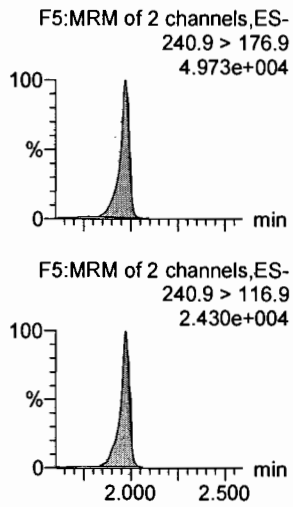
PFBA



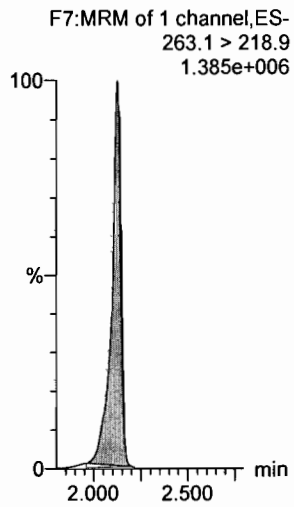
PFPrS



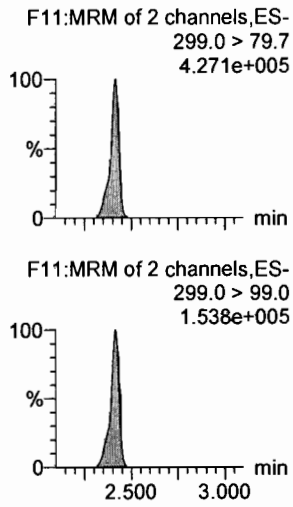
3:3 FTCA



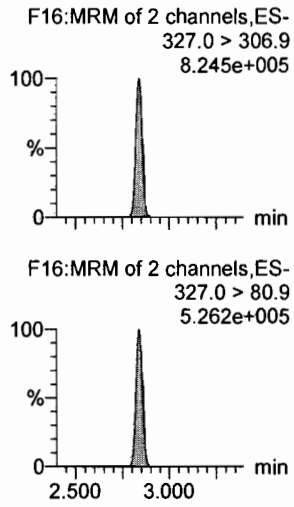
PFPeA



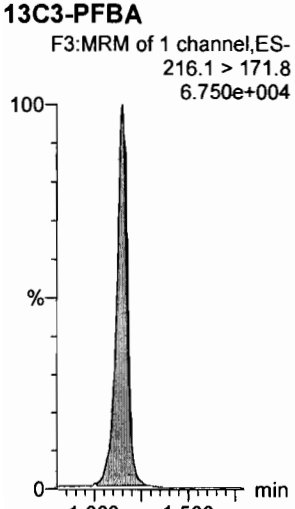
PFBS



4:2 FTS



13C3-PFBA



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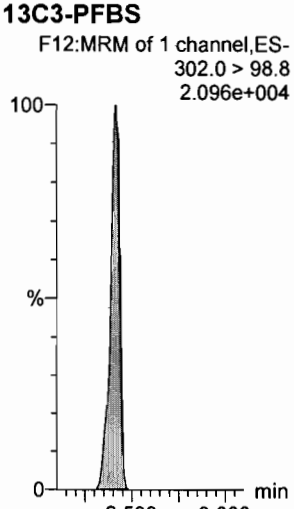

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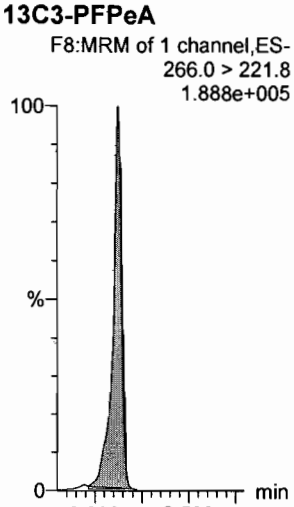

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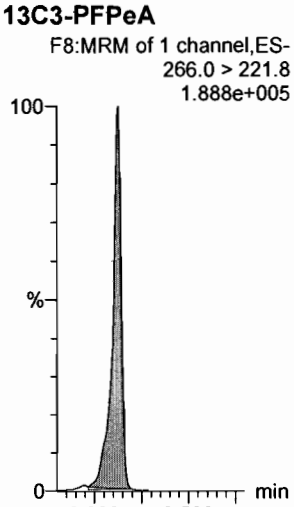

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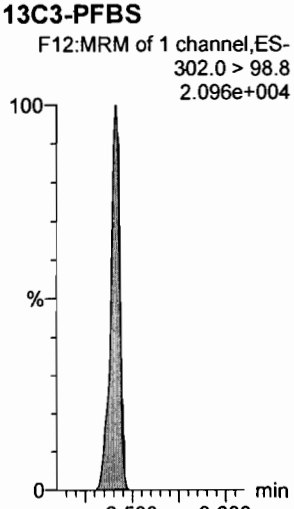
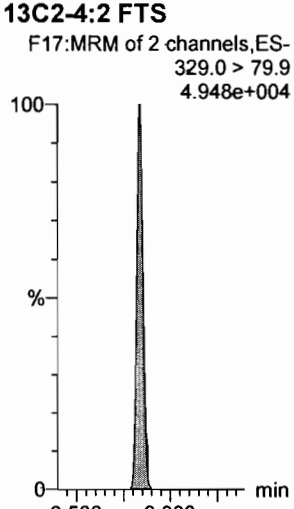


13C2-4:2 FTS



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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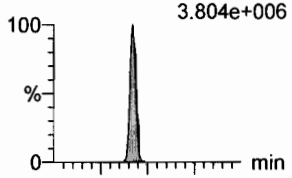
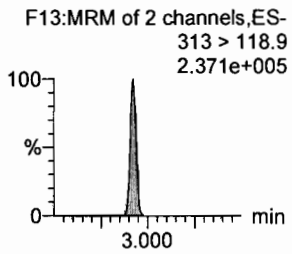
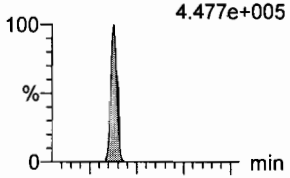
Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

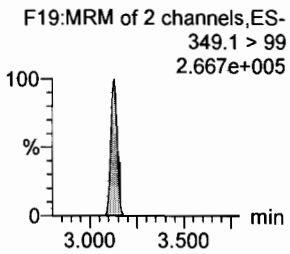
PFHxA



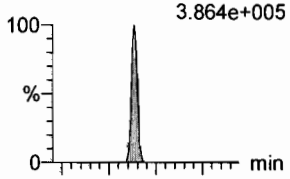


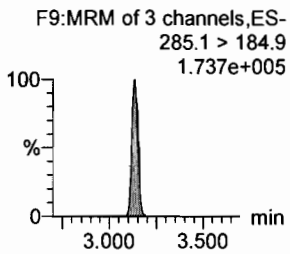
PFPeS



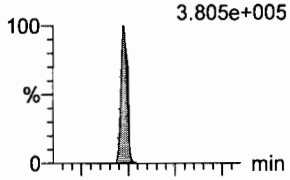


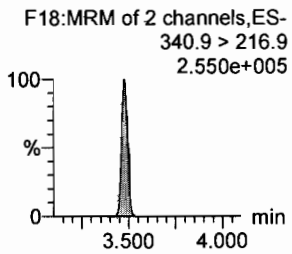
HFPO-DA



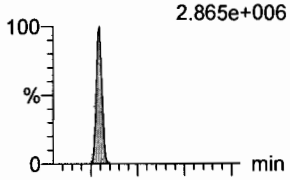


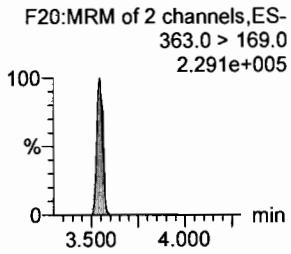
5:3 FTCA





PFHpA





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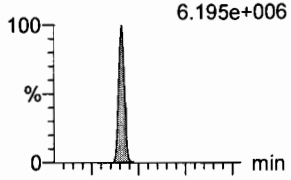

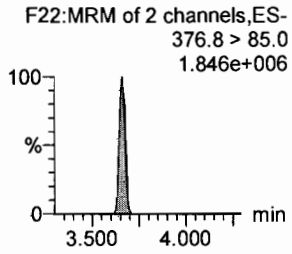

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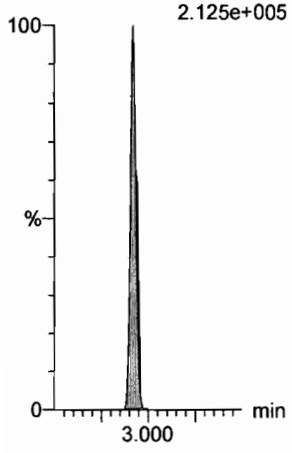
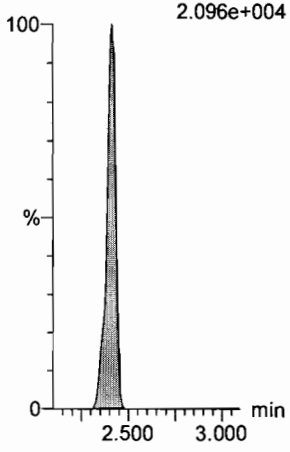
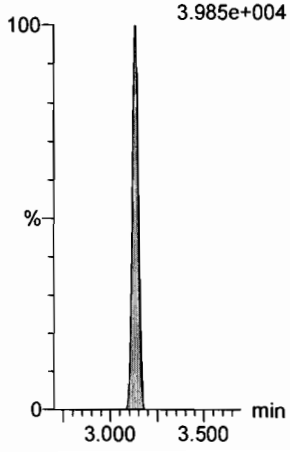


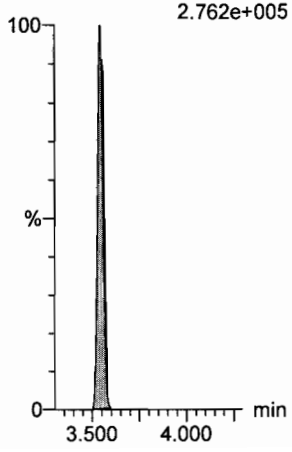
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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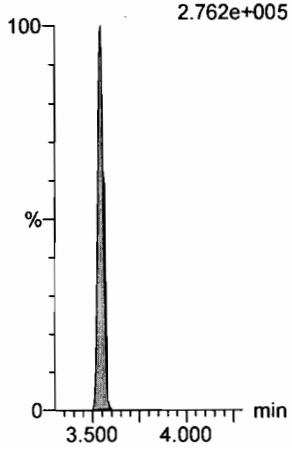

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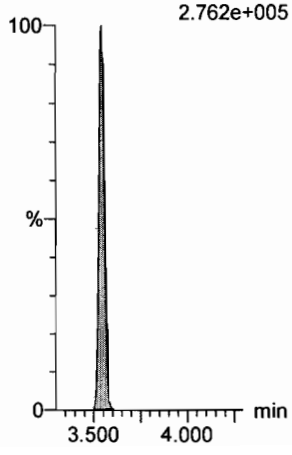

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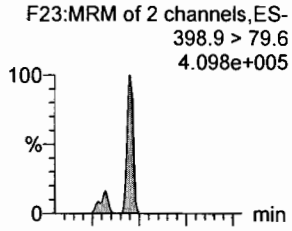
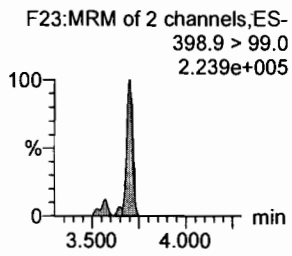
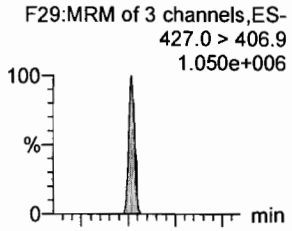
Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

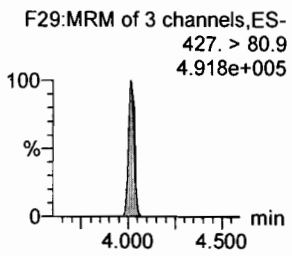
L-PFHxS



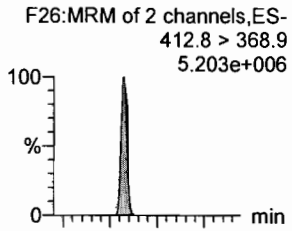


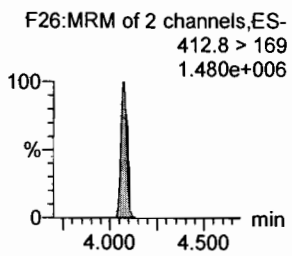
6:2 FTS



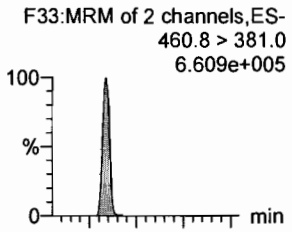


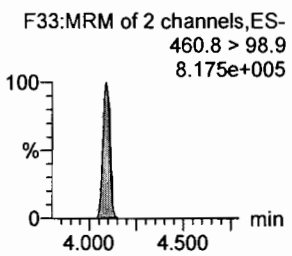
L-PFOA





PFEChS





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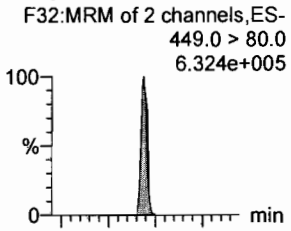
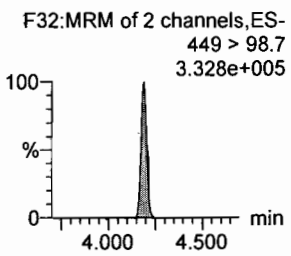
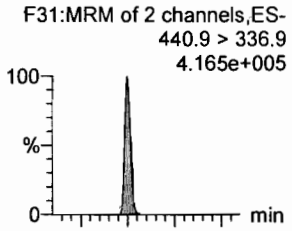
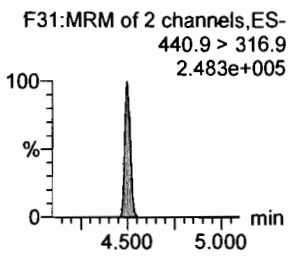


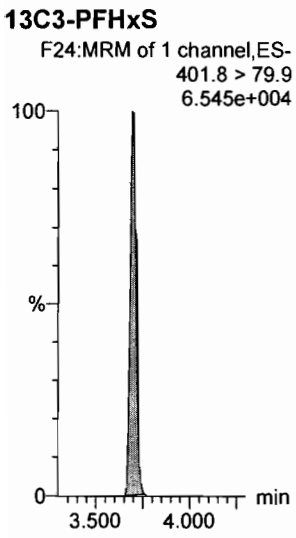


7:3 FTCA





13C3-PFHxS



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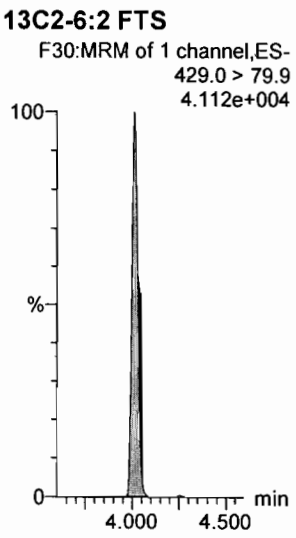

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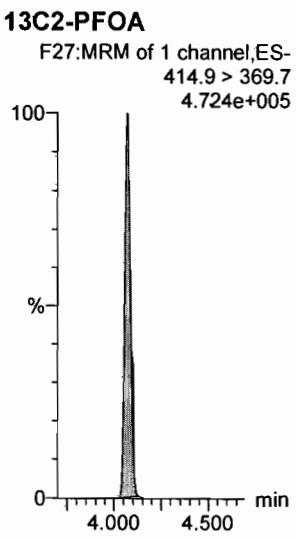

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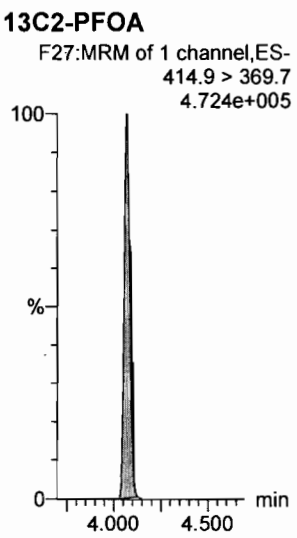

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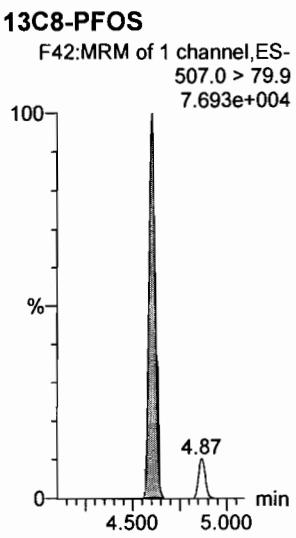

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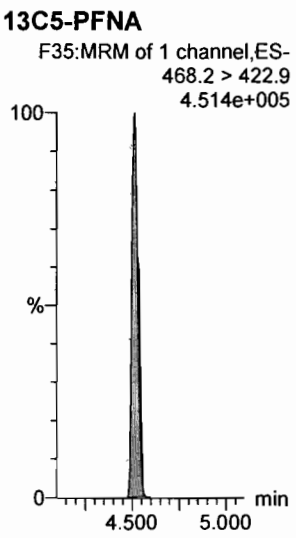

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

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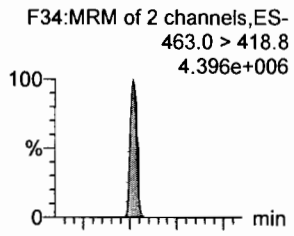

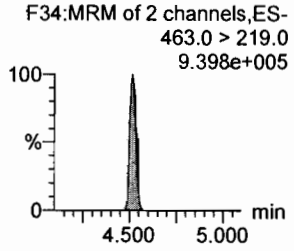

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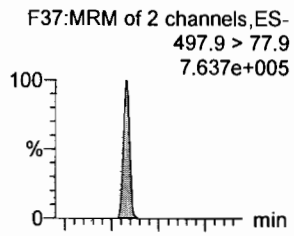
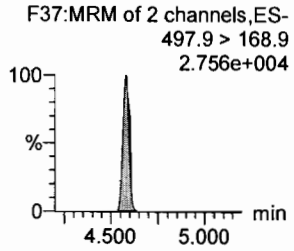
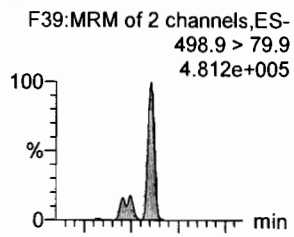
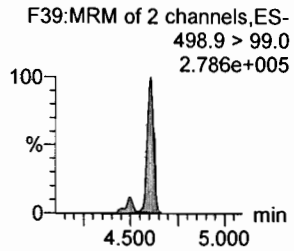




L-PFOS





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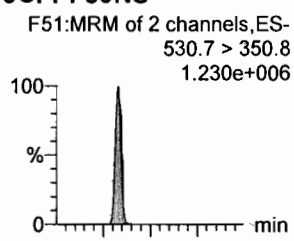

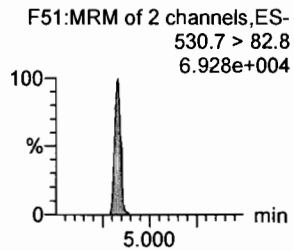

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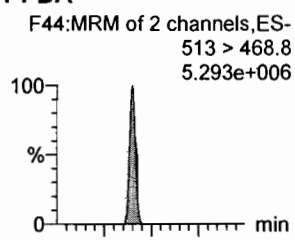

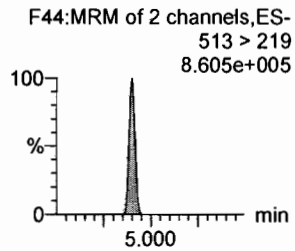

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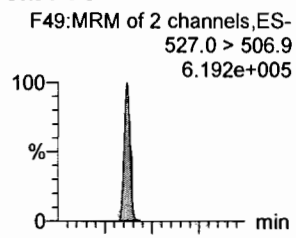

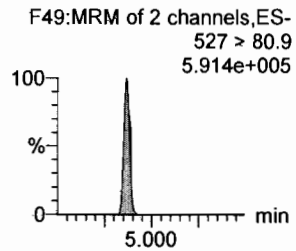

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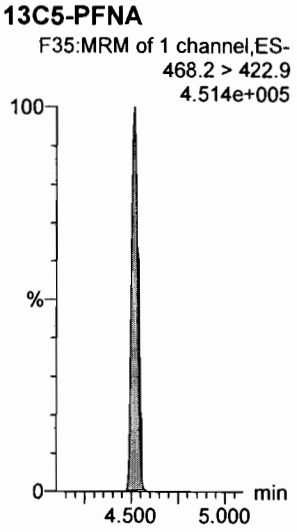

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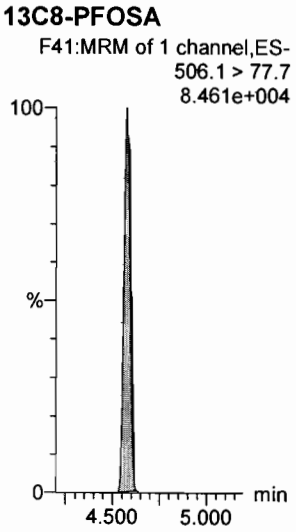

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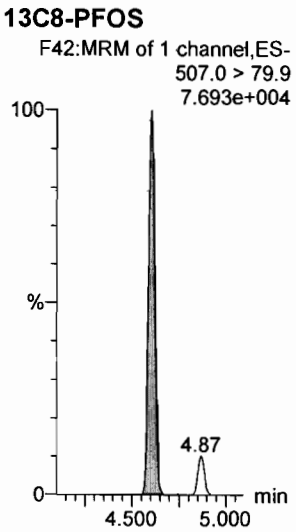

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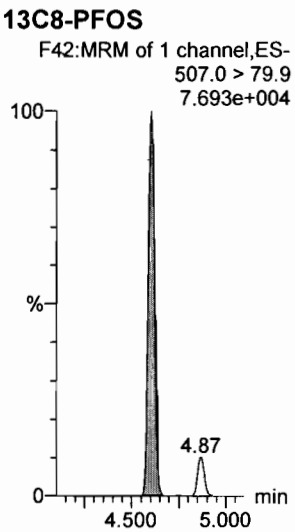

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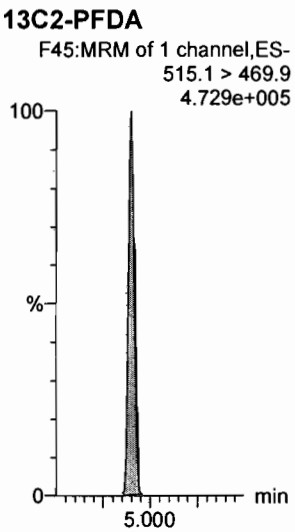

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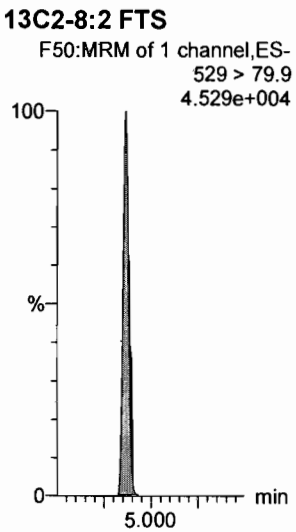

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Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

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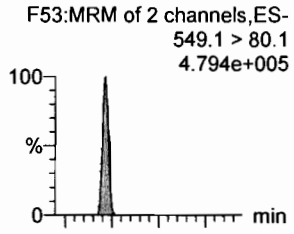

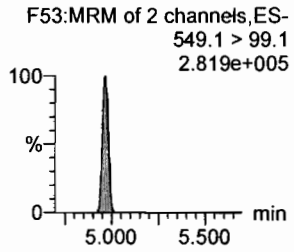

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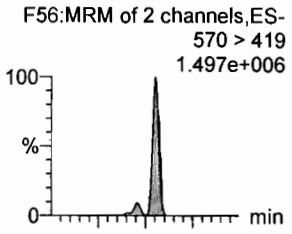

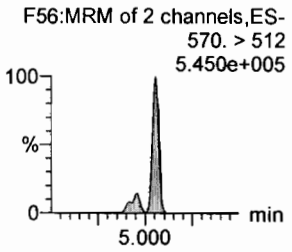

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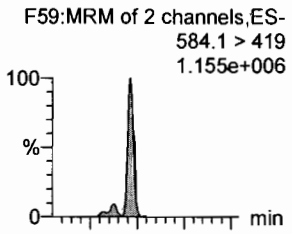

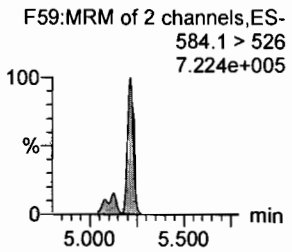

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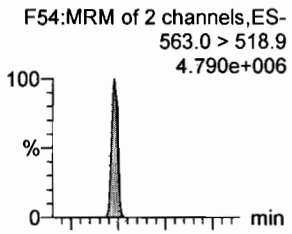

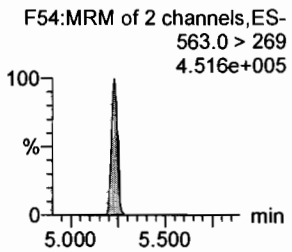

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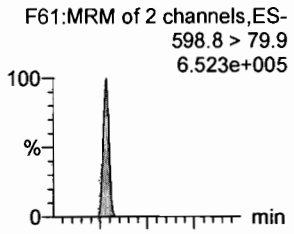

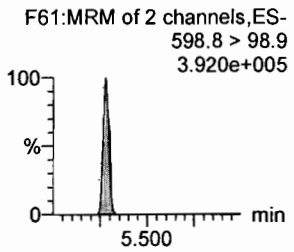

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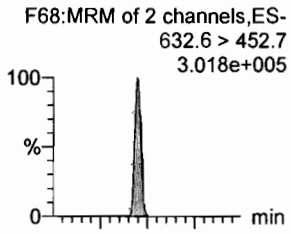

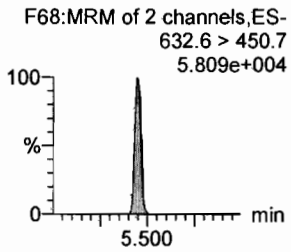

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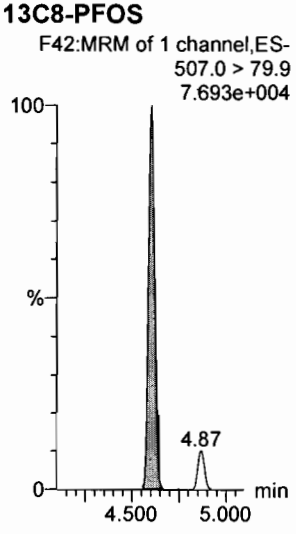

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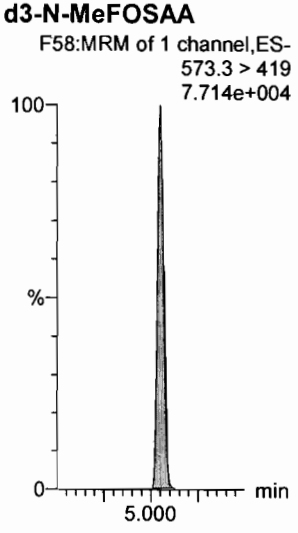

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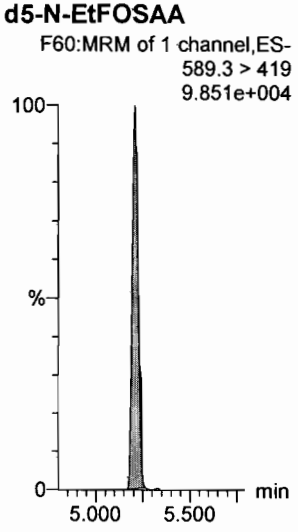

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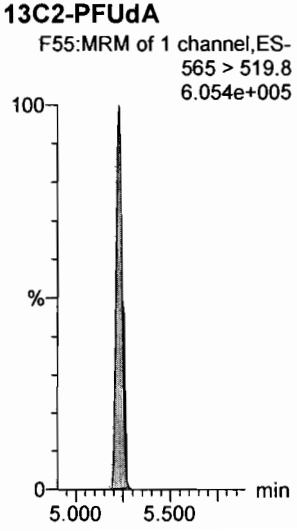

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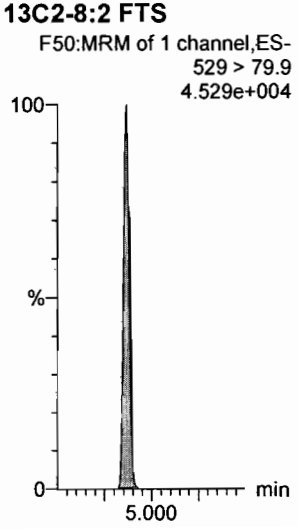

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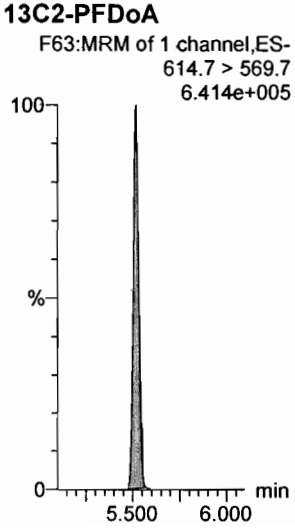

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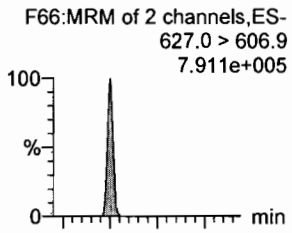
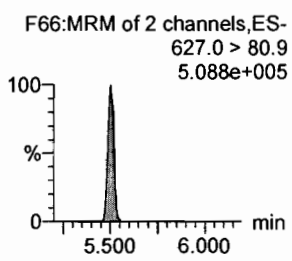
Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

10:2 FTS





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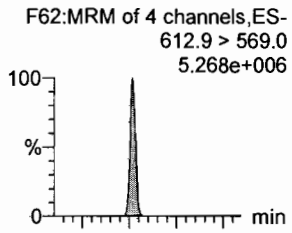

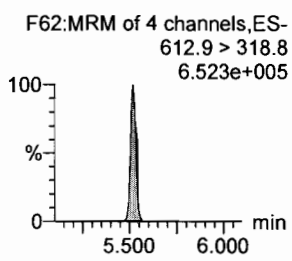

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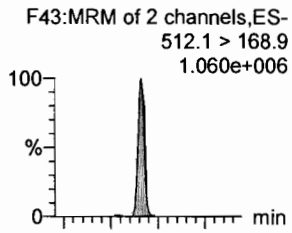

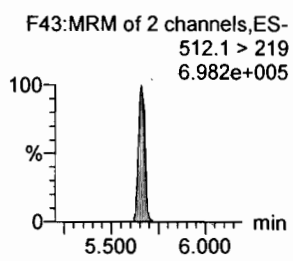

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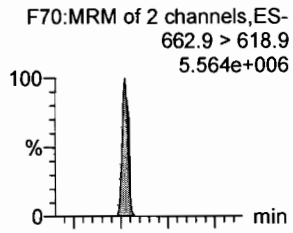

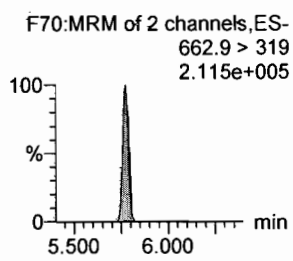

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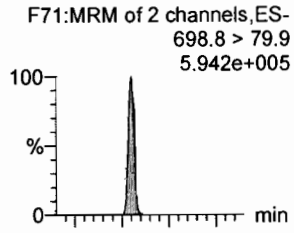

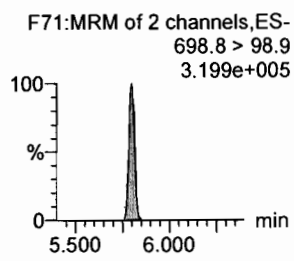

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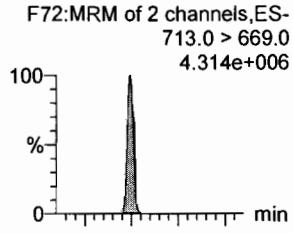
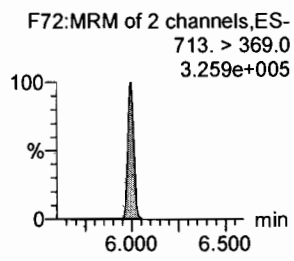
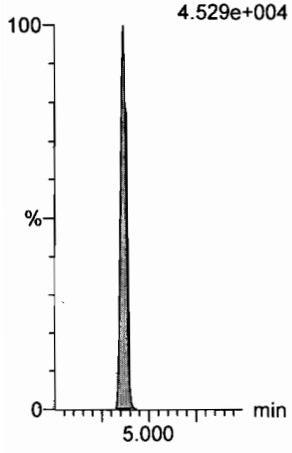
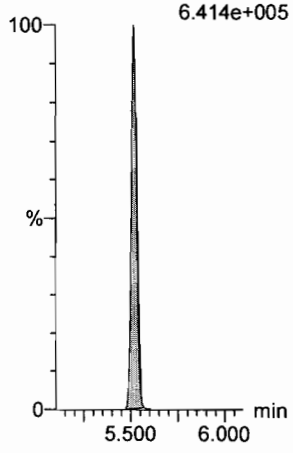




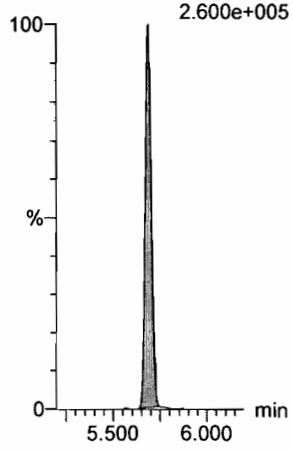
13C2-8:2 FTS



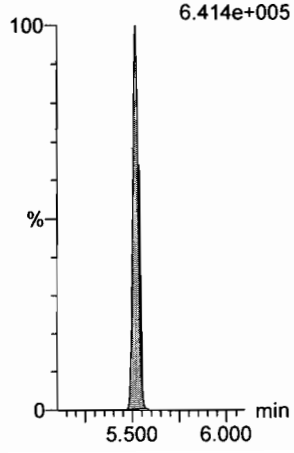
13C2-PFDoA



d3-N-MeFOSA



13C2-PFDoA



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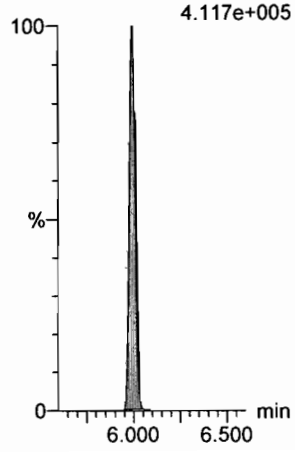
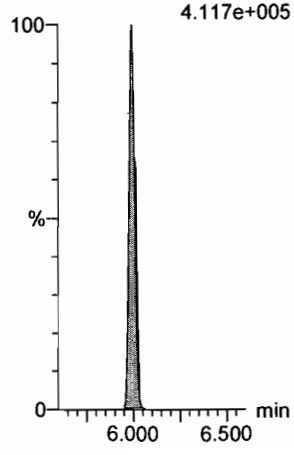


13C2-PFTeDA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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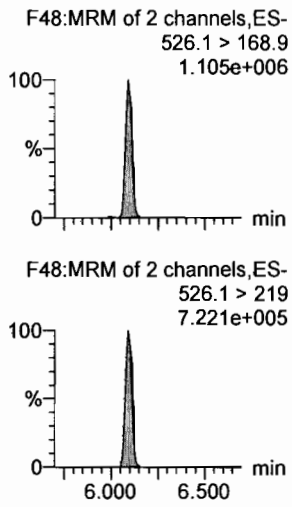
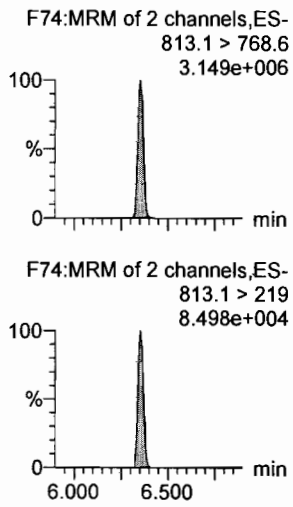
Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

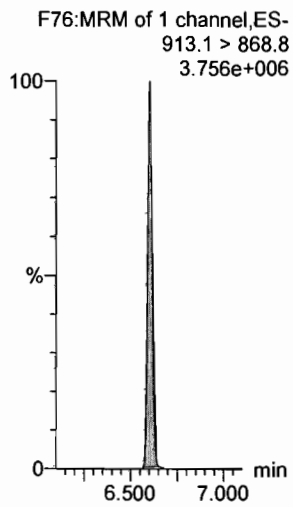
N-EtFOSA



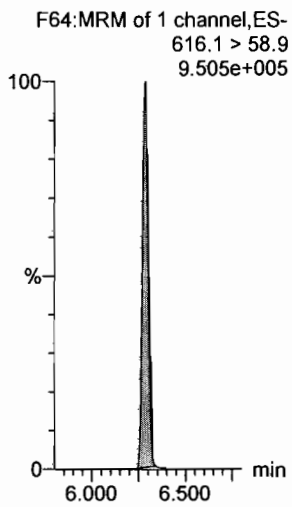
PFHxDA



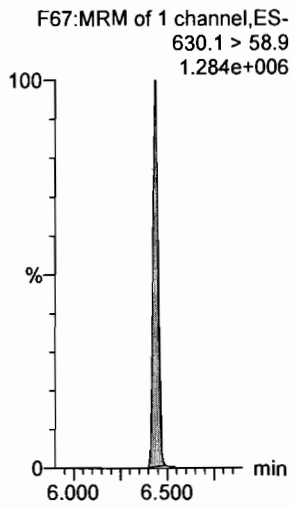
PFODA



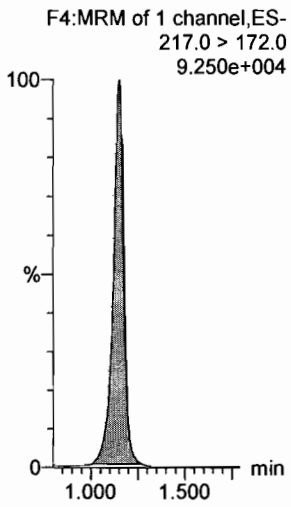
N-MeFOSE



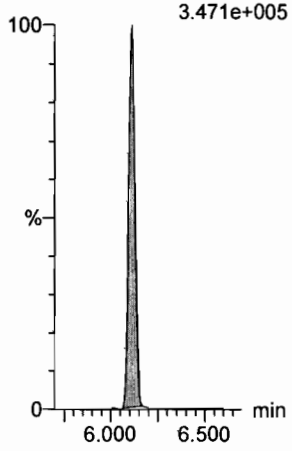
N-EtFOSE



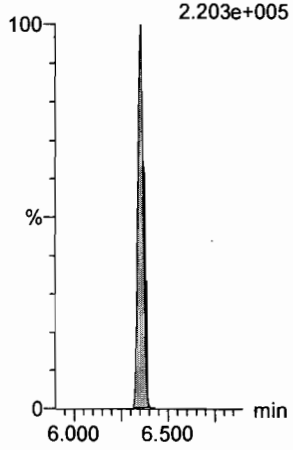
13C4-PFBA



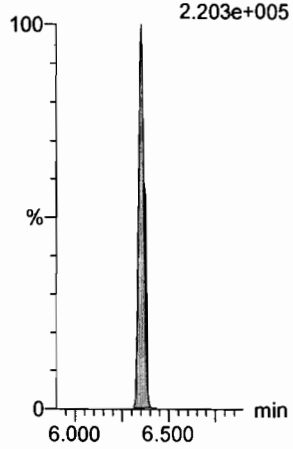
d5-N-ETFOSA



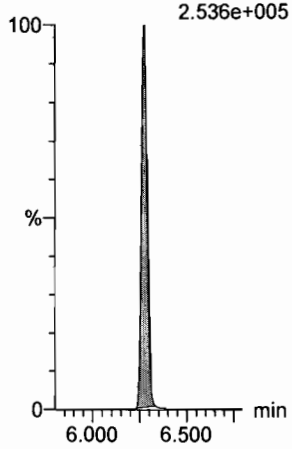
13C2-PFHxDA



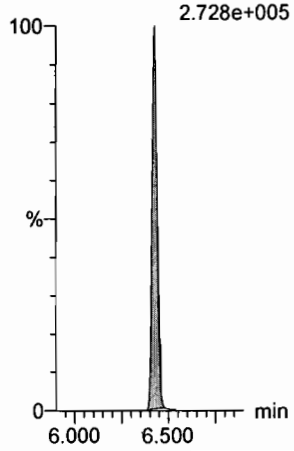
13C2-PFHxDA



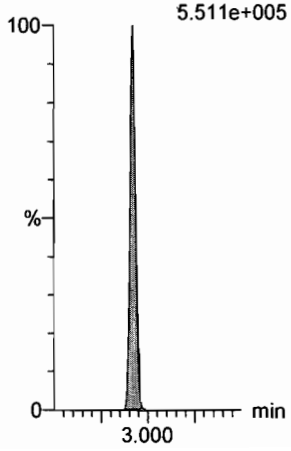
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA



Dataset: Untitled

Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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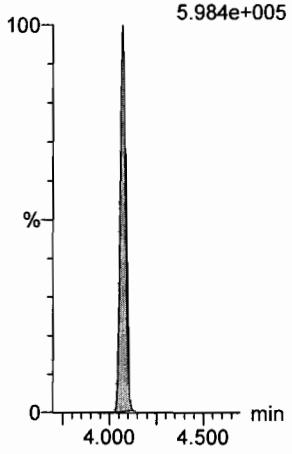
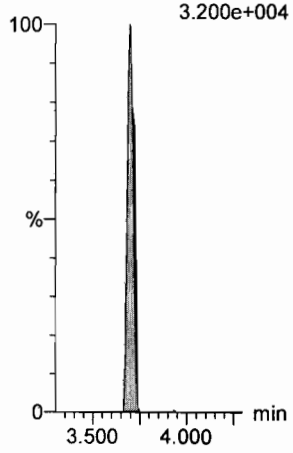
Name: 190712M2_13, Date: 12-Jul-2019, Time: 19:38:36, ID: ST190712M2-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

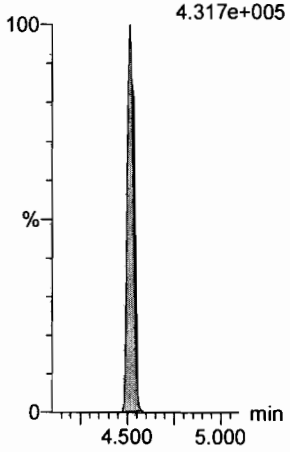
13C8-PFOA



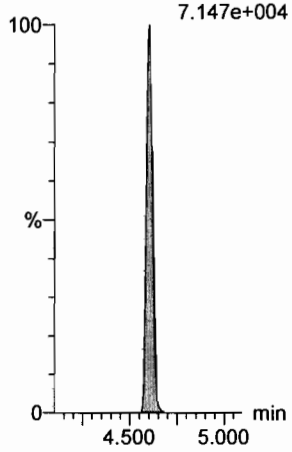
18O2-PFHxS



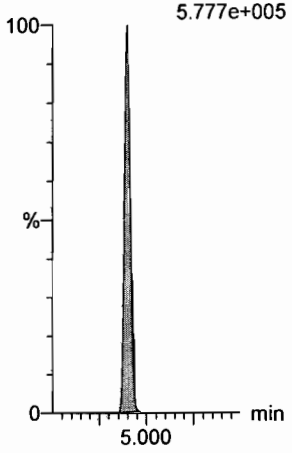
13C9-PFNA



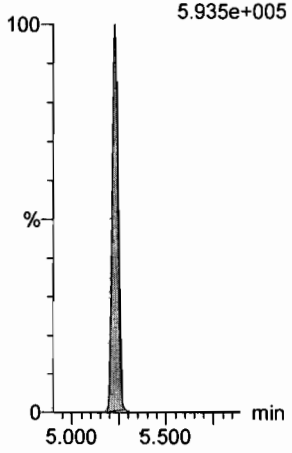
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Untitled

Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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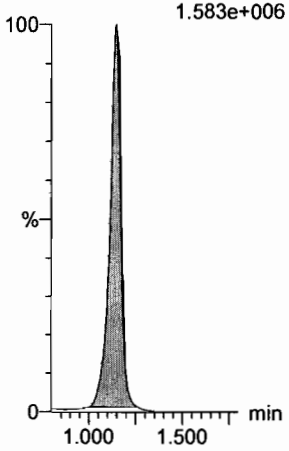
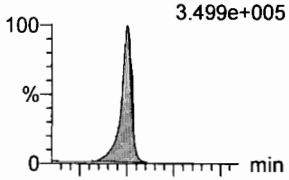
Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

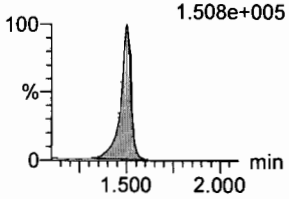
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.583e+006



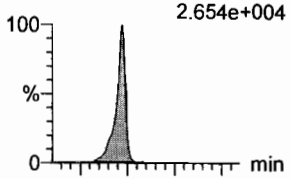
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
3.499e+005



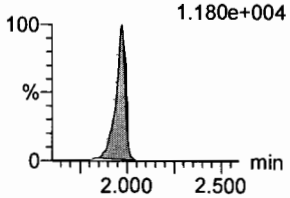
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.508e+005



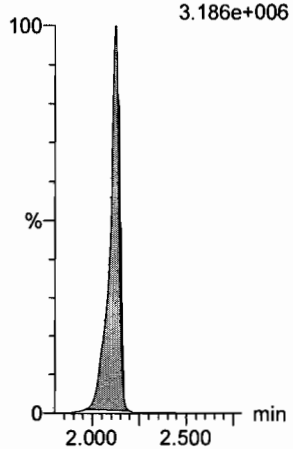
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
2.654e+004



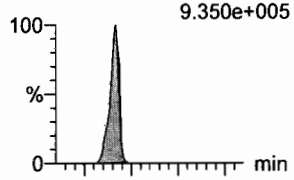
F5:MRM of 2 channels,ES-
240.9 > 116.9
1.180e+004



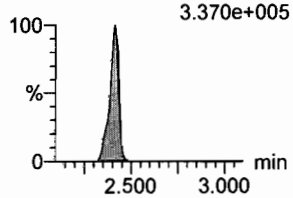
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
3.186e+006



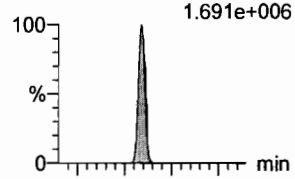
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
9.350e+005



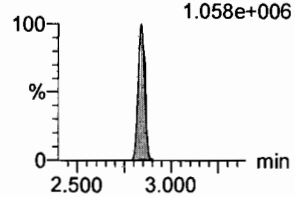
F11:MRM of 2 channels,ES-
299.0 > 99.0
3.370e+005



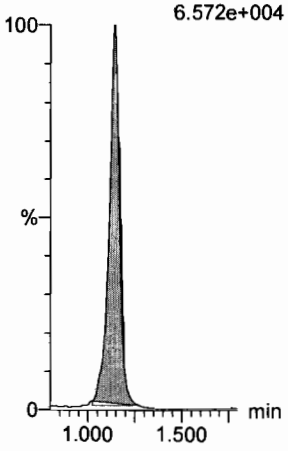
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.691e+006



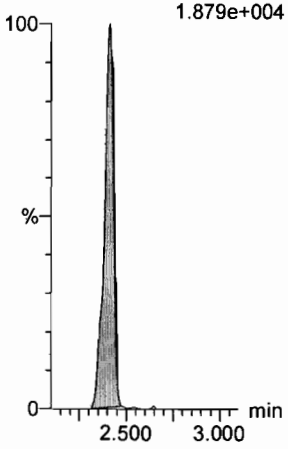
F16:MRM of 2 channels,ES-
327.0 > 80.9
1.058e+006



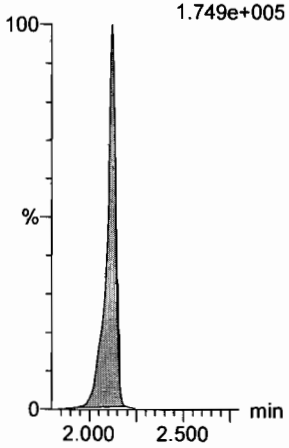
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
6.572e+004



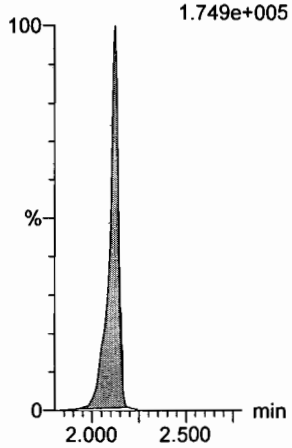
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.879e+004



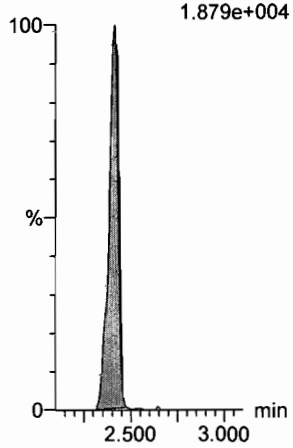
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.749e+005



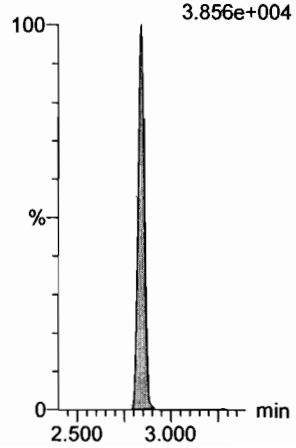
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.749e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
1.879e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
3.856e+004



Dataset: Untitled

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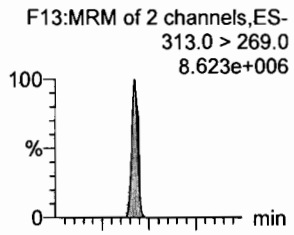
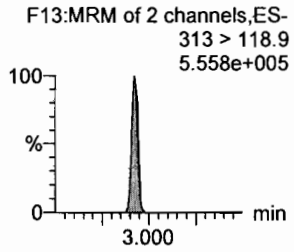
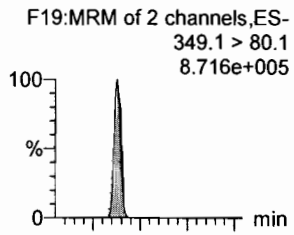
Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

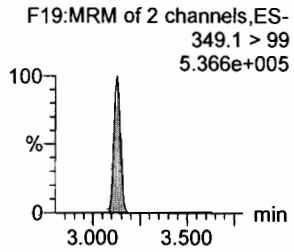
PFHxA



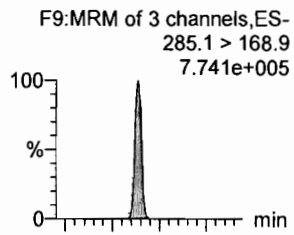


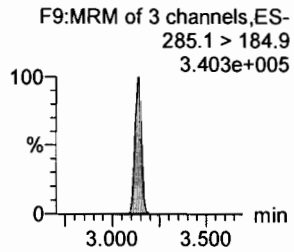
PFPeS



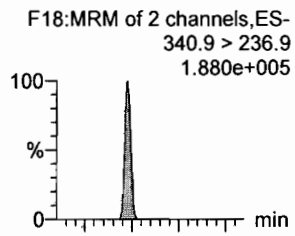


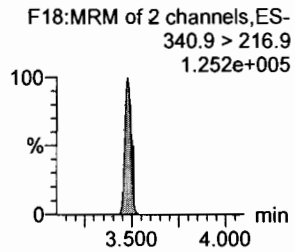
HFPO-DA



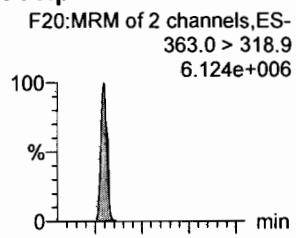


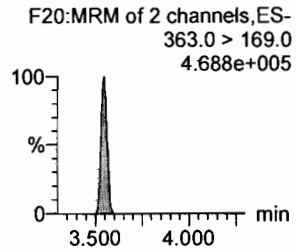
5:3 FTCA





PFHpA





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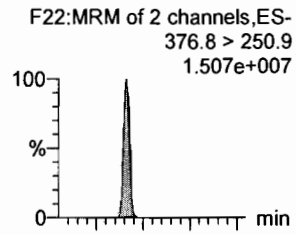
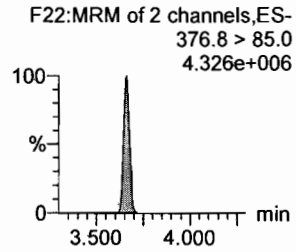
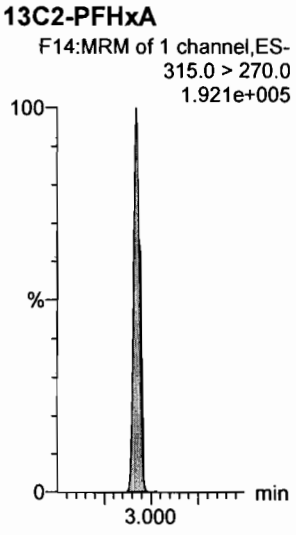
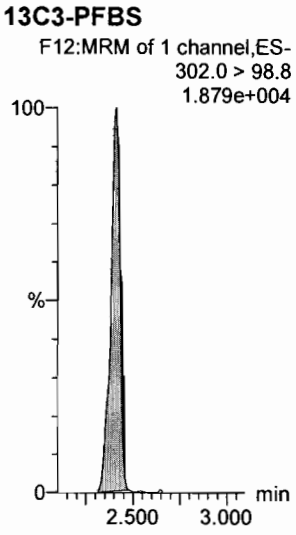




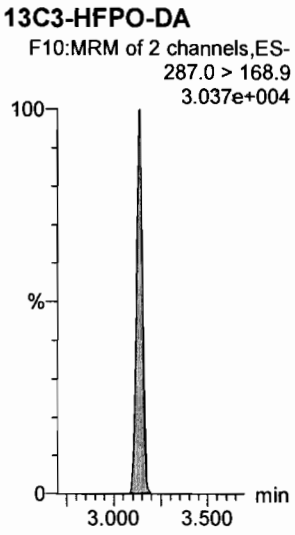
13C2-PFHxA



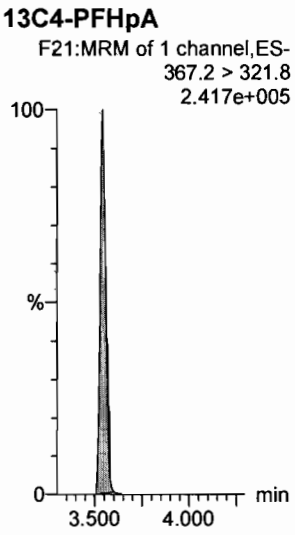
13C3-PFBS



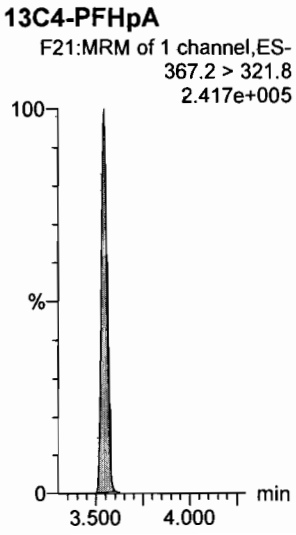
13C3-HFPO-DA



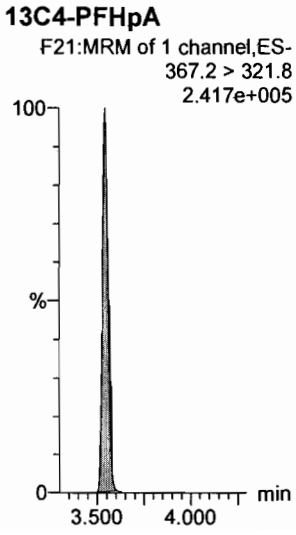
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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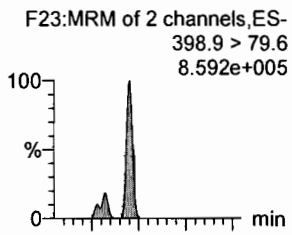
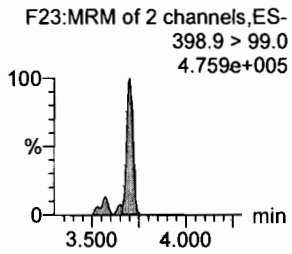
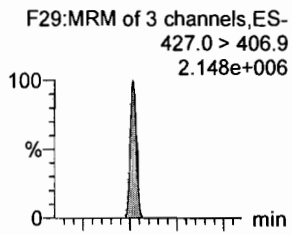
Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

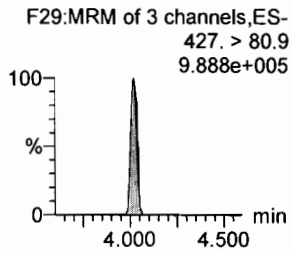
L-PFHxS



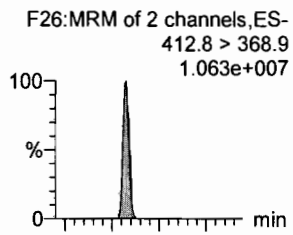


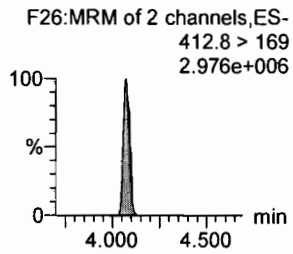
6:2 FTS



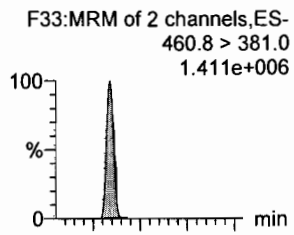


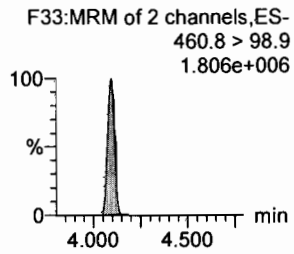
L-PFOA



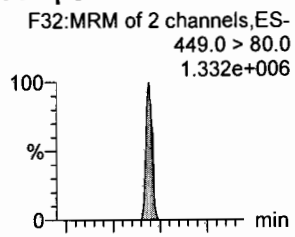


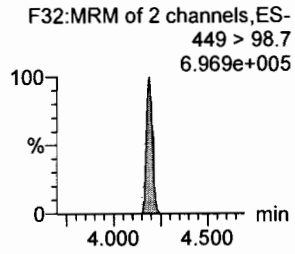
PFEChS



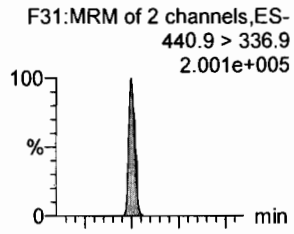


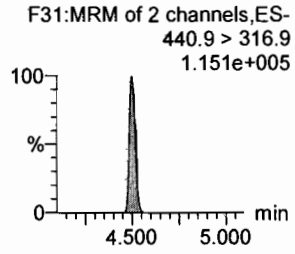
PFHpS



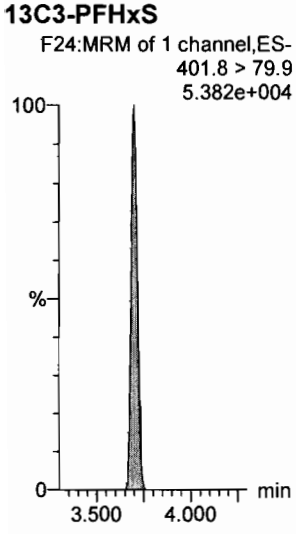


7:3 FTCA

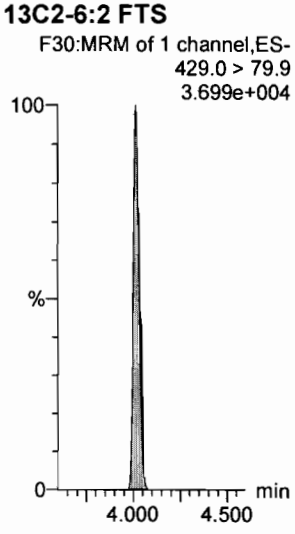




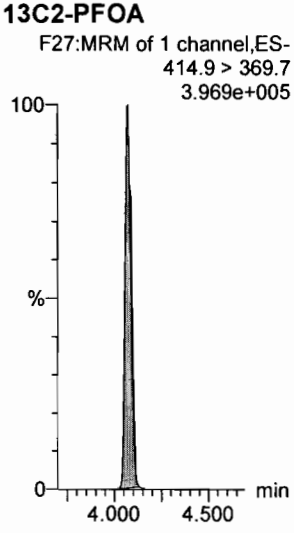
13C3-PFHxS



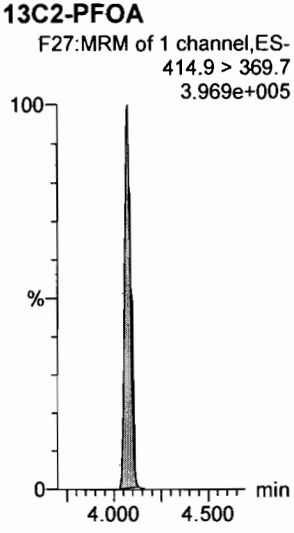
13C2-6:2 FTS



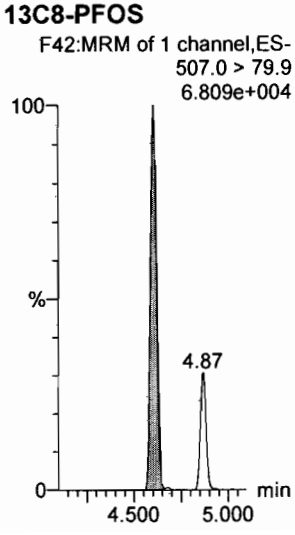
13C2-PFOA



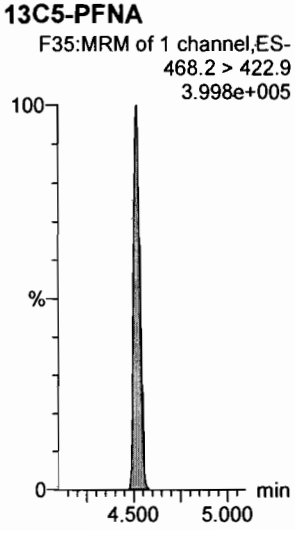
13C2-PFOA



13C8-PFOS



13C5-PFNA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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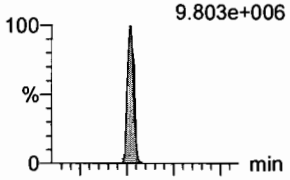
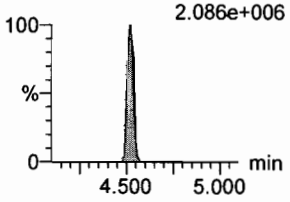
Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

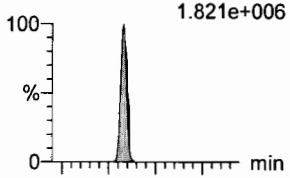
PFNA
F34:MRM of 2 channels,ES-
463.0 > 418.8
9.803e+006



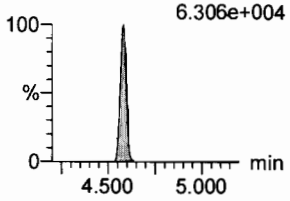
F34:MRM of 2 channels,ES-
463.0 > 219.0
2.086e+006



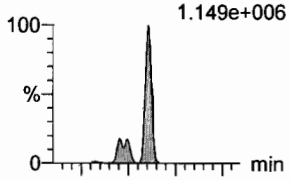
PFOSA
F37:MRM of 2 channels,ES-
497.9 > 77.9
1.821e+006



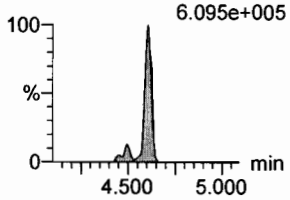
F37:MRM of 2 channels,ES-
497.9 > 168.9
6.306e+004



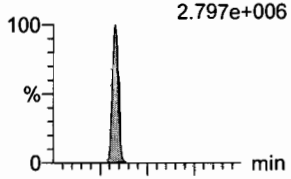
L-PFOS
F39:MRM of 2 channels,ES-
498.9 > 79.9
1.149e+006



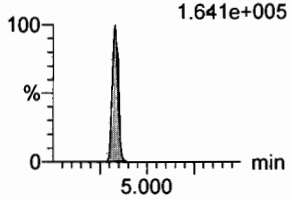
F39:MRM of 2 channels,ES-
498.9 > 99.0
6.095e+005



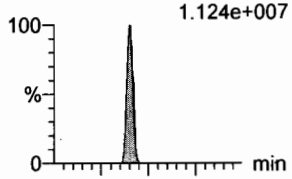
9Cl-PF30NS
F51:MRM of 2 channels,ES-
530.7 > 350.8
2.797e+006



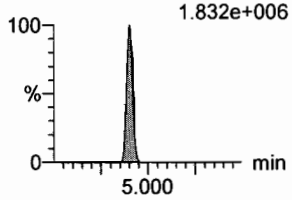
F51:MRM of 2 channels,ES-
530.7 > 82.8
1.641e+005



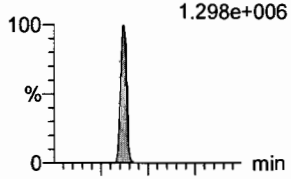
PFDA
F44:MRM of 2 channels,ES-
513 > 468.8
1.124e+007



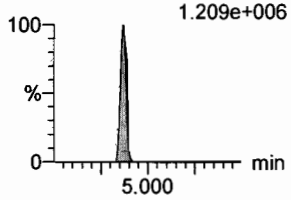
F44:MRM of 2 channels,ES-
513 > 219
1.832e+006



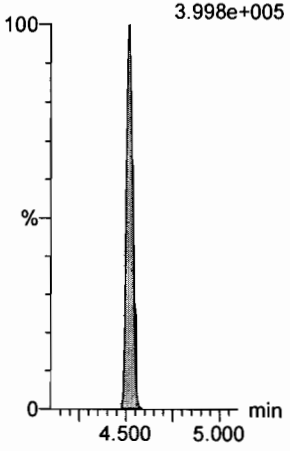
8:2 FTS
F49:MRM of 2 channels,ES-
527.0 > 506.9
1.298e+006



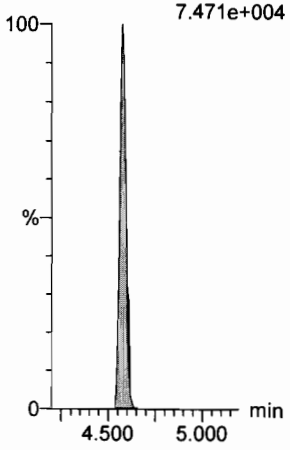
F49:MRM of 2 channels,ES-
527 > 80.9
1.209e+006



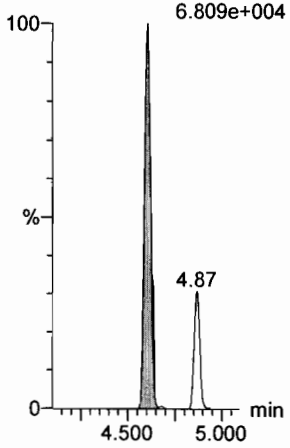
13C5-PFNA
F35:MRM of 1 channel,ES-
468.2 > 422.9
3.998e+005



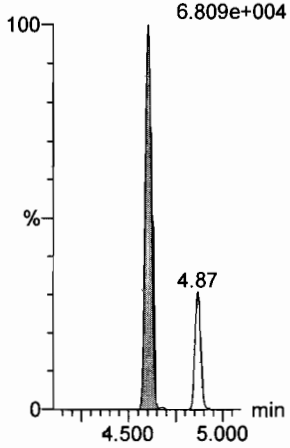
13C8-PFOSA
F41:MRM of 1 channel,ES-
506.1 > 77.7
7.471e+004



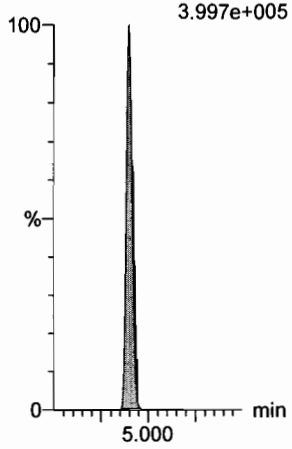
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
6.809e+004



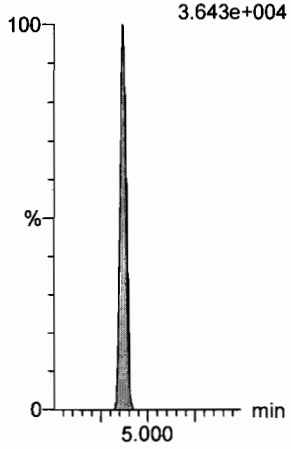
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
6.809e+004



13C2-PFDA
F45:MRM of 1 channel,ES-
515.1 > 469.9
3.997e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
3.643e+004



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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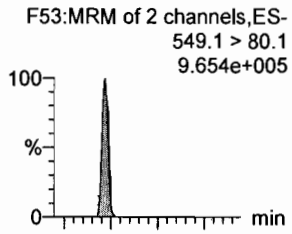
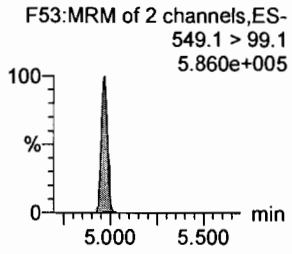
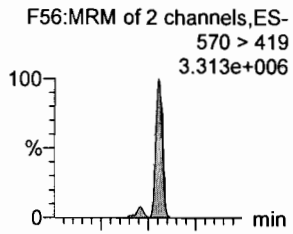
Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

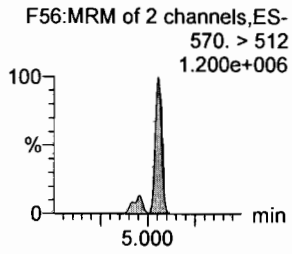
PFNS



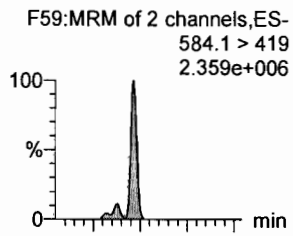


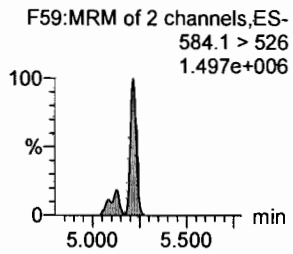
L-MeFOSAA



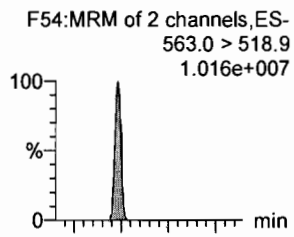


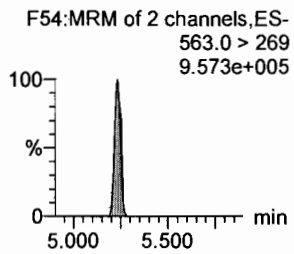
L-EtFOSAA



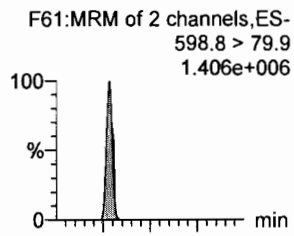


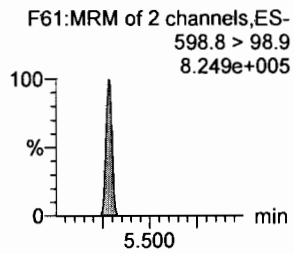
PFUdA



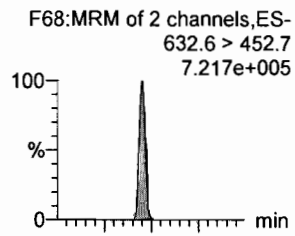


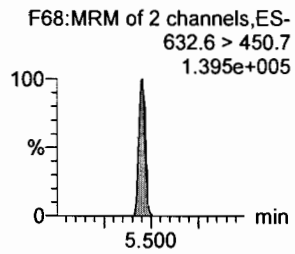
PFDS



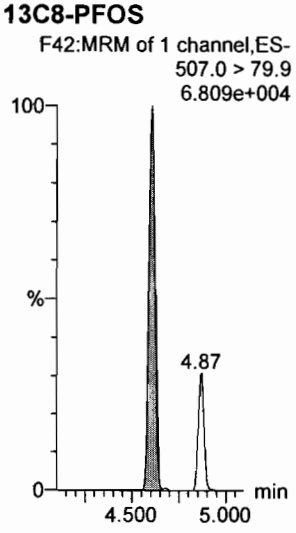


11Cl-PF30UdS

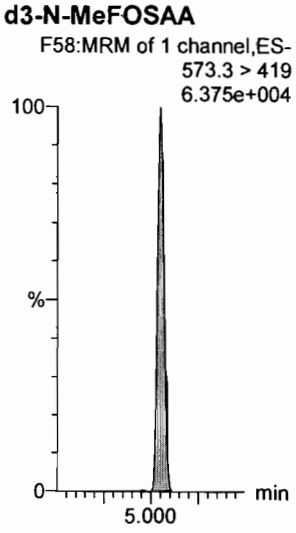




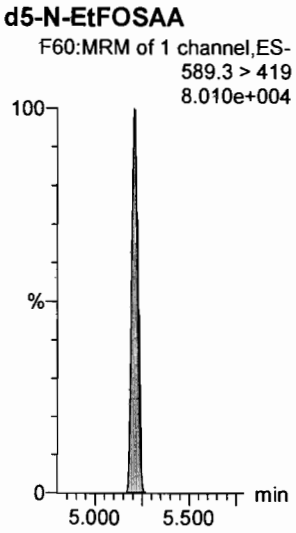
13C8-PFOS



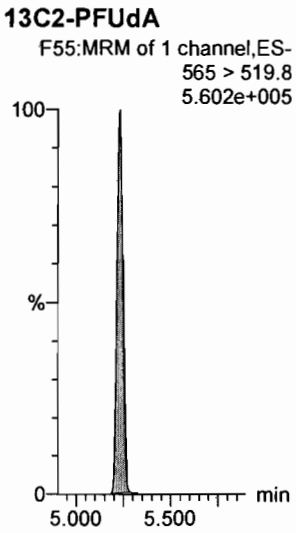
d3-N-MeFOSAA



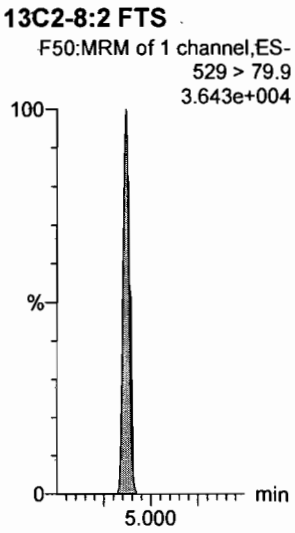
d5-N-EtFOSAA



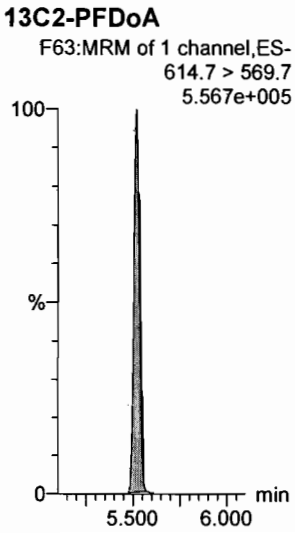
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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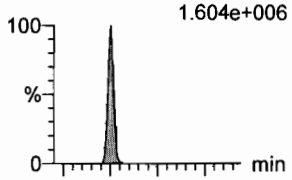
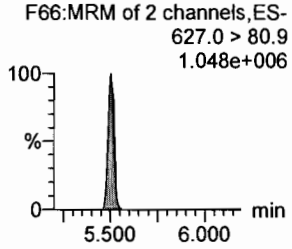
Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
Printed: Sunday, July 14, 2019 12:49:18 Pacific Daylight Time

Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

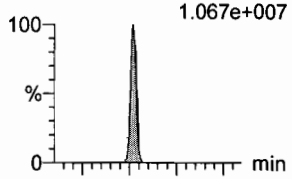
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
1.604e+006



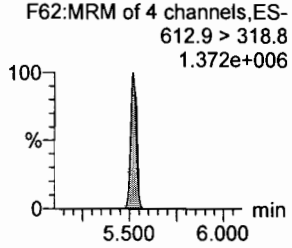
F66:MRM of 2 channels,ES-
627.0 > 80.9
1.048e+006



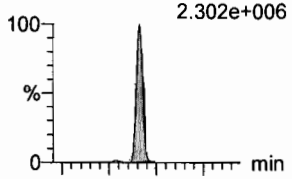
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
1.067e+007



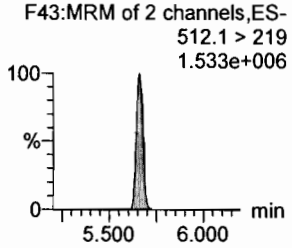
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.372e+006



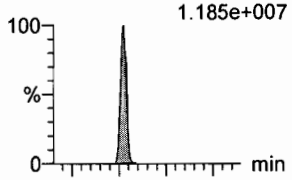
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
2.302e+006



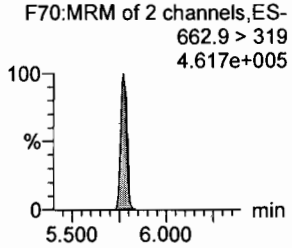
F43:MRM of 2 channels,ES-
512.1 > 219
1.533e+006



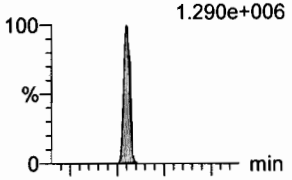
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
1.185e+007



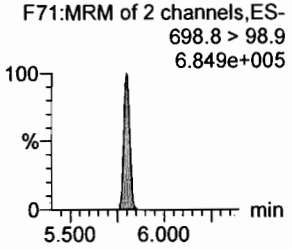
F70:MRM of 2 channels,ES-
662.9 > 319
4.617e+005



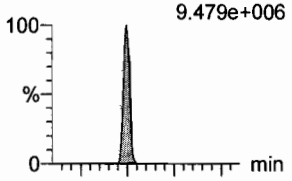
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
1.290e+006



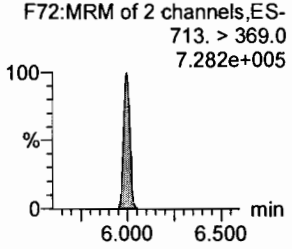
F71:MRM of 2 channels,ES-
698.8 > 98.9
6.849e+005



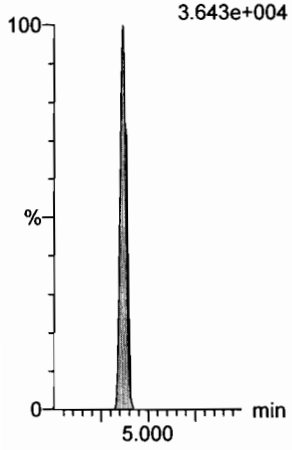
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
9.479e+006



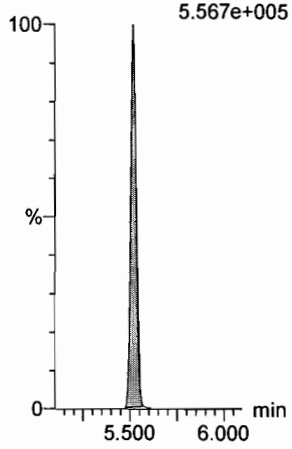
F72:MRM of 2 channels,ES-
713. > 369.0
7.282e+005



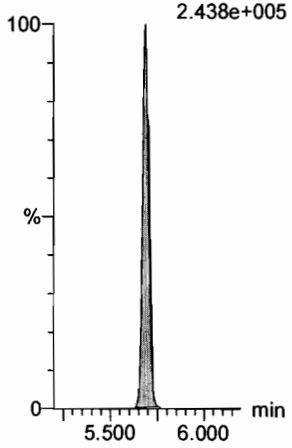
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
3.643e+004



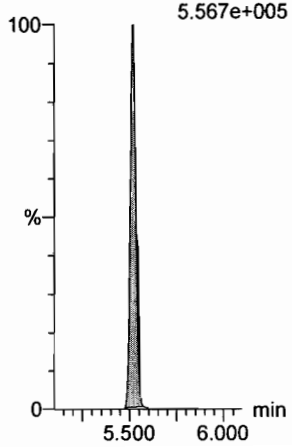
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
5.567e+005



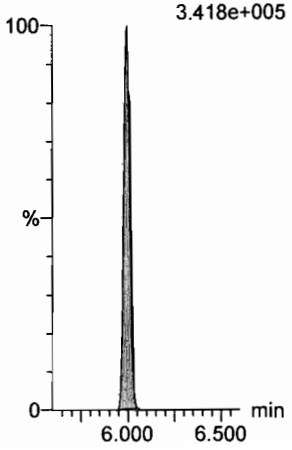
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
2.438e+005



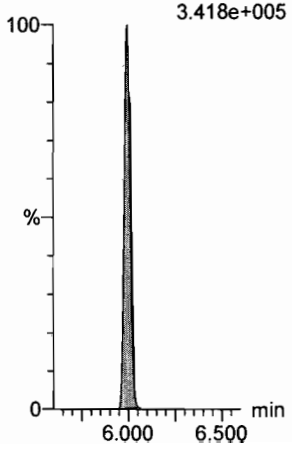
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
5.567e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
3.418e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
3.418e+005



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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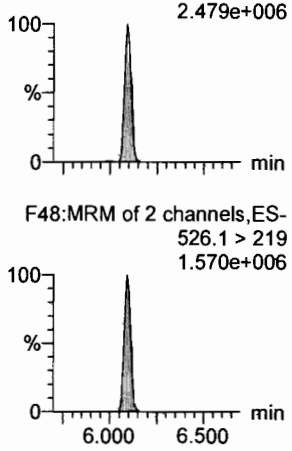
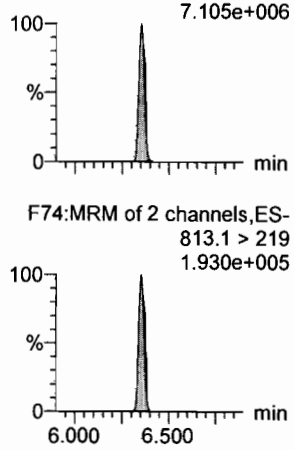
Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

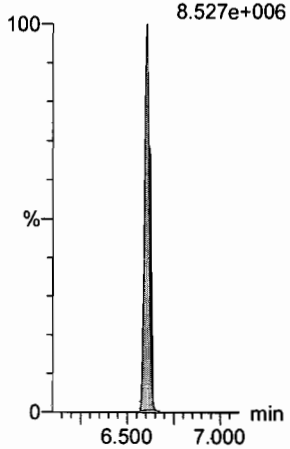
N-EtFOSA



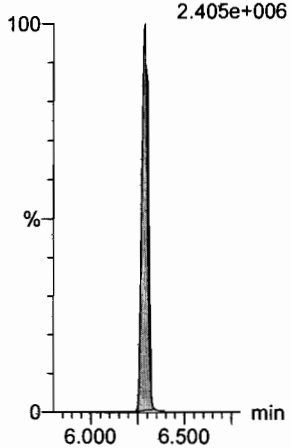
PFHxDA



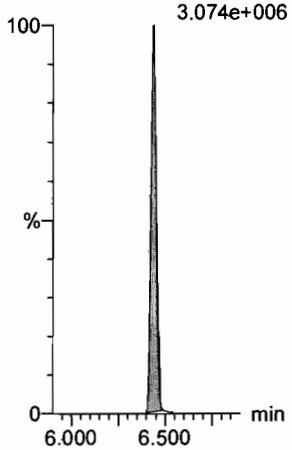
PFODA



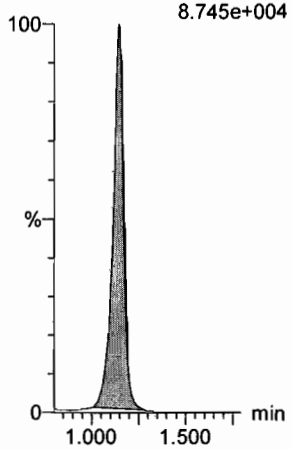
N-MeFOSE



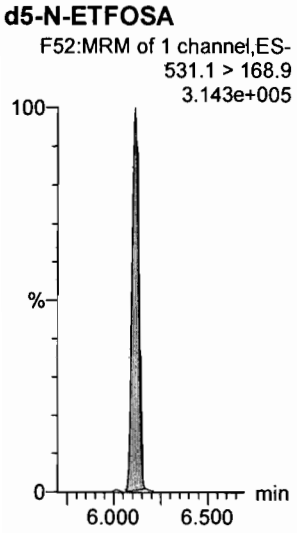
N-EtFOSE



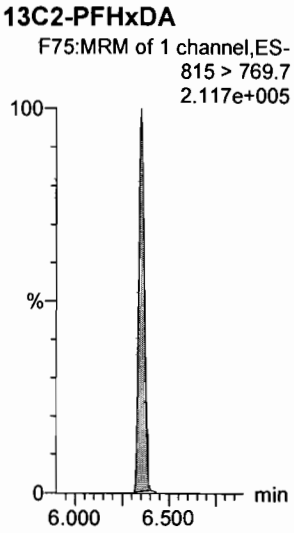
13C4-PFBA



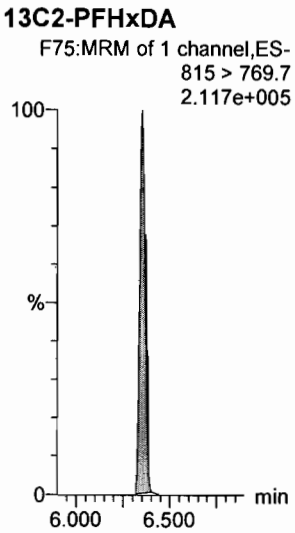
d5-N-ETFOSA



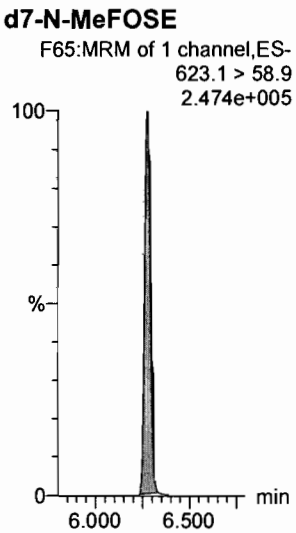
13C2-PFHxDA



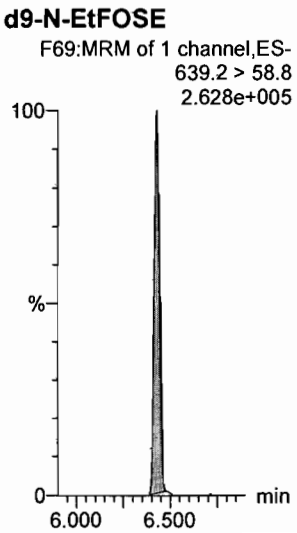
13C2-PFHxDA



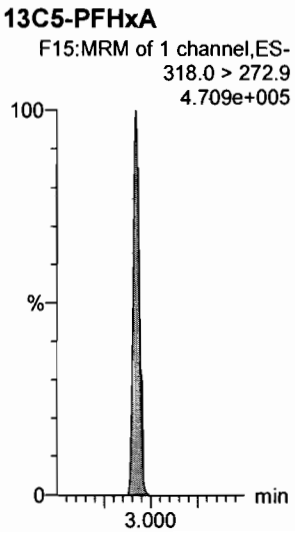
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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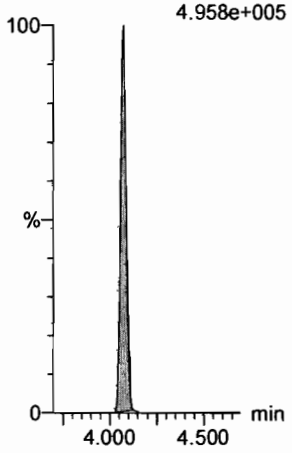
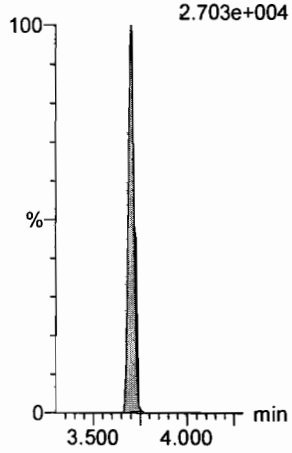
Name: 190712M2_14, Date: 12-Jul-2019, Time: 19:49:09, ID: ST190712M2-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

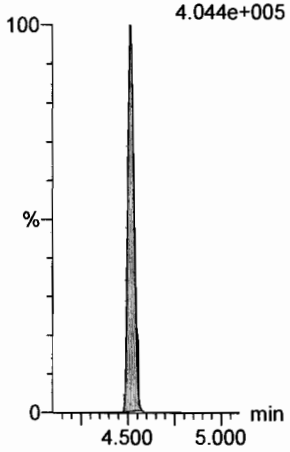
13C8-PFOA



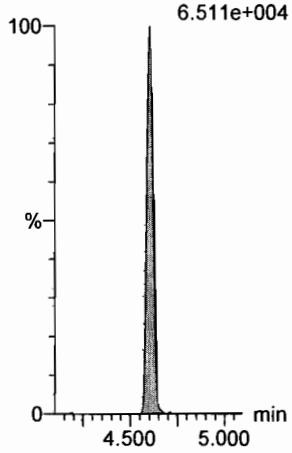
18O2-PFHxS



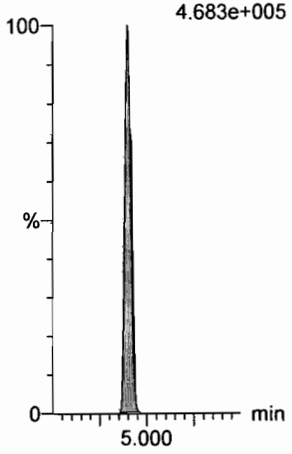
13C9-PFNA



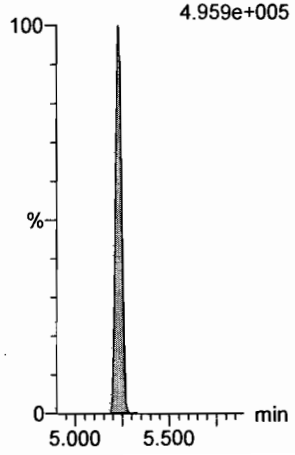
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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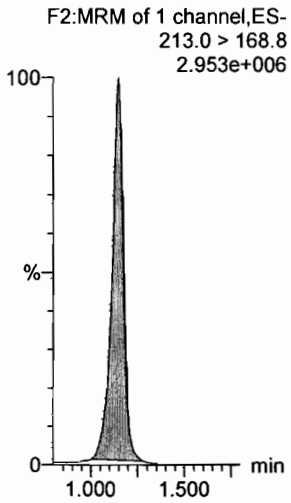
Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

PFBA



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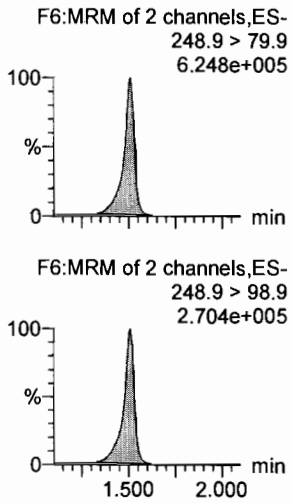
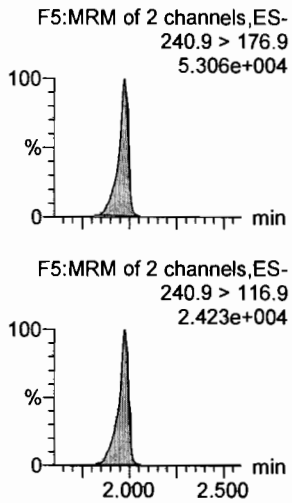


3:3 FTCA



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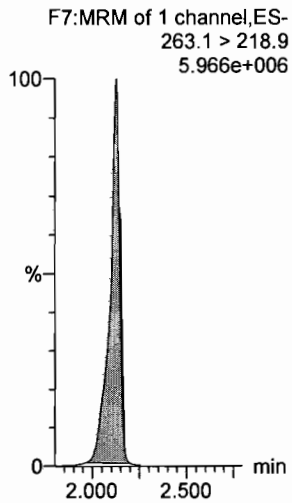
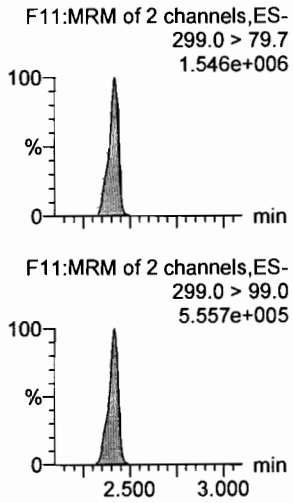
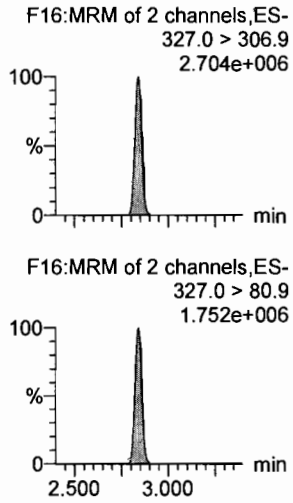


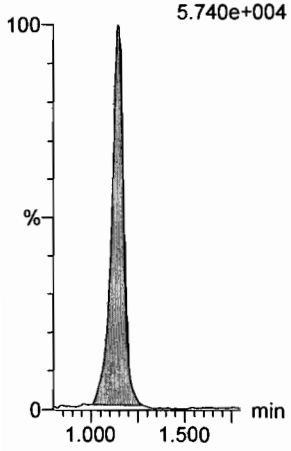
PFBS



4:2 FTS



13C3-PFBA



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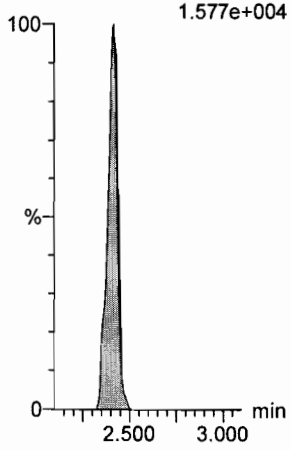

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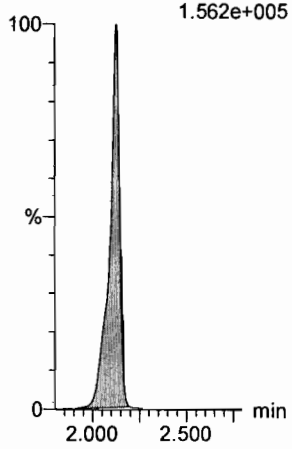

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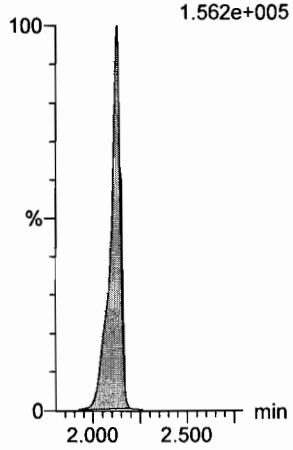

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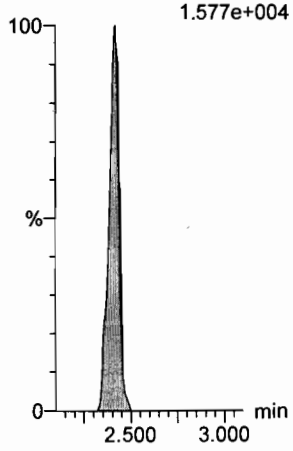
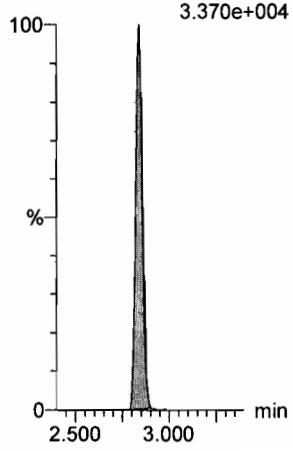


13C2-4:2 FTS



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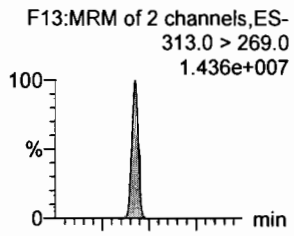
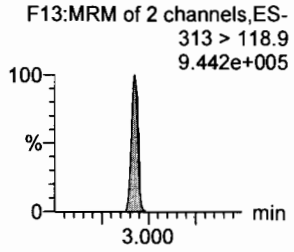
Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

PFHxA





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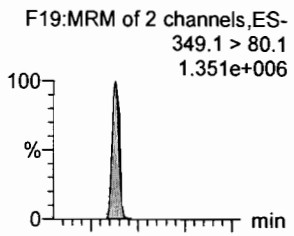
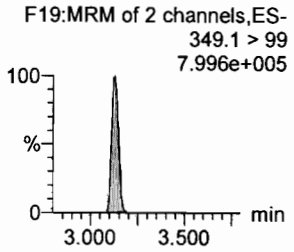
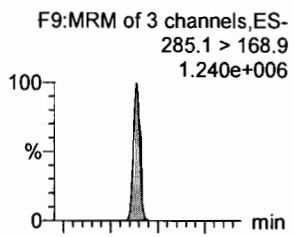
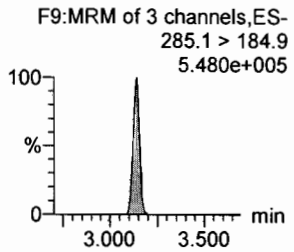


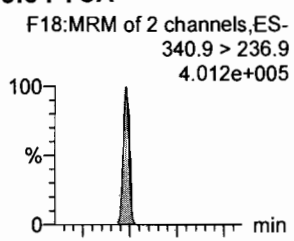


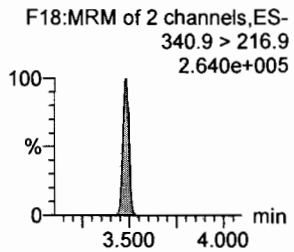
HFPO-DA





5:3 FTCA





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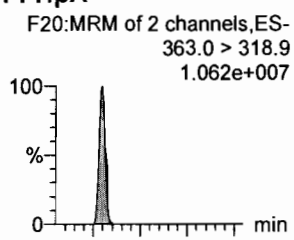

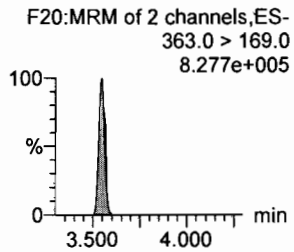

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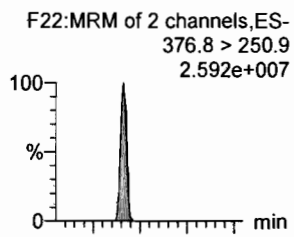
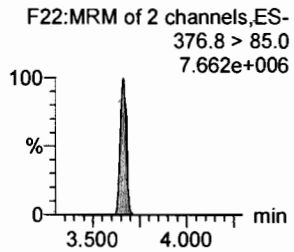
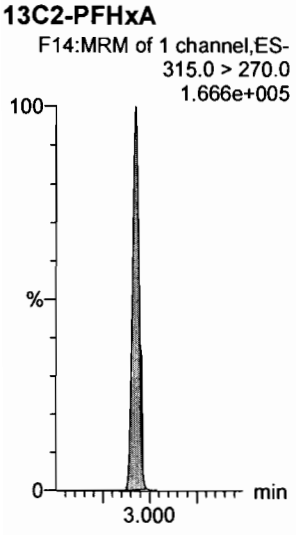
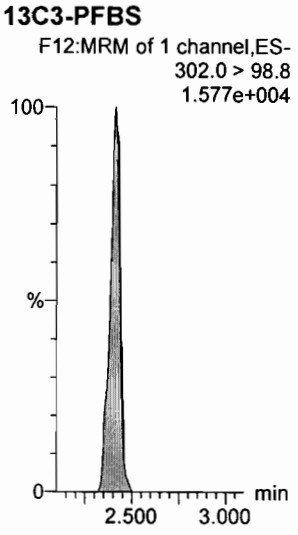




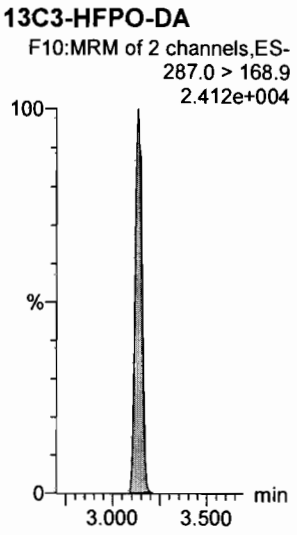
13C2-PFHxA



13C3-PFBS



13C3-HFPO-DA



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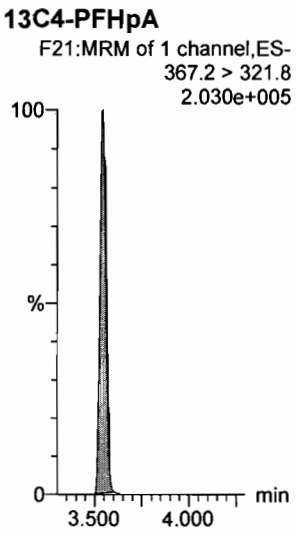

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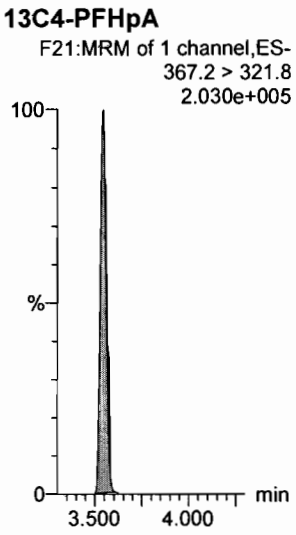

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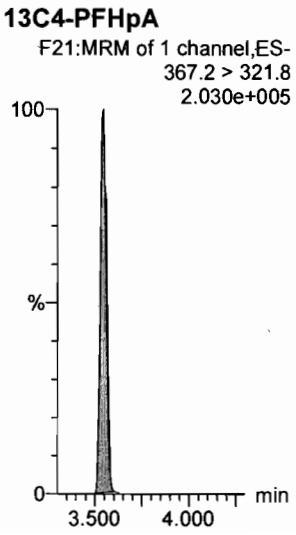

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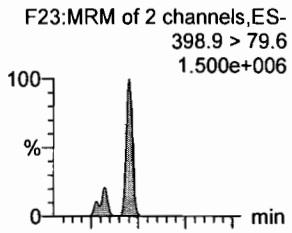
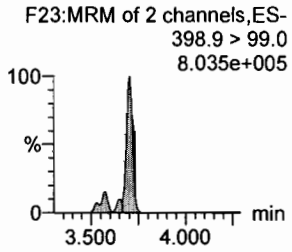
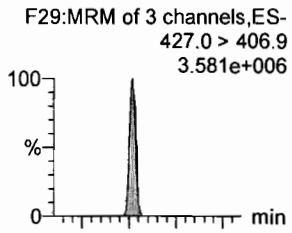
Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

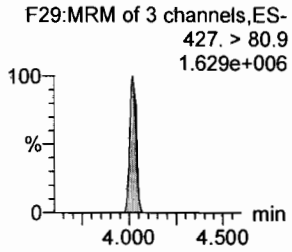
L-PFHxS



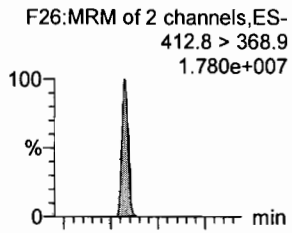


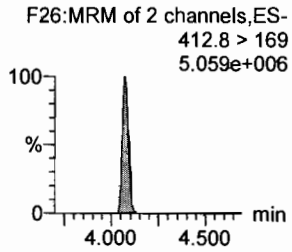
6:2 FTS





L-PFOA





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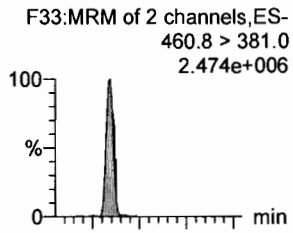

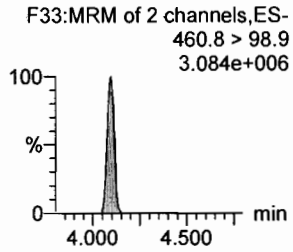

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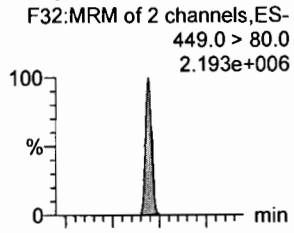
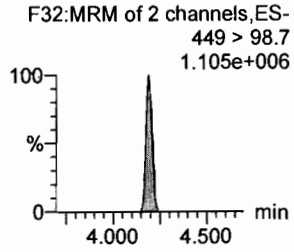
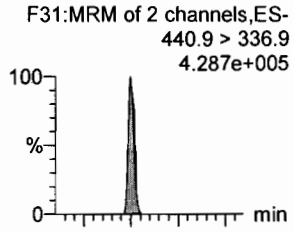
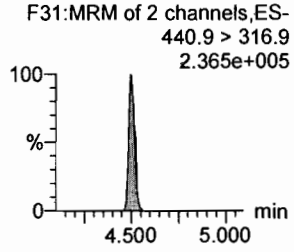


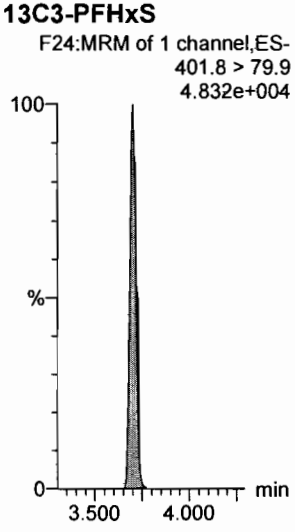


7:3 FTCA

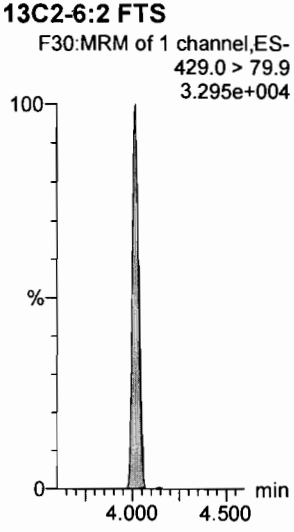




13C3-PFHxS



13C2-6:2 FTS



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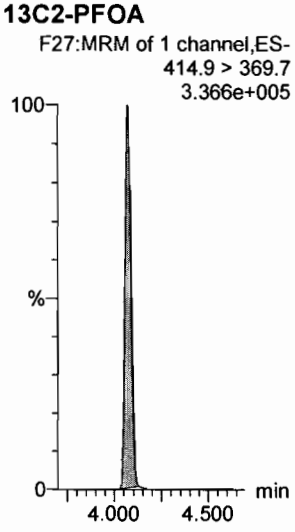
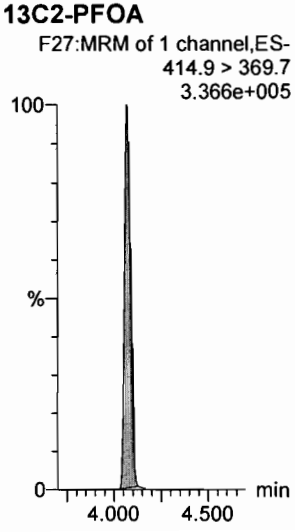
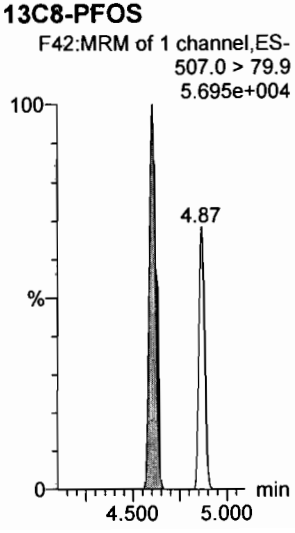


13C2-PFOA



13C8-PFOS



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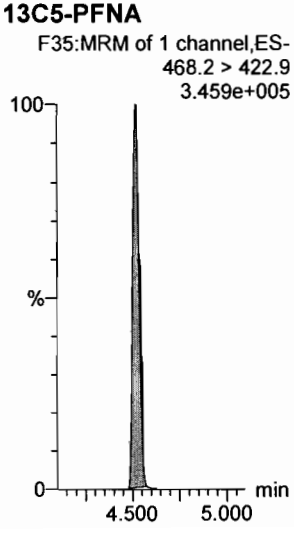

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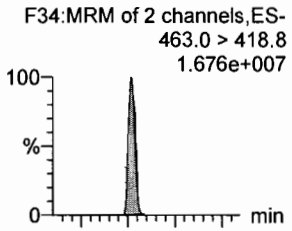
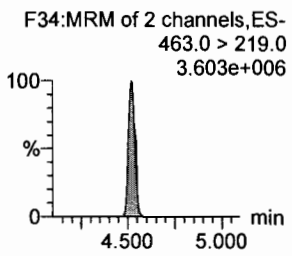
Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

PFNA





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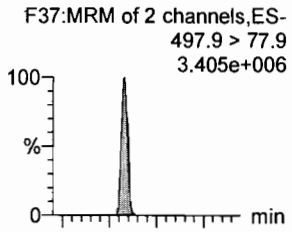
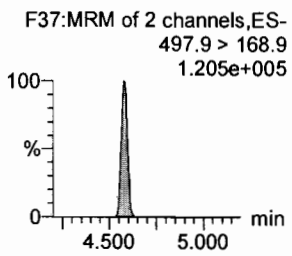
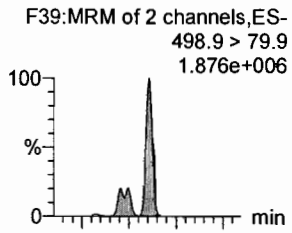
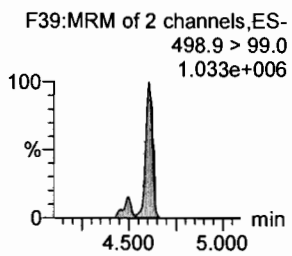




L-PFOS





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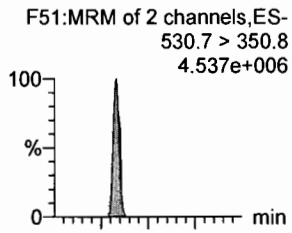

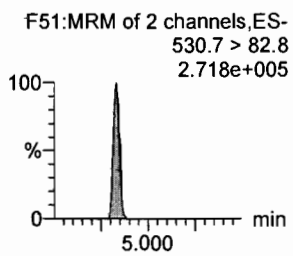

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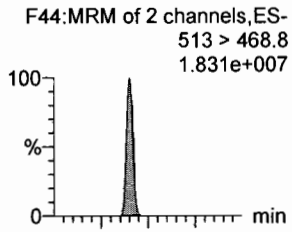

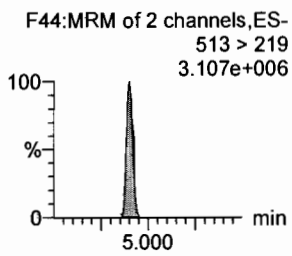

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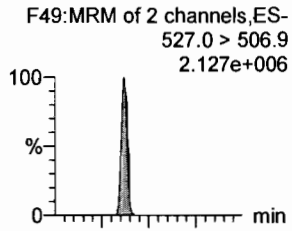

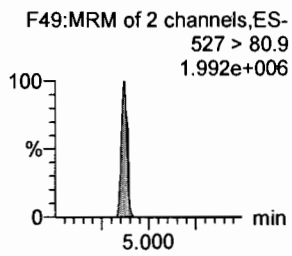

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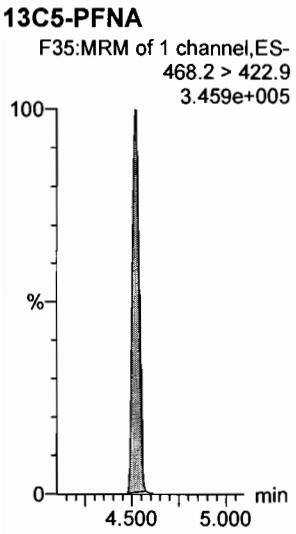

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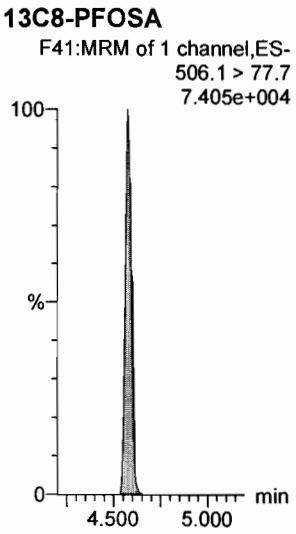

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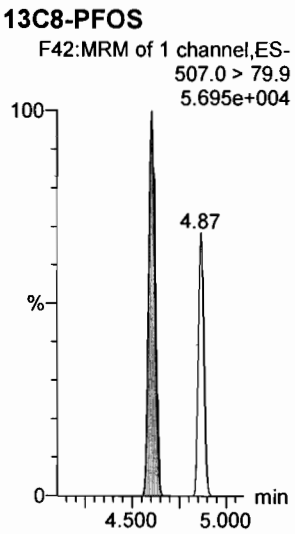

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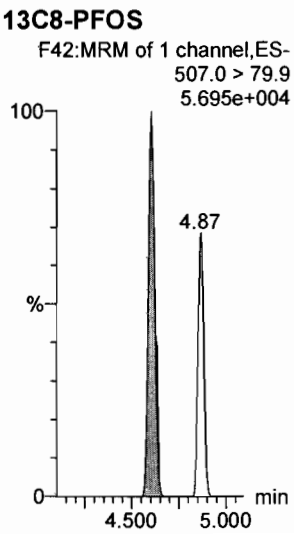

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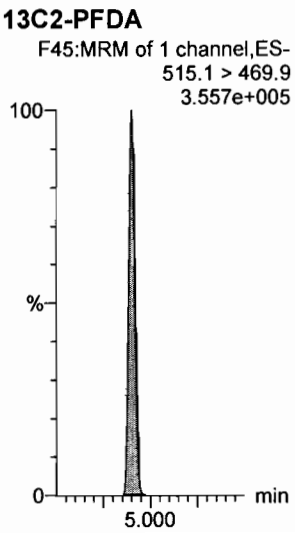

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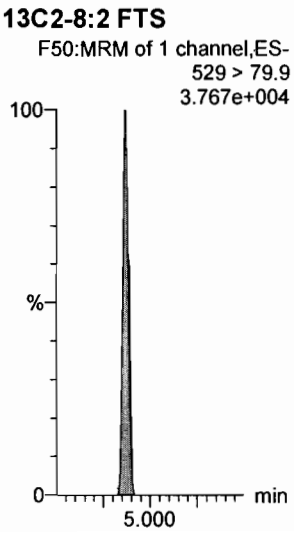

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

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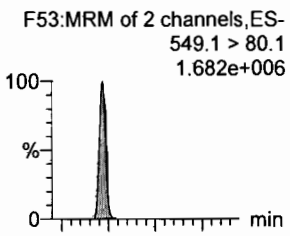

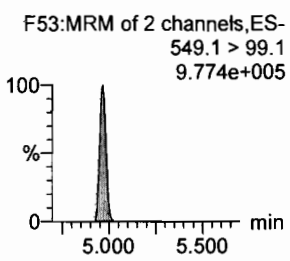

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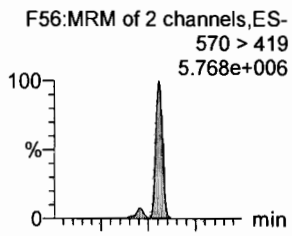

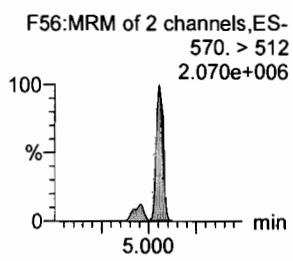

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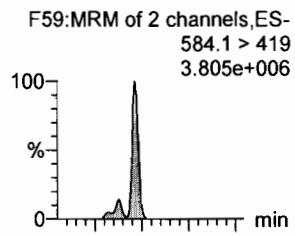

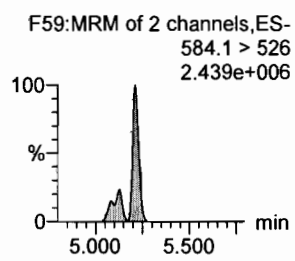

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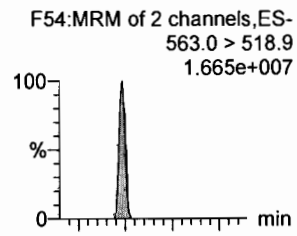

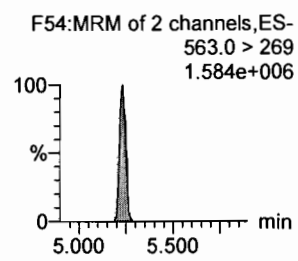

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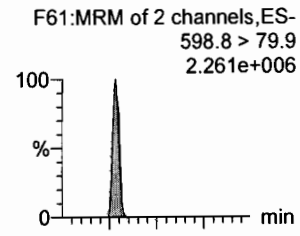

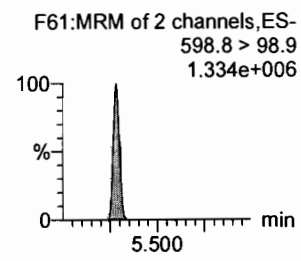

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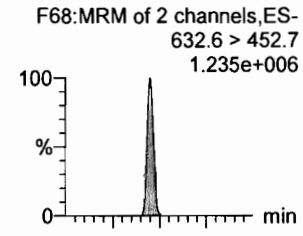

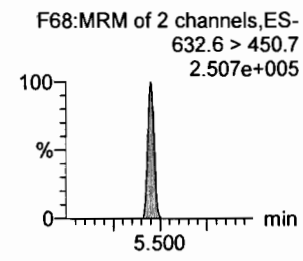

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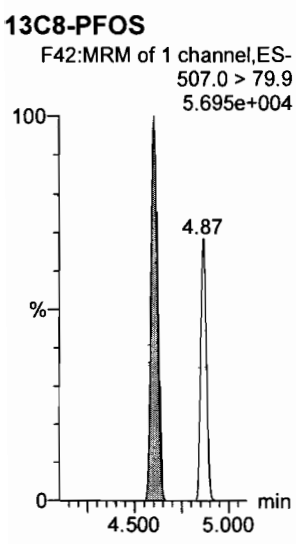

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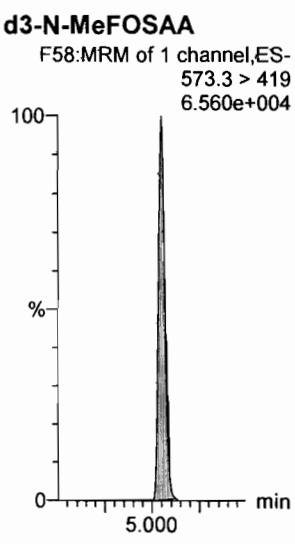

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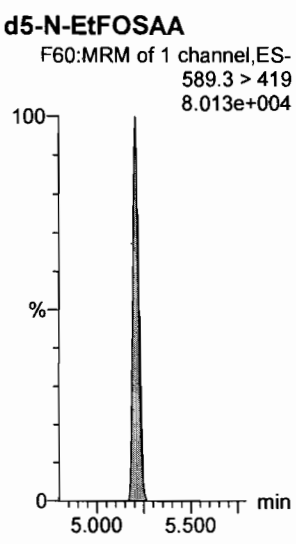

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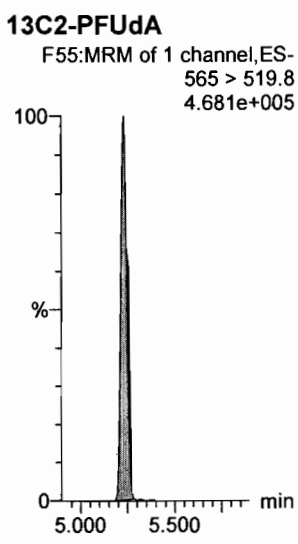
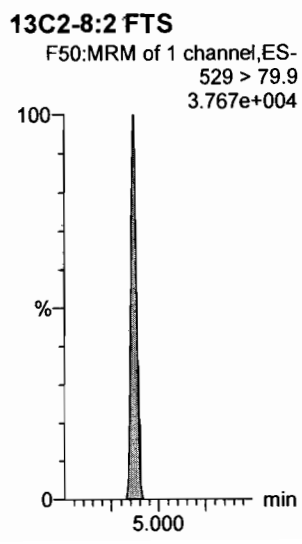


13C2-8:2 FTS



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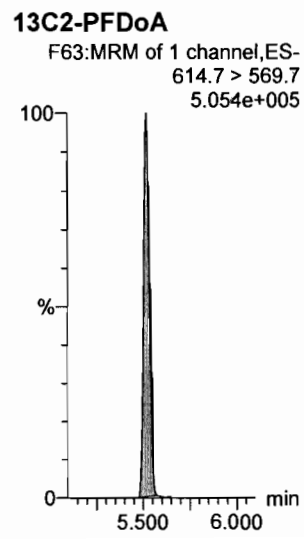

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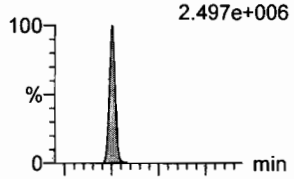
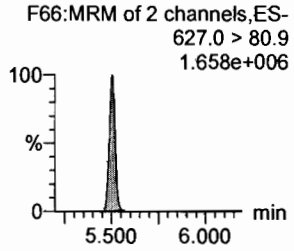
Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

10:2 FTS





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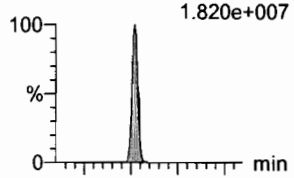

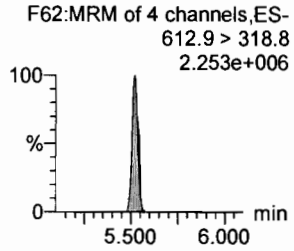

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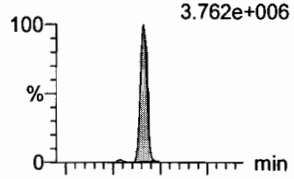

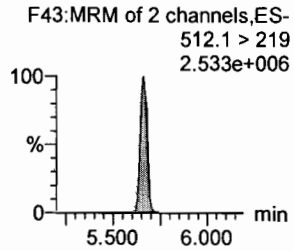

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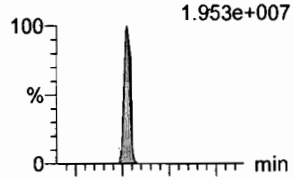

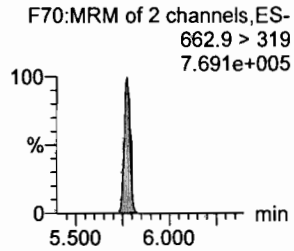

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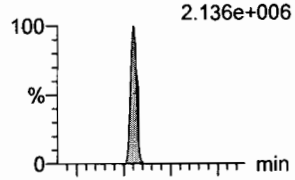

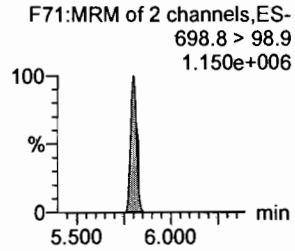

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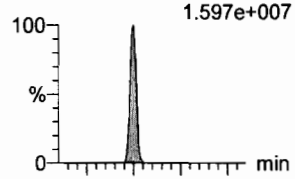
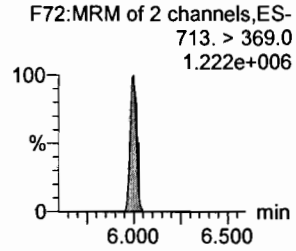
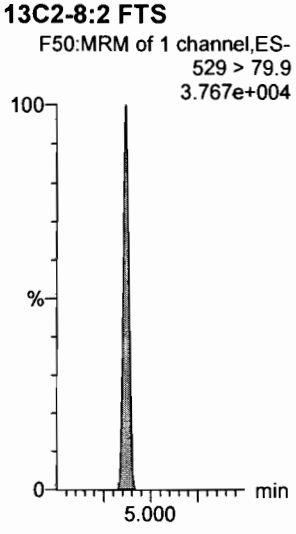




13C2-8:2 FTS



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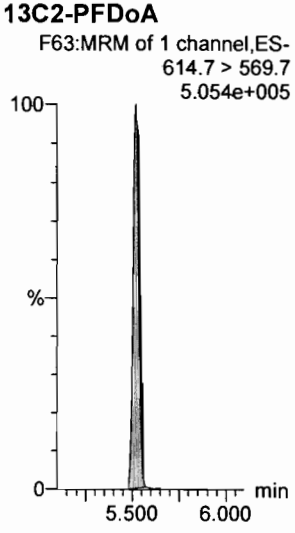

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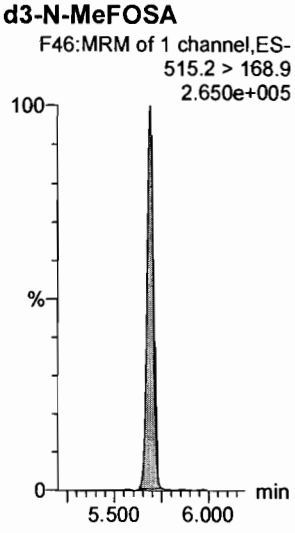

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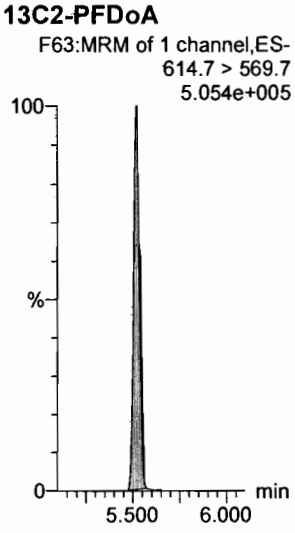

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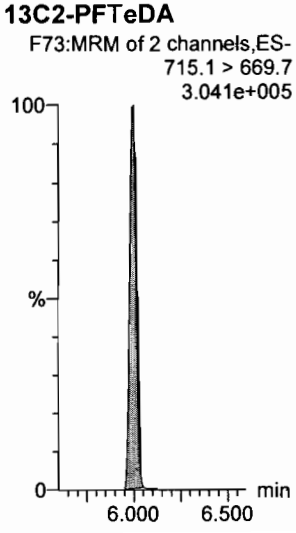

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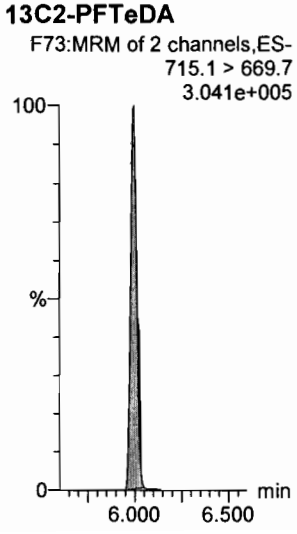

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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

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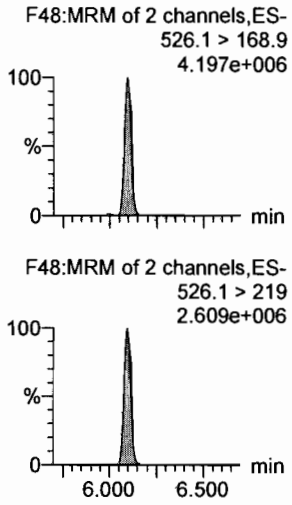

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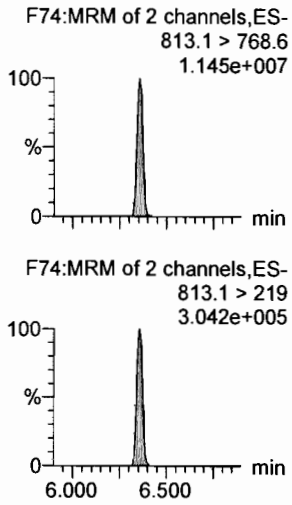

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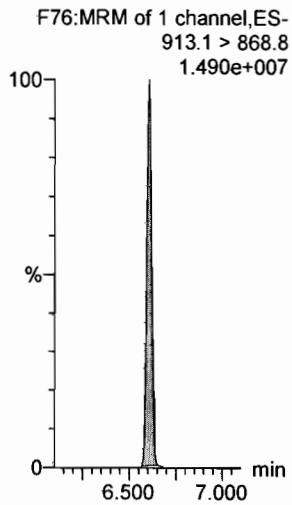
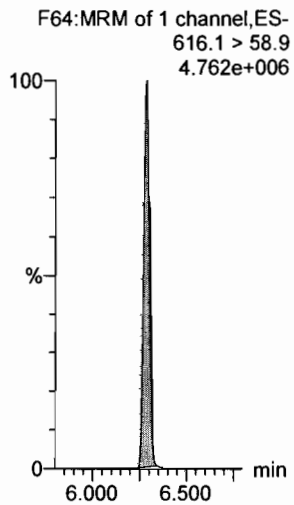
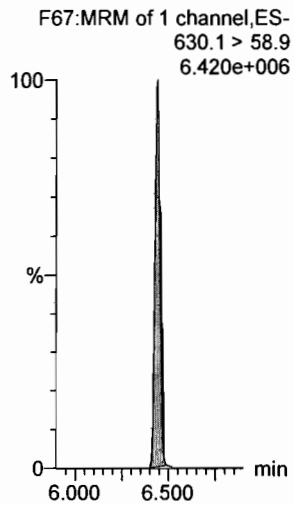


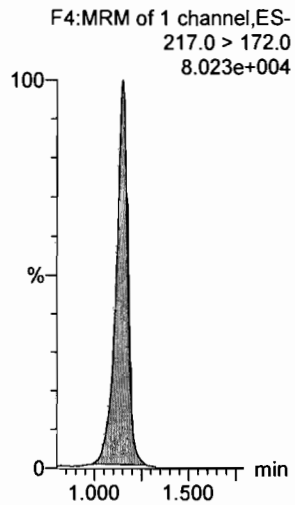
N-MeFOSE



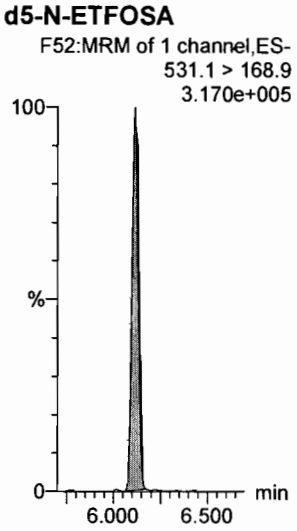
N-EtFOSE



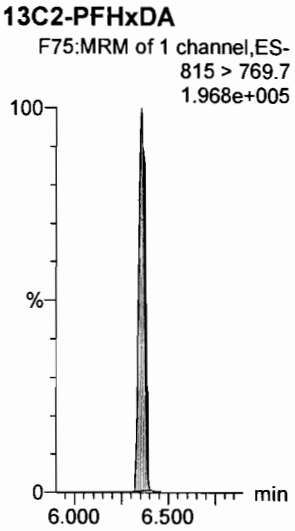
13C4-PFBA



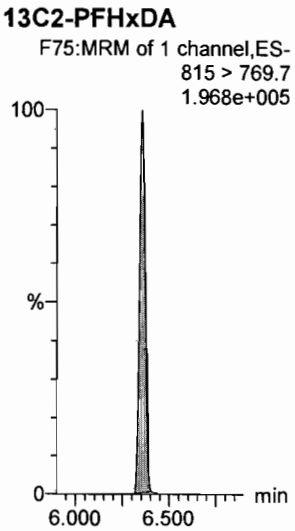
d5-N-ETFOSA



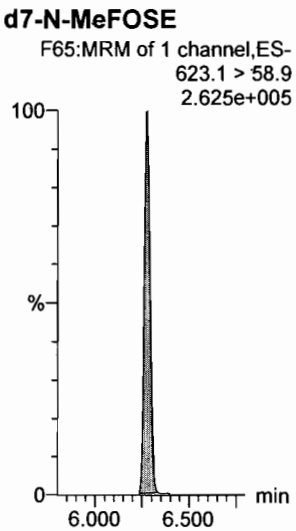
13C2-PFHxDA



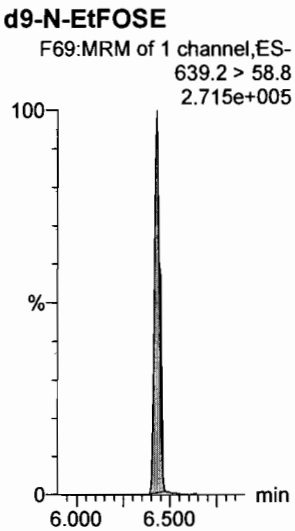
13C2-PFHxDA



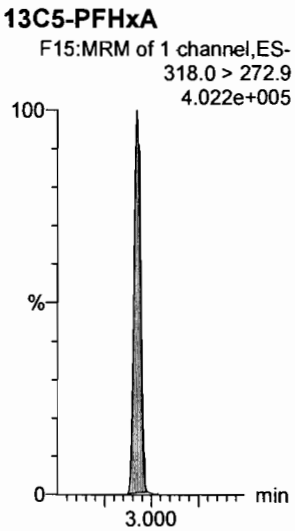
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA



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Last Altered: Sunday, July 14, 2019 12:48:33 Pacific Daylight Time
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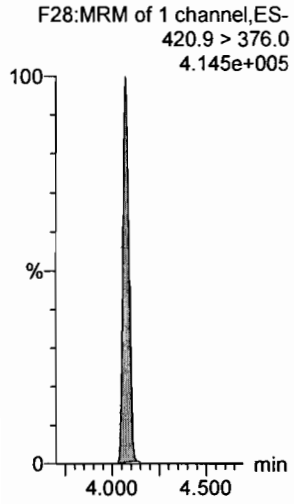
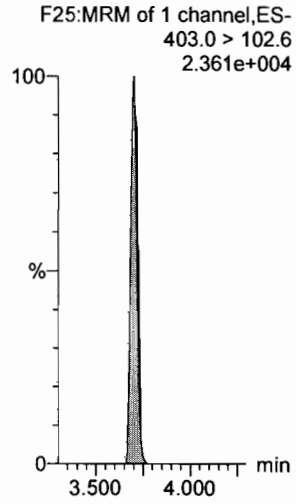
Name: 190712M2_15, Date: 12-Jul-2019, Time: 19:59:47, ID: ST190712M2-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

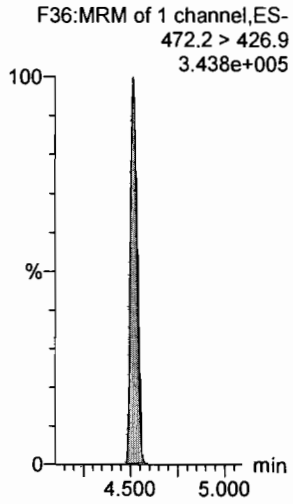
13C8-PFOA



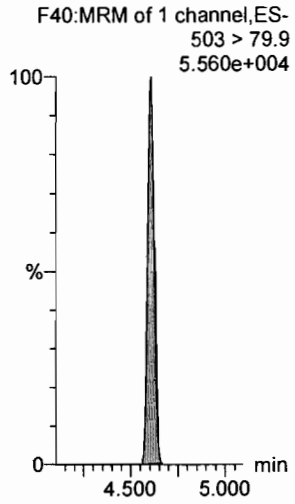
18O2-PFHxS



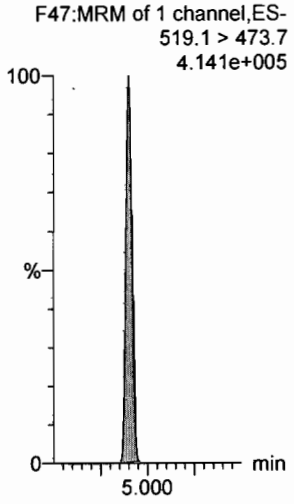
13C9-PFNA



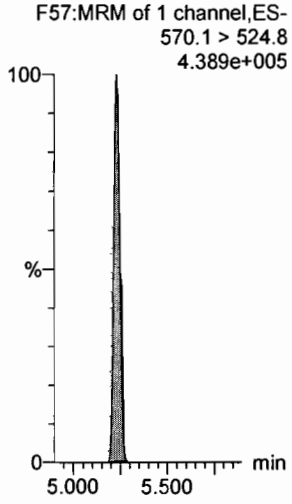
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

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(A) Not in ICV.

JAL 7/14/19

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	3174.936	4417.138	1.00	1.15	8.985	7.2	72.3	NO		
2	2	PFPrS	248.9 > 79.9		1350.074	1.00				(A) J	NO		
3	3	3:3 FTCA	240.9 > 176.9		9893.418	1.00					NO		
4	4	PFPeA	263.1 > 218.9	5899.407	9893.418	1.00	2.13	7.454	8.0	79.5	NO		
5	5	PFBS	299.0 > 79.7	1573.665	1350.074	1.00	2.42	14.570	6.2	70.2	NO	2.867	NO
6	6	4:2 FTS	327.0 > 306.9	2727.108	2267.896	1.00	2.84	15.031	6.7	71.9	NO	1.639	NO
7	47	13C3-PFBA	216.1 > 171.8	4417.138	5929.987	1.00	1.15	9.311	12.7	101.7	NO		
8	49	13C3-PFBS	302.0 > 98.8	1350.074	1100.823	1.00	2.42	15.330	14.3	114.3	NO		
9	48	13C3-PFPeA	266.0 > 221.8	9893.418	21375.551	1.00	2.13	5.785	11.4	90.9	NO		
10	48	13C3-PFPeA	266.0 > 221.8	9893.418	21375.551	1.00	2.13	5.785	11.4	90.9	NO		
11	49	13C3-PFBS	302.0 > 98.8	1350.074	1100.823	1.00	2.42	15.330	14.3	114.3	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	2267.896	1100.823	1.00	2.84	25.752	14.5	116.1	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	12191.234	8522.689	1.00	2.92	7.152	8.2	81.6	NO	16.344	NO
15	8	PFPeS	349.1>80.1	1374.236	1350.074	1.00	3.13	12.724	7.5	74.6	NO	1.527	NO
16	9	HFPO-DA	285.1 > 168.9		1521.545	1.00				(A) J	NO		
17	10	5:3 FTCA	340.9 > 236.9		10909.852	1.00					NO		
18	11	PFHpA	363.0 > 318.9	8626.849	10909.852	1.00	3.55	9.884	7.6	75.8	NO	13.469	NO
19	12	ADONA	376.8 > 250.9		10909.852	1.00				(A)	NO		
20	52	13C2-PFHxA	315.0 > 270.0	8522.689	21375.551	1.00	2.92	4.984	4.9	98.8	NO		
21	49	13C3-PFBS	302.0 > 98.8	1350.074	1100.823	1.00	2.42	15.330	14.3	114.3	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1521.545	21375.551	1.00	3.14	0.890	5.2	103.1	NO		
23	53	13C4-PFHpA	367.2 > 321.8	10909.852	21375.551	1.00	3.55	6.380	12.5	99.7	NO		
24	53	13C4-PFHpA	367.2 > 321.8	10909.852	21375.551	1.00	3.55	6.380	12.5	99.7	NO		
25	53	13C4-PFHpA	367.2 > 321.8	10909.852	21375.551	1.00	3.55	6.380	12.5	99.7	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	1319.443	2662.245	1.00	3.70	6.195	6.6	72.3	NO	1.895	NO
28	15	6:2 FTS	427.0 > 406.9	3123.353	1924.070	1.00	4.02	20.291	6.7	70.1	NO	2.039	NO
29	16	L-PFOA	412.8 > 368.9	16048.698	19367.639	1.00	4.08	10.358	7.5	75.3	NO	3.714	NO
30	18	PFecHS	460.8 > 381.0		19367.639	1.00				(A)	NO		
31	19	PFHpS	449.0 > 80.0	1713.956	3100.681	1.00	4.19	6.910	7.3	76.9	NO	1.889	NO
32	20	7:3 FTCA	440.9 > 336.9		19036.250	1.00				(K)	NO		
33	54	13C3-PFHxS	401.8 > 79.9	2662.245	1100.823	1.00	3.70	30.230	13.8	110.1	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1924.070	3393.012	1.00	4.02	7.088	12.0	96.2	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

Last Altered: Sunday, July 14, 2019 13:56:24 Pacific Daylight Time
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Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
35	58	13C2-PFOA	414.9 > 369.7	19367.639	23917.555	1.00	4.07	10.122	12.8	102.6	NO		
36	58	13C2-PFOA	414.9 > 369.7	19367.639	23917.555	1.00	4.07	10.122	12.8	102.6	NO		
37	59	13C8-PFOS	507.0 > 79.9	3100.681	3393.012	1.00	4.61	11.423	11.2	89.9	NO		
38	56	13C5-PFNA	468.2 > 422.9	19036.250	18853.758	1.00	4.52	12.621	12.7	101.9	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	14312.479	19036.250	1.00	4.52	9.398	7.7	76.6	NO	4.707	NO
41	22	PFOSA	497.9 > 77.9	2222.687	3354.028	1.00	4.58	8.284	7.1	71.4	NO	26.893	NO
42	23	L-PFOS	498.9 > 79.9	1773.082	3100.681	1.00	4.61	7.148	6.6	70.9	NO	1.714	NO
43	25	9Cl-PF30NS	530.7 > 350.8		3100.681	1.00				(A)	NO		
44	26	PFDA	513 > 468.8	15588.342	18208.189	1.00	4.90	10.701	7.8	78.1	NO	5.832	NO
45	27	8:2 FTS	527.0 > 506.9	1789.624	1812.892	1.00	4.87	12.340	6.7	70.2	NO	1.001	NO
46	56	13C5-PFNA	468.2 > 422.9	19036.250	18853.758	1.00	4.52	12.621	12.7	101.9	NO		
47	57	13C8-PFOSA	506.1 > 77.7	3354.028	23721.395	1.00	4.58	1.767	11.9	95.2	NO		
48	59	13C8-PFOS	507.0 > 79.9	3100.681	3393.012	1.00	4.61	11.423	11.2	89.9	NO		
49	59	13C8-PFOS	507.0 > 79.9	3100.681	3393.012	1.00	4.61	11.423	11.2	89.9	NO		
50	60	13C2-PFDA	515.1 > 469.9	18208.189	23042.811	1.00	4.90	9.877	12.2	97.8	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1812.892	3393.012	1.00	4.87	6.679	11.2	89.8	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	1291.899	3100.681	1.00	4.97	5.208	7.0	73.1	NO	1.760	NO
54	29	L-MeFOSAA	570 > 419	5972.378	3275.990	1.00	5.05	22.788	7.8	78.5	NO	2.903	NO
55	31	L-EtFOSAA	584.1 > 419	4708.494	3751.342	1.00	5.22	15.689	9.6	96.3	NO	1.483	NO
56	33	PFUdA	563.0 > 518.9	14237.970	25600.602	1.00	5.23	6.952	7.5	75.3	NO	11.431	NO
57	34	PFDS	598.8 > 79.9	1771.953	1812.892	1.00	5.28	12.218	6.9	71.7	NO	1.675	NO
58	35	11Cl-PF30UdS	632.6 > 452.7		23184.693	1.00				(A)	NO		
59	59	13C8-PFOS	507.0 > 79.9	3100.681	3393.012	1.00	4.61	11.423	11.2	89.9	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	3275.990	23721.395	1.00	5.05	1.726	12.4	98.9	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	3751.342	23721.395	1.00	5.21	1.977	11.8	94.3	NO		
62	63	13C2-PFUdA	565 > 519.8	25600.602	23721.395	1.00	5.23	13.490	12.8	102.7	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1812.892	3393.012	1.00	4.87	6.679	11.2	89.8	NO		
64	65	13C2-PFDoA	614.7 > 569.7	23184.693	23042.811	1.00	5.52	12.577	12.1	96.7	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		1812.892	1.00				(B)	NO		
67	37	PFDoA	612.9 > 569.0	14984.275	23184.693	1.00	5.52	8.079	7.7	77.2	NO	7.836	NO
68	38	N-MeFOSA	512.1 > 168.9		9974.212	1.00				(N)	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

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Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
69	39	PFTrDA	662.9 > 618.9	16554.318	23184.693	1.00	5.77	8.925	7.4	74.5	NO	26.130	NO
70	40	PFDoS	698.8 > 79.9		15991.654	1.00					NO		
71	41	PFTeDA	713.0 > 669.0	13753.114	15991.654	1.00	5.99	10.750	8.1	80.7	NO	13.669	NO
72	65	13C2-PFDoA	614.7 > 569.7	23184.693	23042.811	1.00	5.52	12.577	12.1	96.7	NO		
73	65	13C2-PFDoA	614.7 > 569.7	23184.693	23042.811	1.00	5.52	12.577	12.1	96.7	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	9974.212	23721.395	1.00	5.69	5.256	139.4	92.9	NO		
75	65	13C2-PFDoA	614.7 > 569.7	23184.693	23042.811	1.00	5.52	12.577	12.1	96.7	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	15991.654	23721.395	1.00	5.99	8.427	12.2	97.7	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	15991.654	23721.395	1.00	5.99	8.427	12.2	97.7	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		14522.269	1.00					NO		
80	43	PFHxDA	813.1 > 768.6		8172.161	1.00					NO		
81	44	PFODA	913.1 > 868.8		8172.161	1.00					NO		
82	45	N-MeFOSE	616.1 > 58.9		9169.378	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		8644.078	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	5929.987	5929.987	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	14522.269	23721.395	1.00	6.11	7.653	143.5	95.6	NO		
86	69	13C2-PFHxDA	815 > 769.7	8172.161	23721.395	1.00	6.35	4.306	4.8	95.8	NO		
87	69	13C2-PFHxDA	815 > 769.7	8172.161	23721.395	1.00	6.35	4.306	4.8	95.8	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	9169.378	23721.395	1.00	6.27	4.832	138.8	92.5	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	8644.078	23721.395	1.00	6.43	4.555	138.4	92.3	NO		
90	73	13C5-PFHxA	318.0 > 272.9	21375.551	21375.551	1.00	2.92	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	23917.555	23917.555	1.00	4.07	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	1100.823	1100.823	1.00	3.70	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	18853.758	18853.758	1.00	4.52	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	3393.012	3393.012	1.00	4.61	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	23042.811	23042.811	1.00	4.90	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	23721.395	23721.395	1.00	5.23	12.500	12.5	100.0	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

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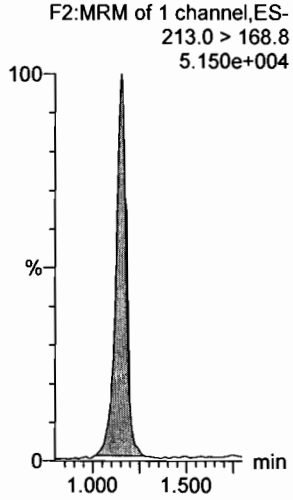
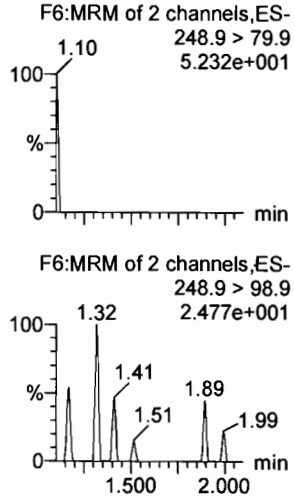
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219_ICV.mdb 14 Jul 2019 13:54:36
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

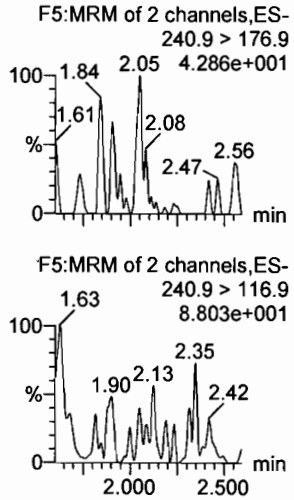
PFBA



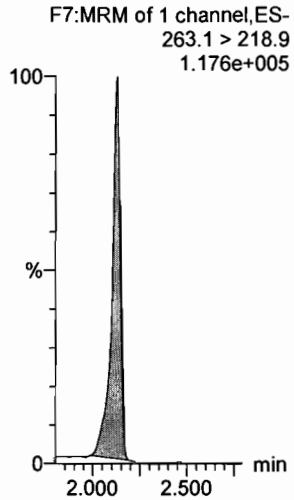
PFPrS



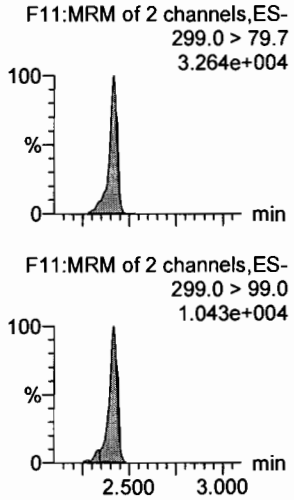
3:3 FTCA



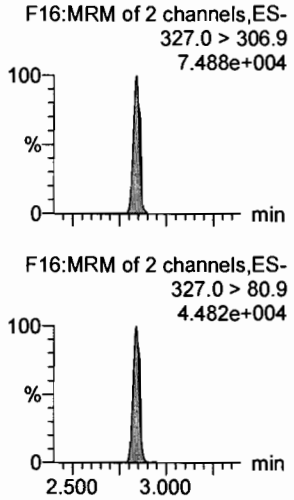
PFPeA



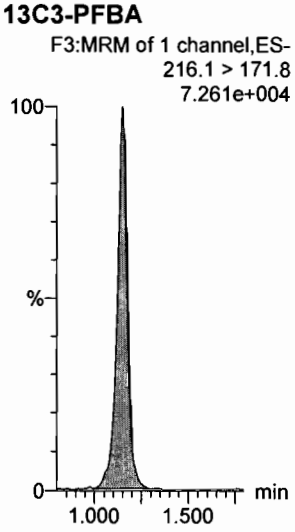
PFBS



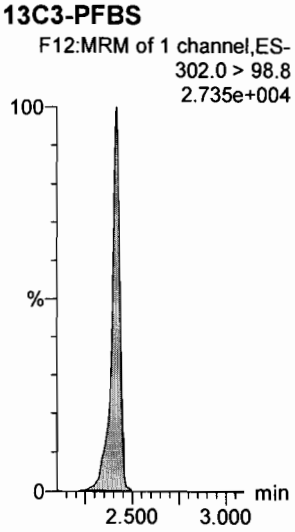
4:2 FTS



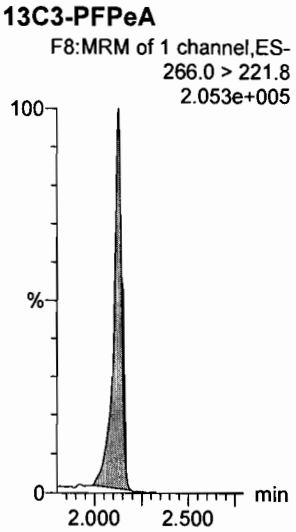
13C3-PFBA



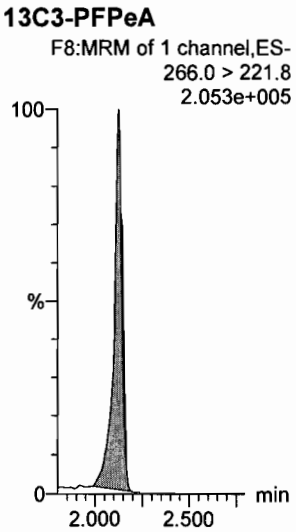
13C3-PFBS



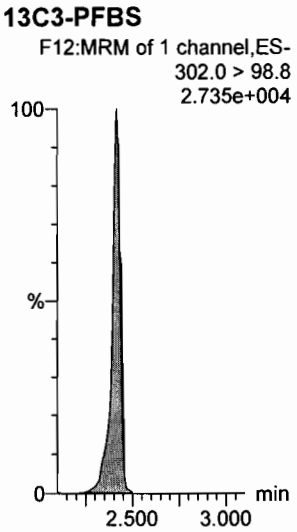
13C3-PFPeA



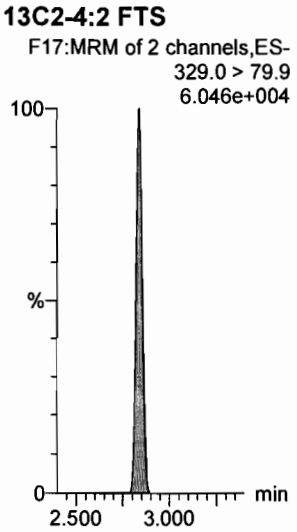
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

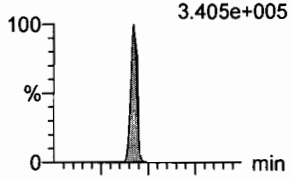


Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

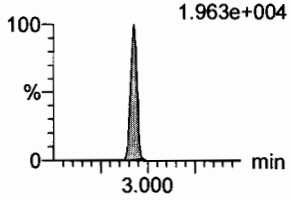
Last Altered: Sunday, July 14, 2019 13:56:24 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:56:35 Pacific Daylight Time

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

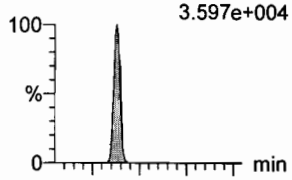
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
3.405e+005



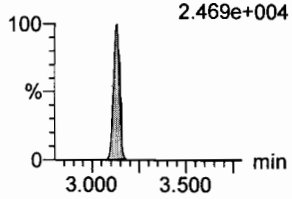
F13:MRM of 2 channels,ES-
313 > 118.9
1.963e+004



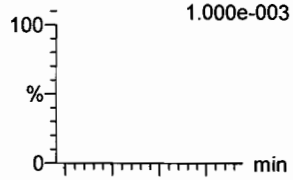
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
3.597e+004



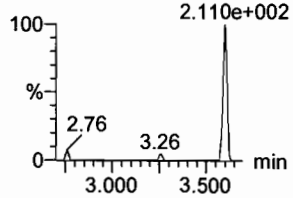
F19:MRM of 2 channels,ES-
349.1 > 99
2.469e+004



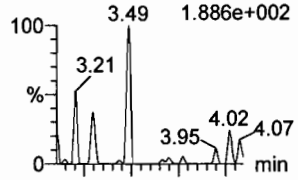
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
1.000e-003



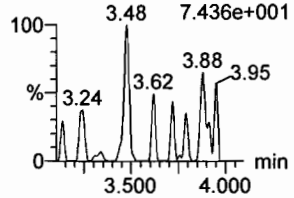
F9:MRM of 3 channels,ES-
285.1 > 184.9
2.110e+002



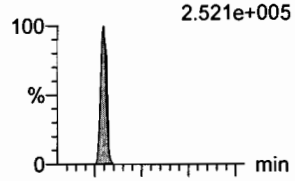
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
1.886e+002



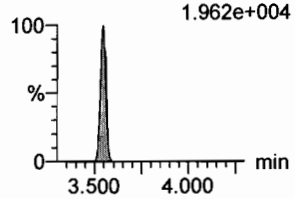
F18:MRM of 2 channels,ES-
340.9 > 216.9
7.436e+001



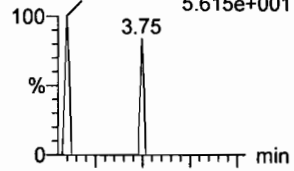
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
2.521e+005



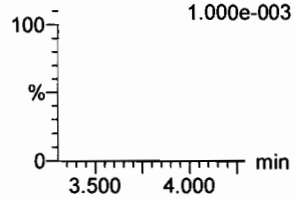
F20:MRM of 2 channels,ES-
363.0 > 169.0
1.962e+004



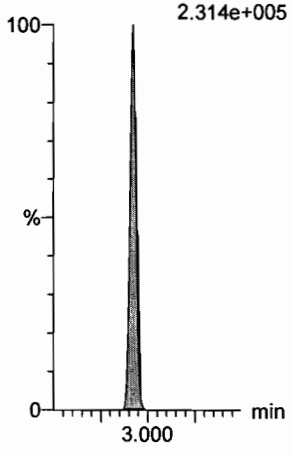
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
5.615e+001



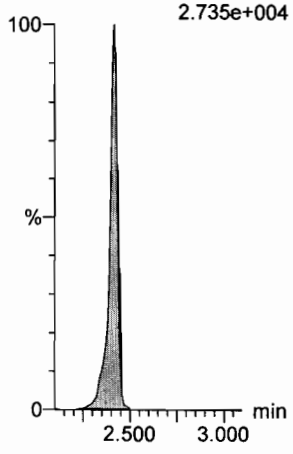
F22:MRM of 2 channels,ES-
376.8 > 85.0
1.000e-003



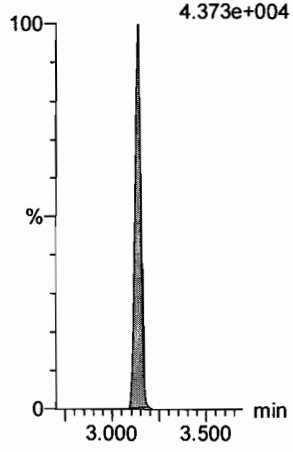
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
2.314e+005



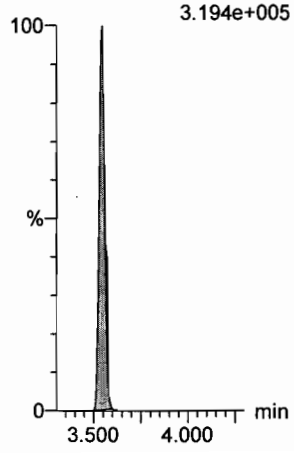
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
2.735e+004



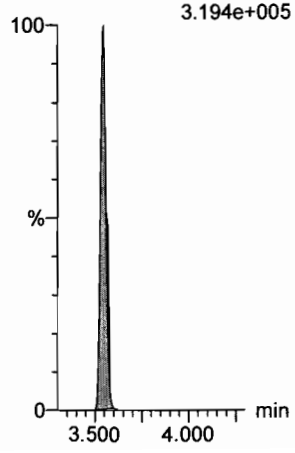
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
4.373e+004



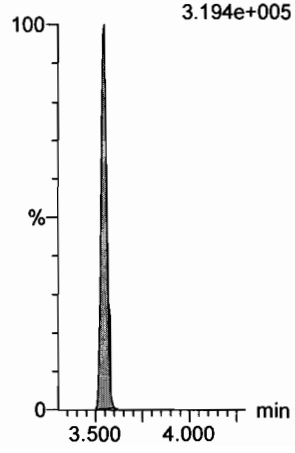
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.194e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.194e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.194e+005

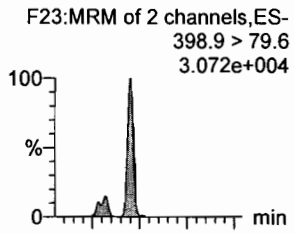


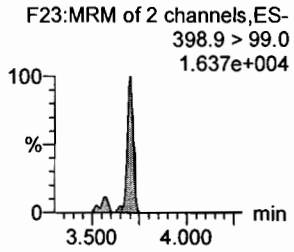
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

Last Altered: Sunday, July 14, 2019 13:56:24 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:56:35 Pacific Daylight Time

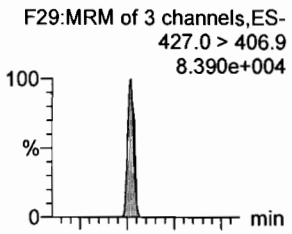
Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

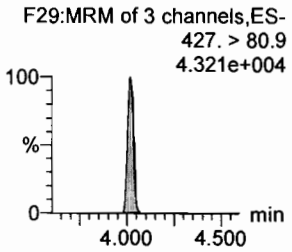
L-PFHxS



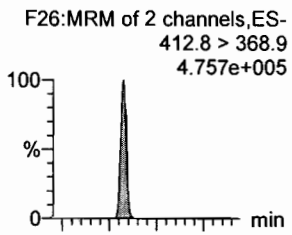


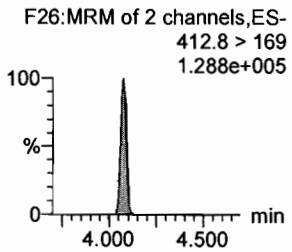
6:2 FTS



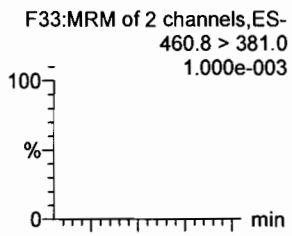


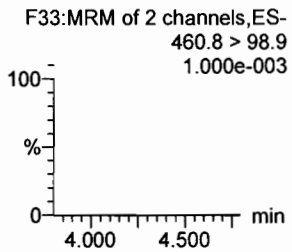
L-PFOA



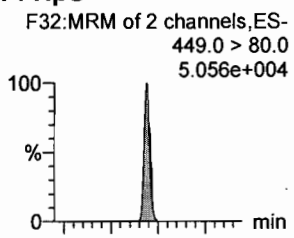


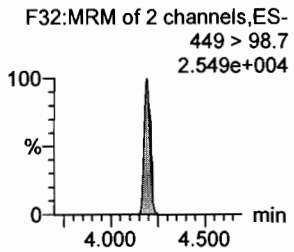
PFEChS



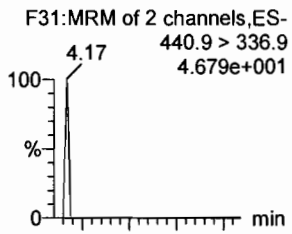


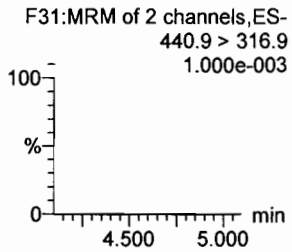
PFHpS



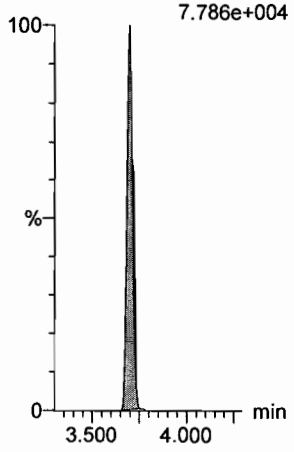


7:3 FTCA

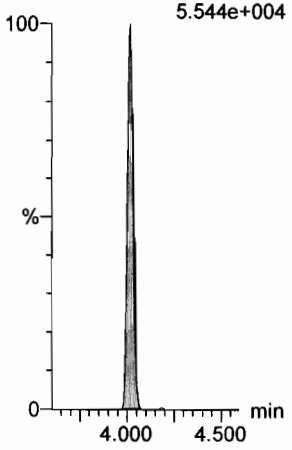




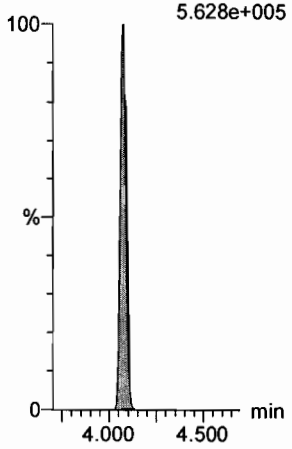
13C3-PFHxS



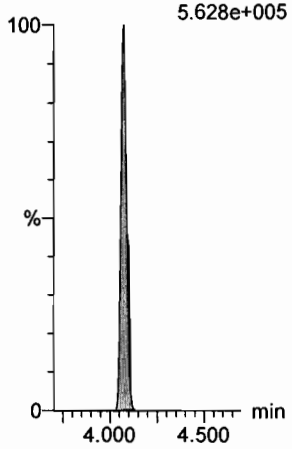
13C2-6:2 FTS



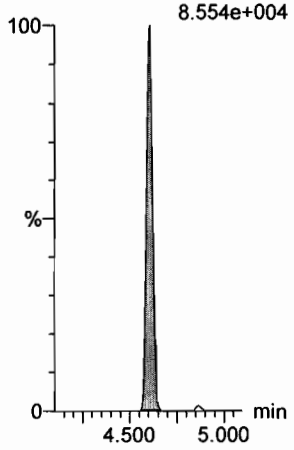
13C2-PFOA



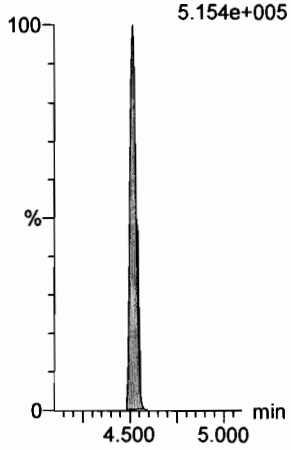
13C2-PFOA



13C8-PFOS



13C5-PFNA

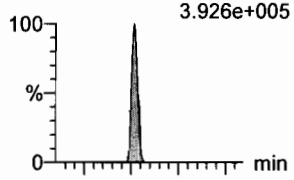


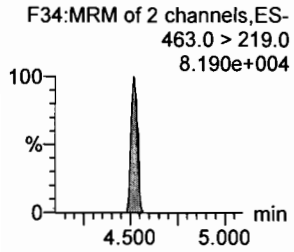
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

Last Altered: Sunday, July 14, 2019 13:56:24 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:56:35 Pacific Daylight Time

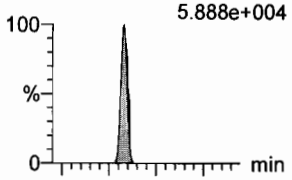
Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

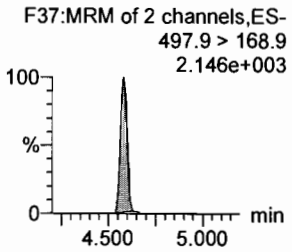
PFNA



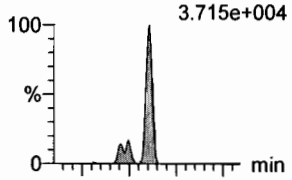


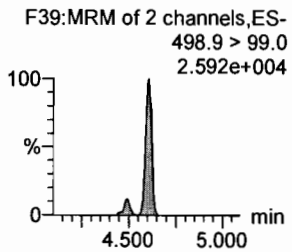
PFOSA



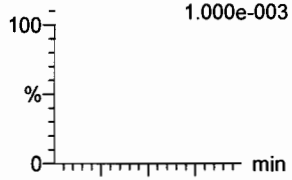


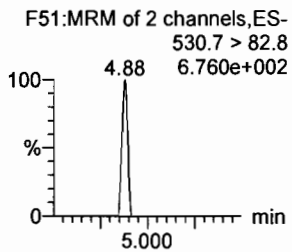
L-PFOS





9Cl-PF30NS





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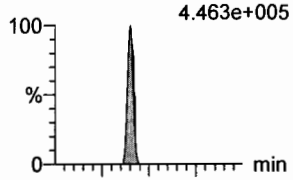

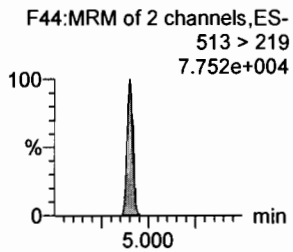

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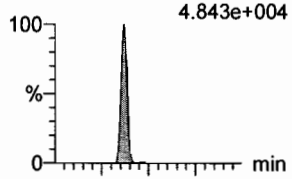

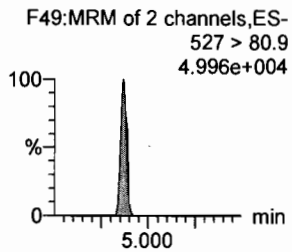

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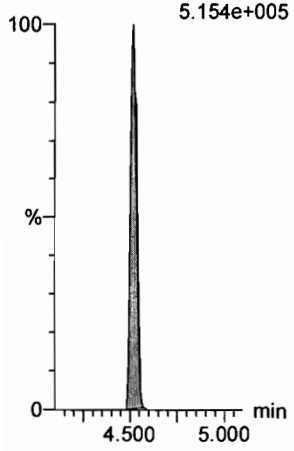

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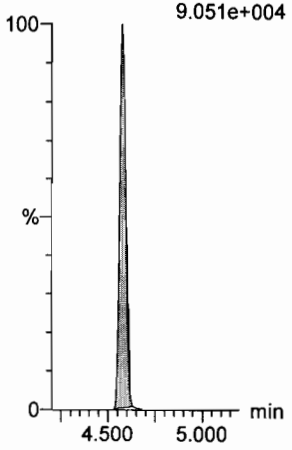

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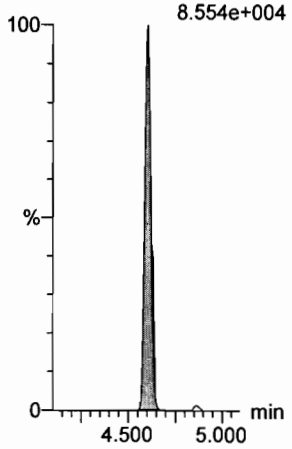

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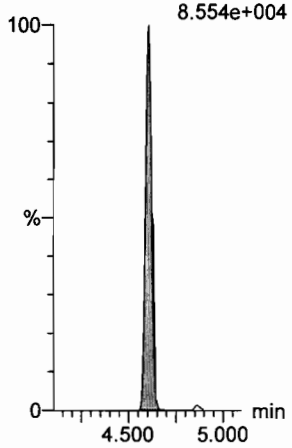

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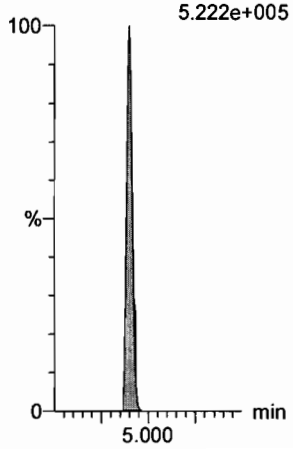

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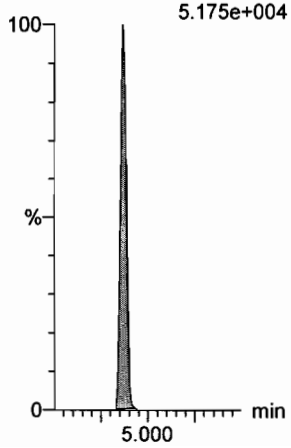
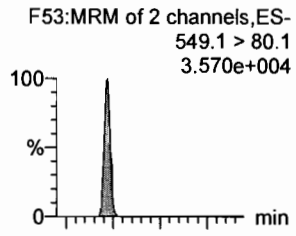


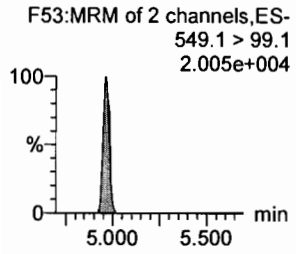
Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

Last Altered: Sunday, July 14, 2019 13:56:24 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:56:35 Pacific Daylight Time

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

PFNS





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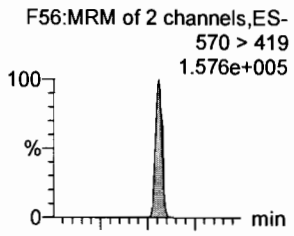

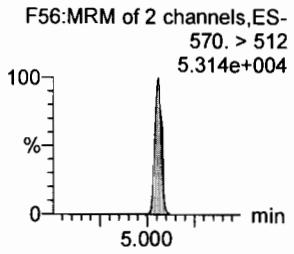

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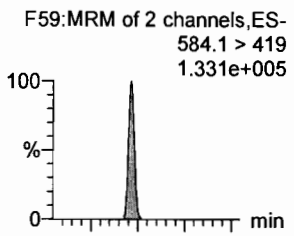

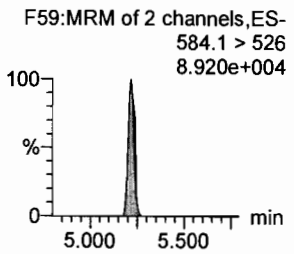

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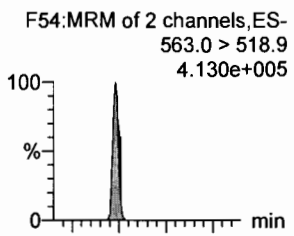

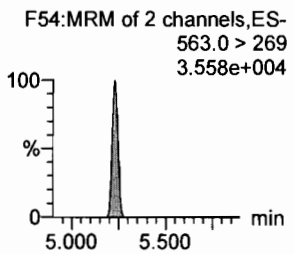

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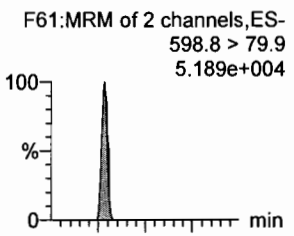

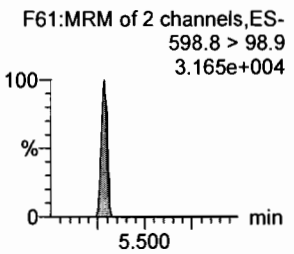

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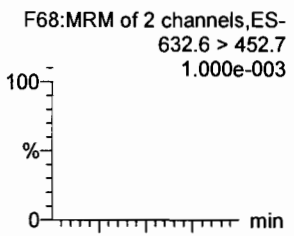
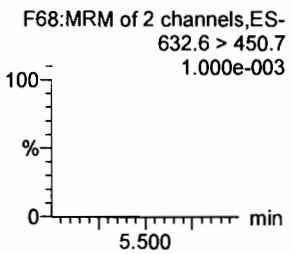
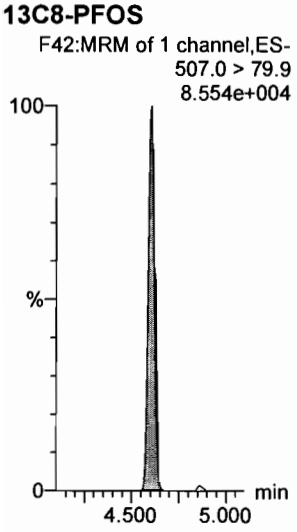




13C8-PFOS



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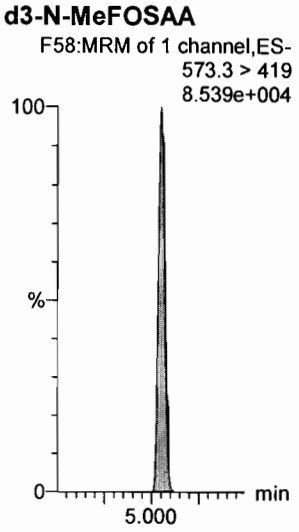

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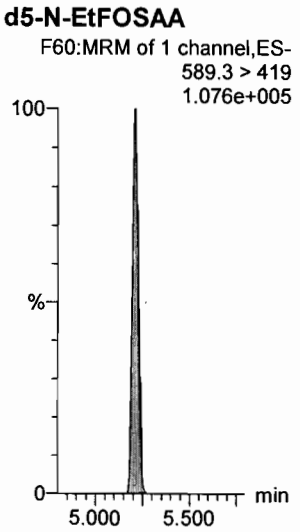
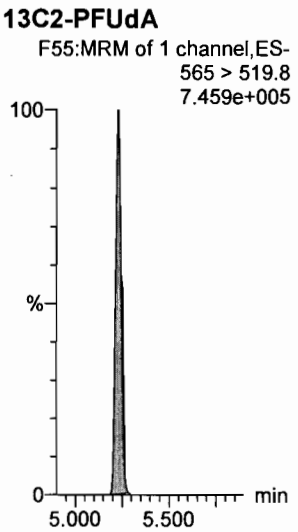
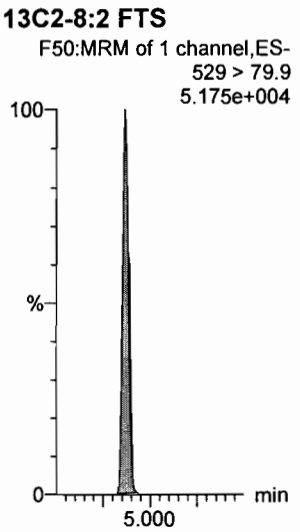


13C2-PFUdA



13C2-8:2 FTS



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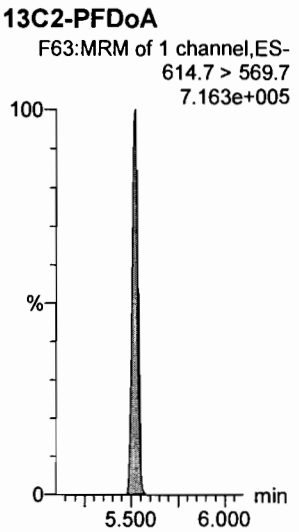

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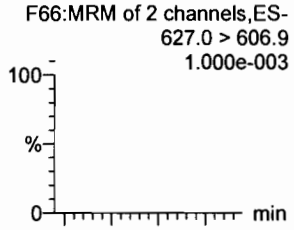
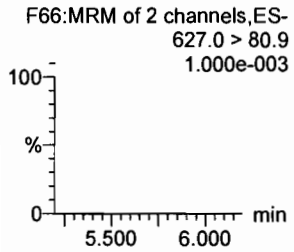
Last Altered: Sunday, July 14, 2019 13:56:24 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:56:35 Pacific Daylight Time

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

10:2 FTS





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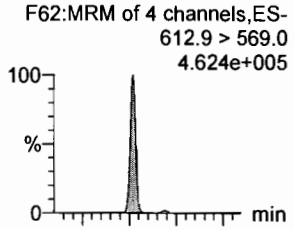

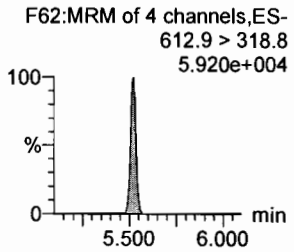

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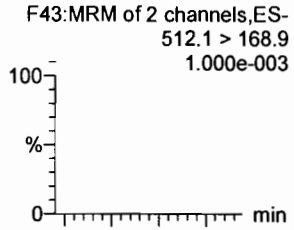

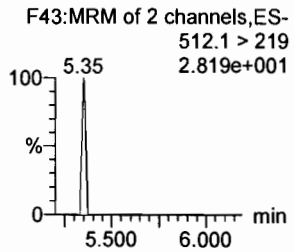

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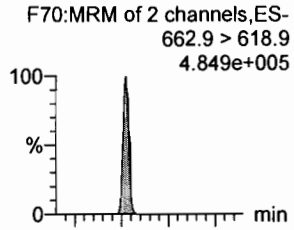

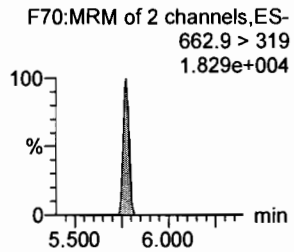

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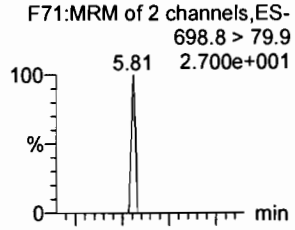

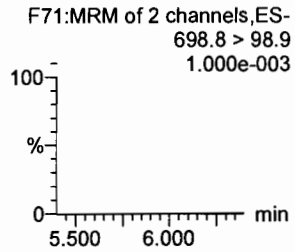

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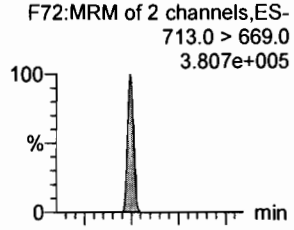

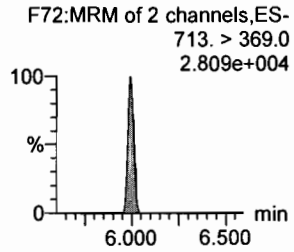

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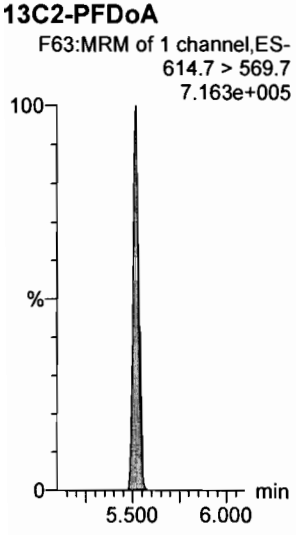

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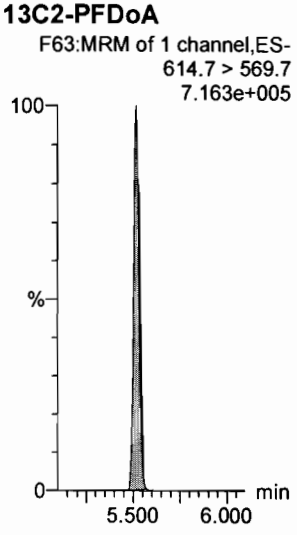
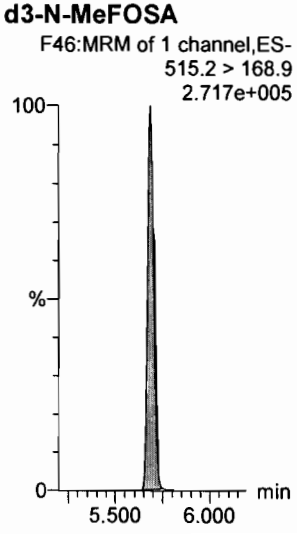


d3-N-MeFOSA



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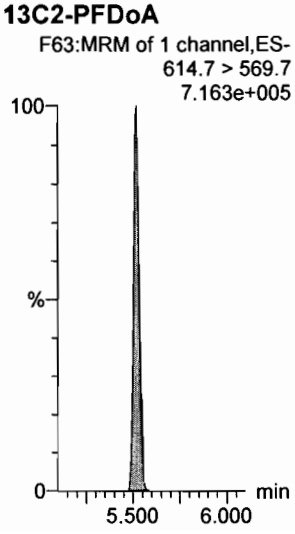

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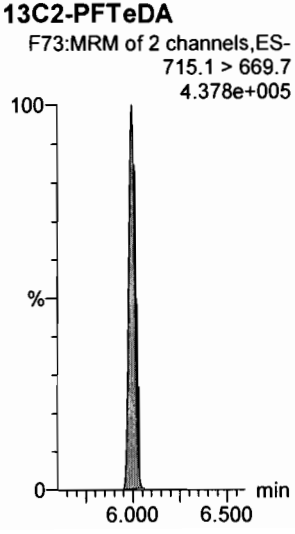

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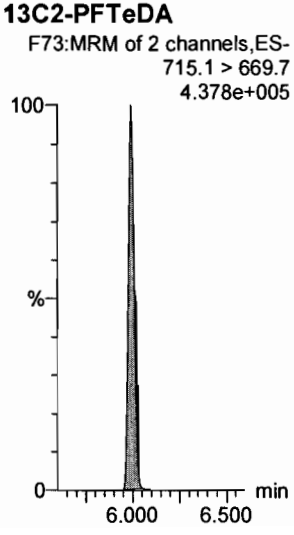

Dataset: F:\Projects\PFAS.PRO\Results\190712M2\190712m2-ICV.qld

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Printed: Sunday, July 14, 2019 13:56:35 Pacific Daylight Time

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

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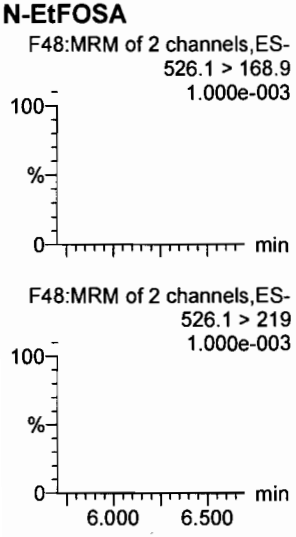

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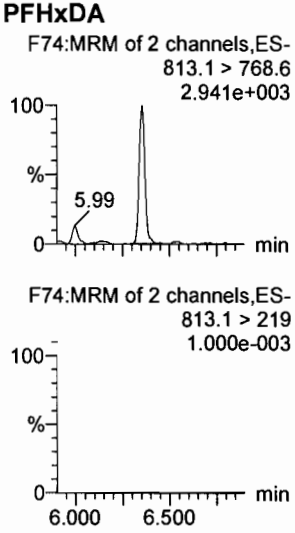

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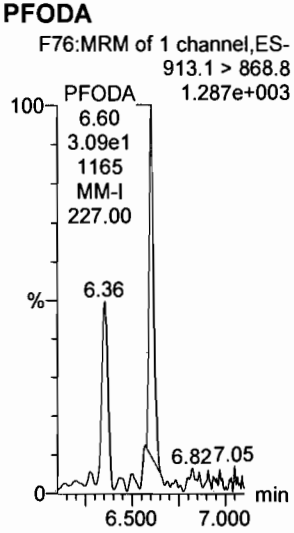
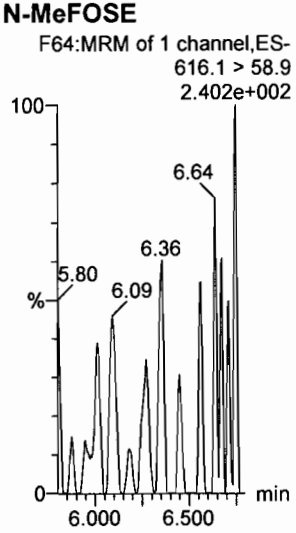


N-MeFOSE



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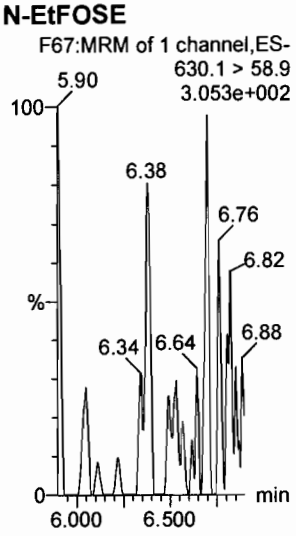
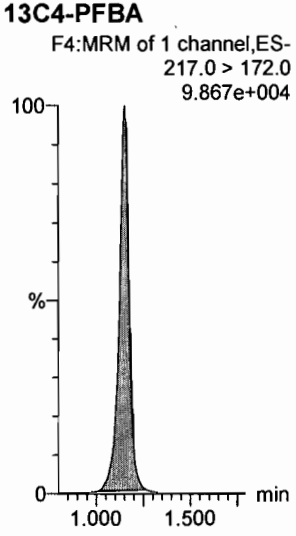
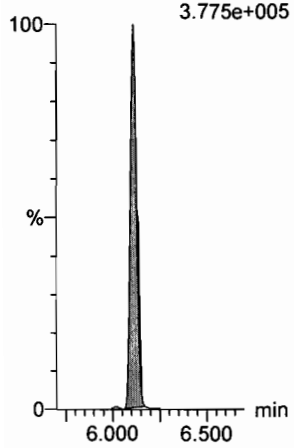


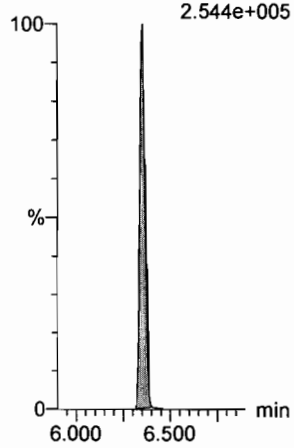
13C4-PFBA



d5-N-ETFOSA



13C2-PFHxDA



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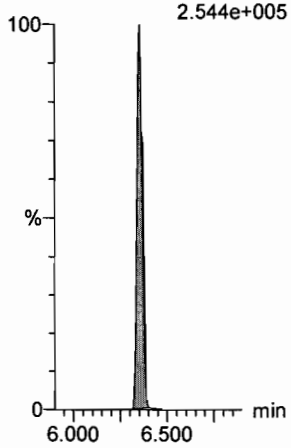
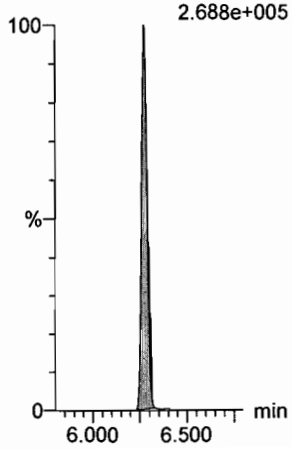
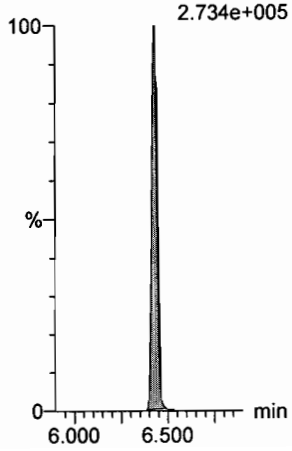


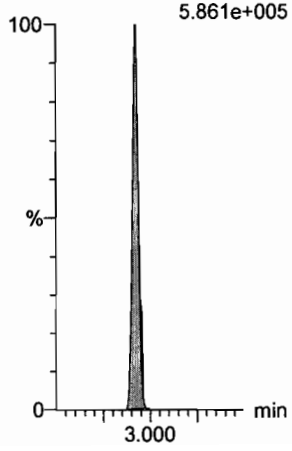
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA



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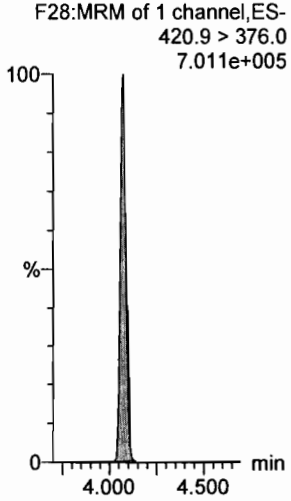
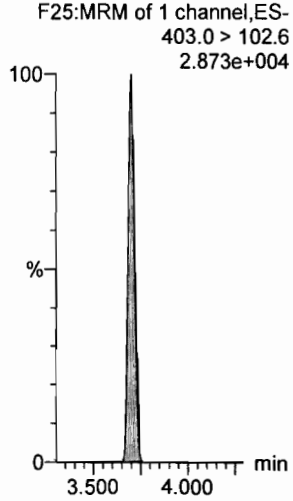
Last Altered: Sunday, July 14, 2019 13:56:24 Pacific Daylight Time
Printed: Sunday, July 14, 2019 13:56:35 Pacific Daylight Time

Name: 190712M2_17, Date: 12-Jul-2019, Time: 20:20:58, ID: ST190712M2-1 PFC ICV 19G1111, Description: PFC ICV 19G1111

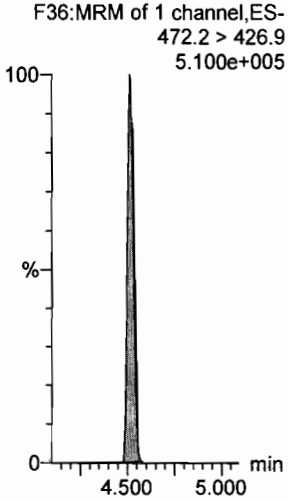
13C8-PFOA



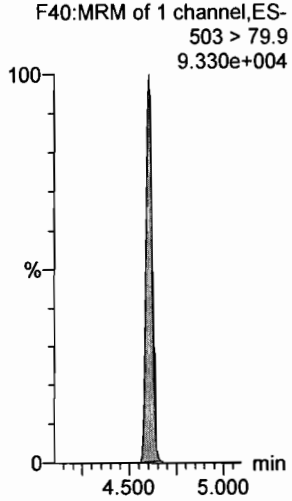
18O2-PFHxS



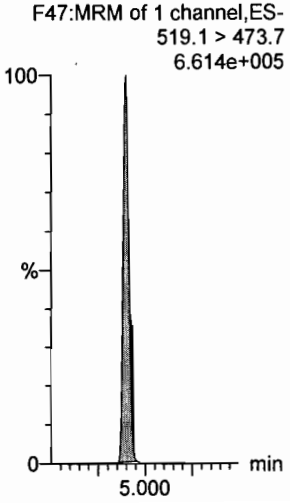
13C9-PFNA



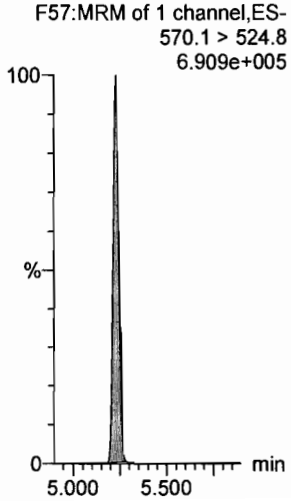
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Sunday, July 14, 2019 14:16:51 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:17:01 Pacific Daylight Time

Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8		4173.636	1.00					NO		
2	2	PFPrS	248.9 > 79.9		1222.156	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		9804.081	1.00					NO		
4	4	PFPeA	263.1 > 218.9	11.035	9804.081	1.00	2.24	0.014	0.0		NO		
5	5	PFBS	299.0 > 79.7		1222.156	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		2280.306	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	4173.636	5790.426	1.00	1.15	9.010	12.3	98.4	NO		
8	49	13C3-PFBS	302.0 > 98.8	1222.156	1220.520	1.00	2.41	12.517	11.7	93.3	NO		
9	48	13C3-PFPeA	266.0 > 221.8	9804.081	21048.615	1.00	2.12	5.822	11.4	91.5	NO		
10	48	13C3-PFPeA	266.0 > 221.8	9804.081	21048.615	1.00	2.12	5.822	11.4	91.5	NO		
11	49	13C3-PFBS	302.0 > 98.8	1222.156	1220.520	1.00	2.41	12.517	11.7	93.3	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	2280.306	1220.520	1.00	2.84	23.354	13.2	105.3	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	17.552	8087.008	1.00	2.59	0.011			NO		
15	8	PFPeS	349.1>80.1		1222.156	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1405.317	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		10229.816	1.00					NO		
18	11	PFHpA	363.0 > 318.9	7.659	10229.816	1.00	3.65	0.009	0.0		NO		
19	12	ADONA	376.8 > 250.9	6.238	10229.816	1.00	3.62	0.008	0.1		NO		
20	52	13C2-PFHxA	315.0 > 270.0	8087.008	21048.615	1.00	2.92	4.803	4.8	95.2	NO		
21	49	13C3-PFBS	302.0 > 98.8	1222.156	1220.520	1.00	2.41	12.517	11.7	93.3	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1405.317	21048.615	1.00	3.13	0.835	4.8	96.7	NO		
23	53	13C4-PFHpA	367.2 > 321.8	10229.816	21048.615	1.00	3.54	6.075	11.9	94.9	NO		
24	53	13C4-PFHpA	367.2 > 321.8	10229.816	21048.615	1.00	3.54	6.075	11.9	94.9	NO		
25	53	13C4-PFHpA	367.2 > 321.8	10229.816	21048.615	1.00	3.54	6.075	11.9	94.9	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6		2601.329	1.00					NO		
28	15	6:2 FTS	427.0 > 406.9		1841.255	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	83.169	19226.945	1.00	4.08	0.054			NO	8.804	YES
30	18	PFecHS	460.8 > 381.0		19226.945	1.00					NO		
31	19	PFHpS	449.0 > 80.0		3146.803	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		18604.988	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	2601.329	1220.520	1.00	3.70	26.642	12.1	97.0	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	1841.255	3295.869	1.00	4.01	6.983	11.8	94.8	NO		
35	58	13C2-PFOA	414.9 > 369.7	19226.945	24432.520	1.00	4.07	9.837	12.5	99.7	NO		
36	58	13C2-PFOA	414.9 > 369.7	19226.945	24432.520	1.00	4.07	9.837	12.5	99.7	NO		

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Dataset: Untitled

Last Altered: Sunday, July 14, 2019 14:16:51 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:17:01 Pacific Daylight Time

Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	3146.803	3295.869	1.00	4.61	11.935	11.7	93.9	NO		
38	56	13C5-PFNA	468.2 > 422.9	18604.988	18849.861	1.00	4.52	12.338	12.5	99.6	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	6.723	18604.988	1.00	4.52	0.005	0.0		NO		
41	22	PFOSA	497.9 > 77.9	7.646	3315.525	1.00	4.59	0.029	0.1		NO		
42	23	L-PFOS	498.9 > 79.9		3146.803	1.00					NO		
43	25	9Cl-PF30NS	530.7 > 350.8		3146.803	1.00					NO		
44	26	PFDA	513 > 468.8	14.191	17795.330	1.00	4.90	0.010			NO		
45	27	8:2 FTS	527.0 > 506.9		1869.147	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	18604.988	18849.861	1.00	4.52	12.338	12.5	99.6	NO		
47	57	13C8-PFOSA	506.1 > 77.7	3315.525	23794.031	1.00	4.58	1.742	11.7	93.9	NO		
48	59	13C8-PFOS	507.0 > 79.9	3146.803	3295.869	1.00	4.61	11.935	11.7	93.9	NO		
49	59	13C8-PFOS	507.0 > 79.9	3146.803	3295.869	1.00	4.61	11.935	11.7	93.9	NO		
50	60	13C2-PFDA	515.1 > 469.9	17795.330	23467.289	1.00	4.90	9.479	11.7	93.8	NO		
51	61	13C2-8:2 FTS	529 > 79.9	1869.147	3295.869	1.00	4.87	7.089	11.9	95.3	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		3146.803	1.00					NO		
54	29	L-MeFOSAA	570 > 419		3195.779	1.00					NO		
55	31	L-EtFOSAA	584.1 > 419		4118.317	1.00					NO		
56	33	PFUdA	563.0 > 518.9	54.767	25384.857	1.00	5.23	0.027			NO		
57	34	PFDS	598.8 > 79.9		1869.147	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		22540.199	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	3146.803	3295.869	1.00	4.61	11.935	11.7	93.9	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	3195.779	23794.031	1.00	5.05	1.679	12.0	96.2	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	4118.317	23794.031	1.00	5.21	2.164	12.9	103.2	NO		
62	63	13C2-PFUdA	565 > 519.8	25384.857	23794.031	1.00	5.23	13.336	12.7	101.5	NO		
63	61	13C2-8:2 FTS	529 > 79.9	1869.147	3295.869	1.00	4.87	7.089	11.9	95.3	NO		
64	65	13C2-PFDoA	614.7 > 569.7	22540.199	23467.289	1.00	5.52	12.006	11.5	92.3	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		1869.147	1.00					NO		
67	37	PFDoA	612.9 > 569.0	268.500	22540.199	1.00	5.69	0.149	0.1		NO		
68	38	N-MeFOSA	512.1 > 168.9		9949.627	1.00					NO		
69	39	PFTrDA	662.9 > 618.9	37.146	22540.199	1.00	5.77	0.021	0.0		NO		
70	40	PFDoS	698.8 > 79.9		15188.654	1.00					NO		
71	41	PFTeDA	713.0 > 669.0	27.475	15188.654	1.00	5.99	0.023	0.0		NO		
72	65	13C2-PFDoA	614.7 > 569.7	22540.199	23467.289	1.00	5.52	12.006	11.5	92.3	NO		

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Dataset: Untitled

Last Altered: Sunday, July 14, 2019 14:16:51 Pacific Daylight Time
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Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	22540.199	23467.289	1.00	5.52	12.006	11.5	92.3	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	9949.627	23794.031	1.00	5.69	5.227	138.6	92.4	NO		
75	65	13C2-PFDoA	614.7 > 569.7	22540.199	23467.289	1.00	5.52	12.006	11.5	92.3	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	15188.654	23794.031	1.00	5.99	7.979	11.6	92.5	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	15188.654	23794.031	1.00	5.99	7.979	11.6	92.5	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	5.304	14783.158	1.00	5.94	0.054	0.3		NO		
80	43	PFHxDA	813.1 > 768.6	143.623	8398.202	1.00	6.35	0.086	0.1		NO		
81	44	PFODA	913.1 > 868.8	63.851	8398.202	1.00	6.60	0.038			NO		
82	45	N-MeFOSE	616.1 > 58.9	9.383	8771.513	1.00	6.25	0.160	0.4		NO		
83	46	N-EtFOSE	630.1 > 58.9	16.287	8658.264	1.00	6.57	0.282	0.3		NO		
84	72	13C4-PFBA	217.0 > 172.0	5790.426	5790.426	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	14783.158	23794.031	1.00	6.12	7.766	145.6	97.1	NO		
86	69	13C2-PFHxDA	815 > 769.7	8398.202	23794.031	1.00	6.35	4.412	4.9	98.1	NO		
87	69	13C2-PFHxDA	815 > 769.7	8398.202	23794.031	1.00	6.35	4.412	4.9	98.1	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	8771.513	23794.031	1.00	6.28	4.608	132.3	88.2	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	8658.264	23794.031	1.00	6.43	4.549	138.3	92.2	NO		
90	73	13C5-PFHxA	318.0 > 272.9	21048.615	21048.615	1.00	2.92	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	24432.520	24432.520	1.00	4.07	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	1220.520	1220.520	1.00	3.70	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	18849.861	18849.861	1.00	4.52	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	3295.869	3295.869	1.00	4.61	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	23467.289	23467.289	1.00	4.90	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	23794.031	23794.031	1.00	5.23	12.500	12.5	100.0	NO		

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Sunday, July 14, 2019 14:16:51 Pacific Daylight Time
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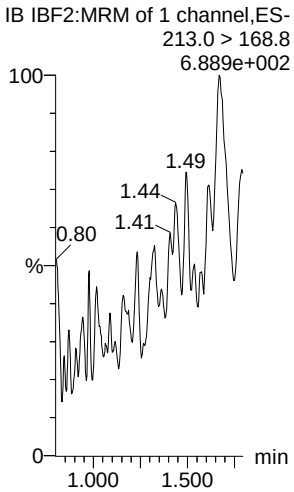
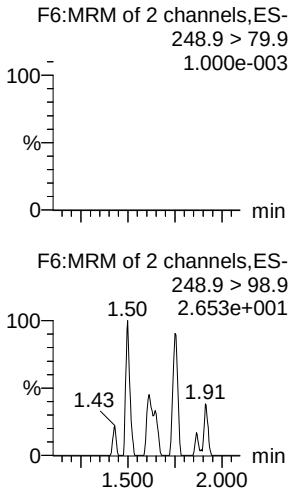
Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071219.mdb 14 Jul 2019 13:34:45
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-12-19.cdb 14 Jul 2019 13:48:08

Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

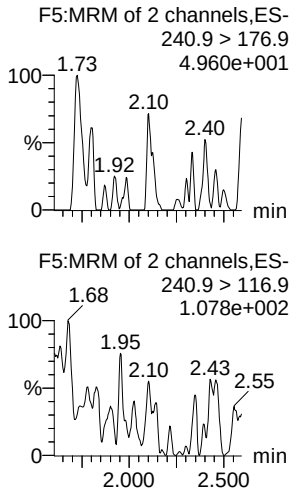
PFBA



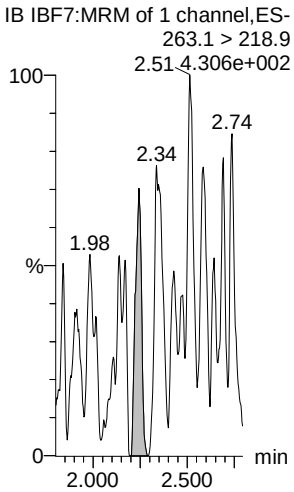
PFPrS



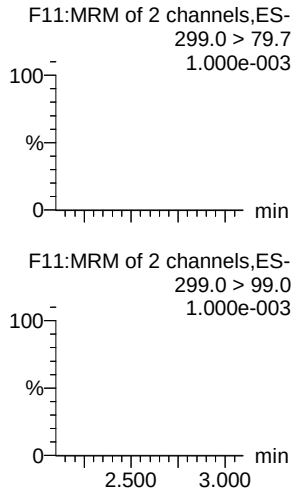
3:3 FTCA



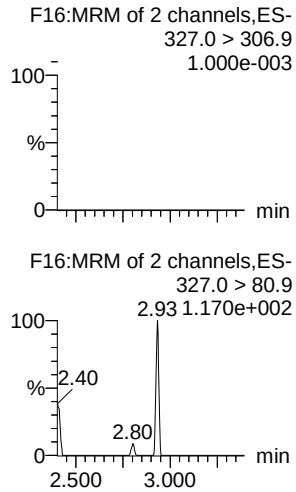
PFPeA



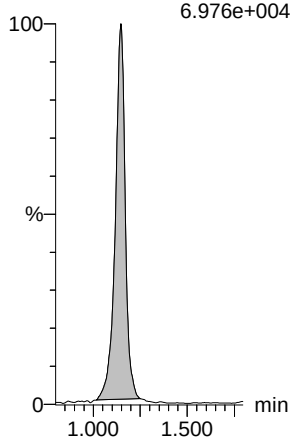
PFBS



4:2 FTS



13C3-PFBA



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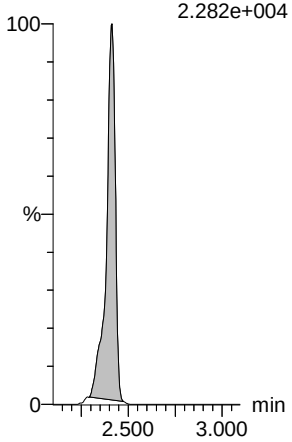

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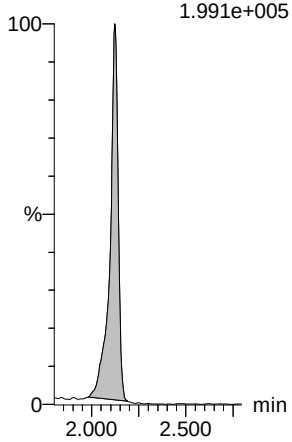

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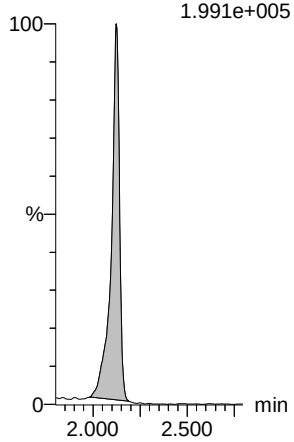

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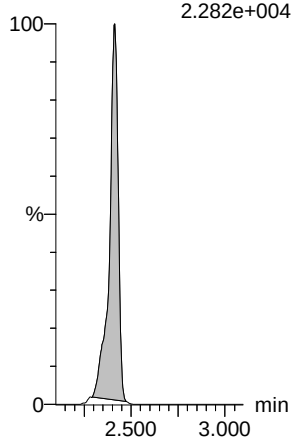

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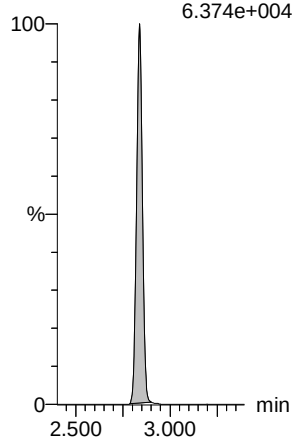

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Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Sunday, July 14, 2019 14:16:51 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:17:01 Pacific Daylight Time

Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

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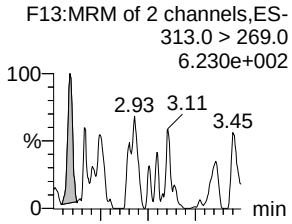

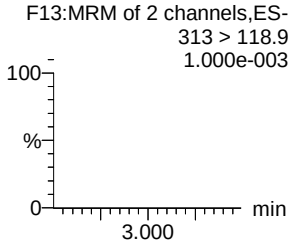

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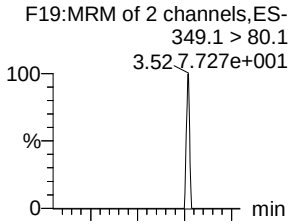
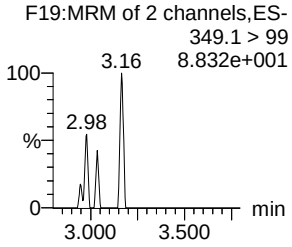
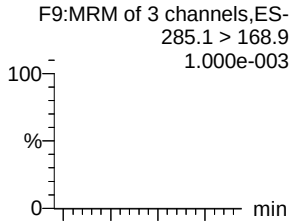
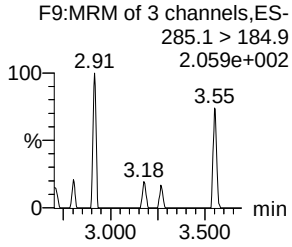




HFPO-DA





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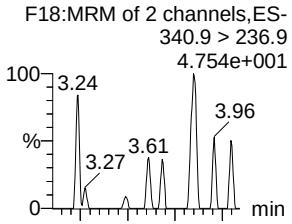

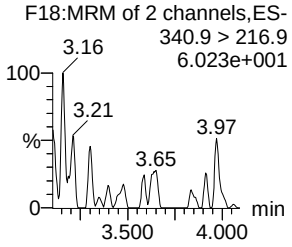

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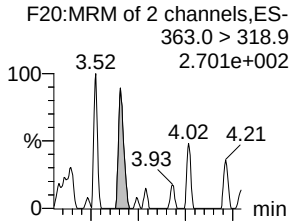

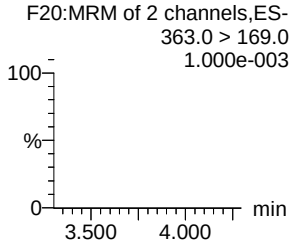

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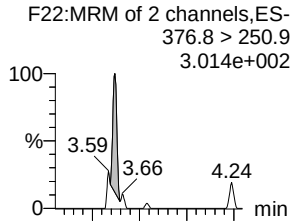

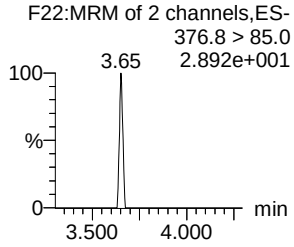

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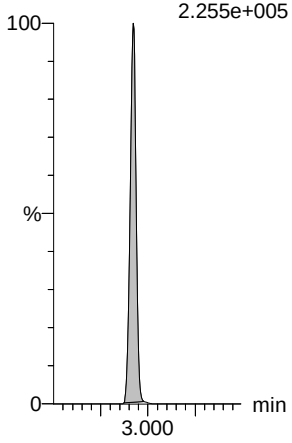

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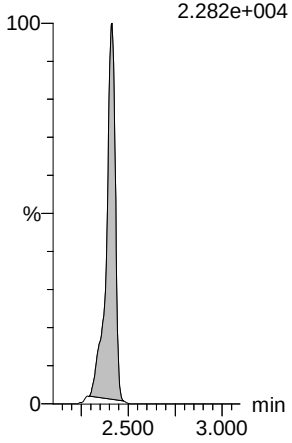

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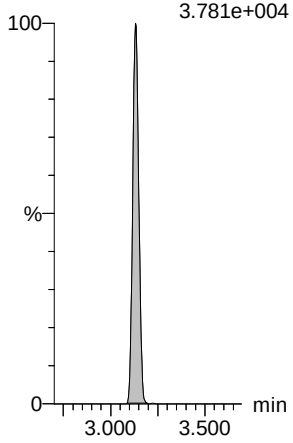

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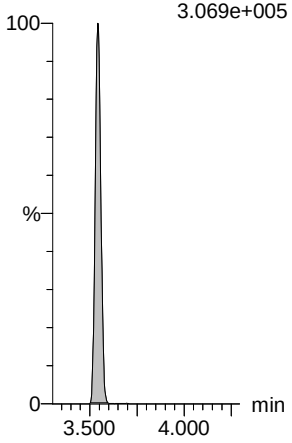

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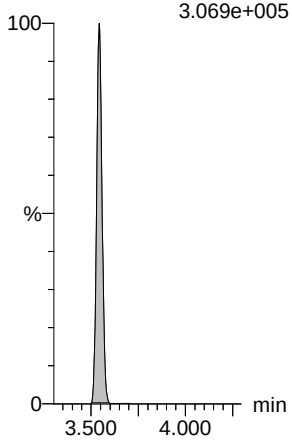

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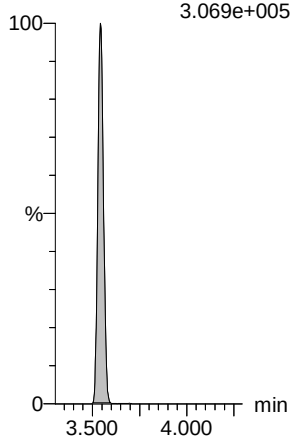

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Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

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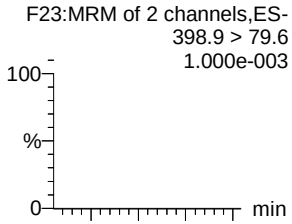

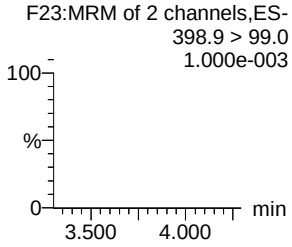

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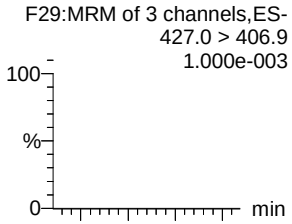

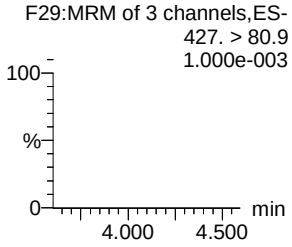

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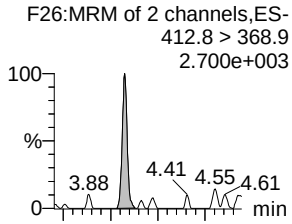

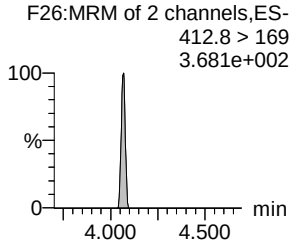

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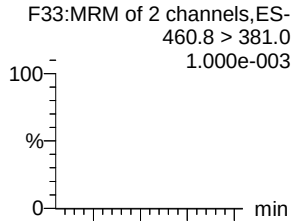

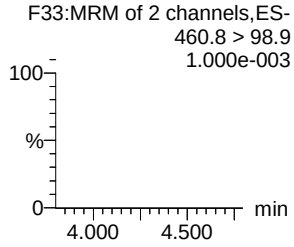

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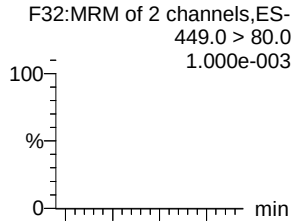

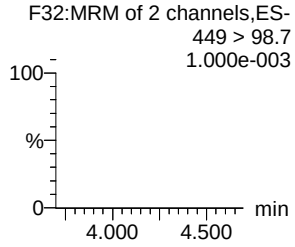

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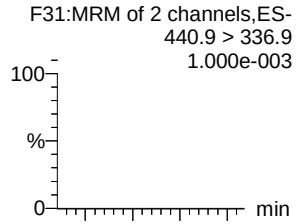

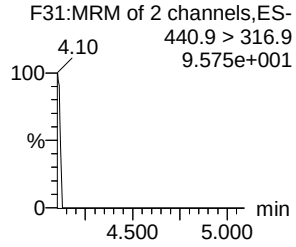

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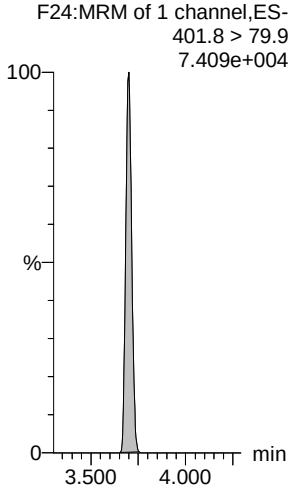

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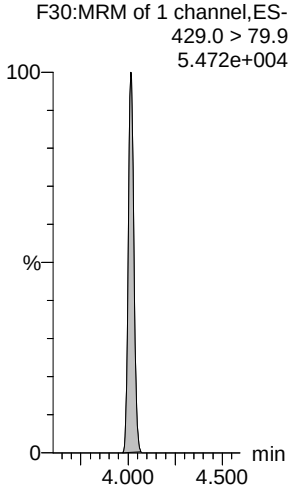

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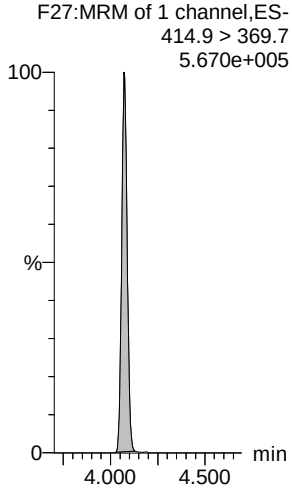

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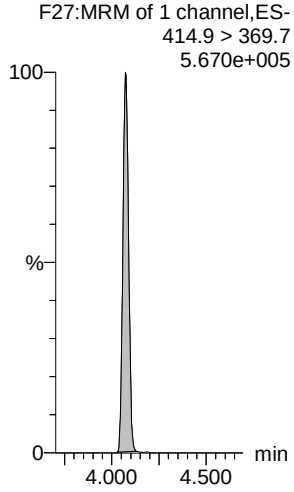

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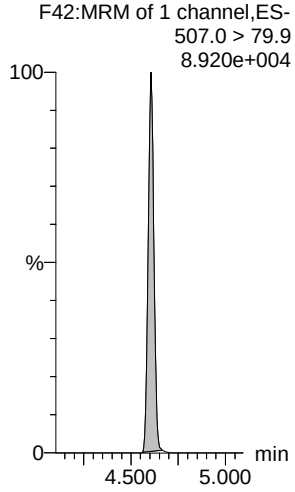

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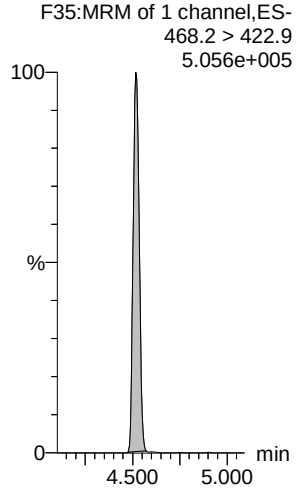

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Vista Analytical Laboratory

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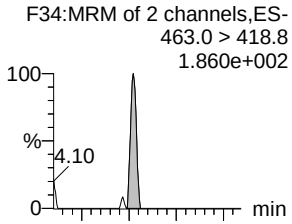

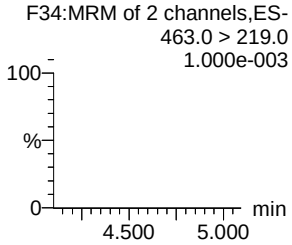

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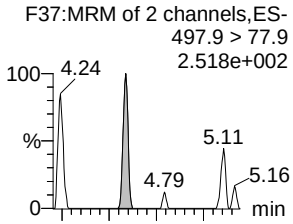
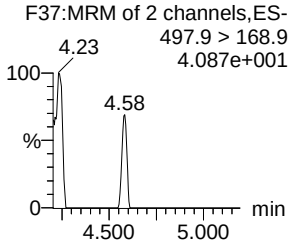
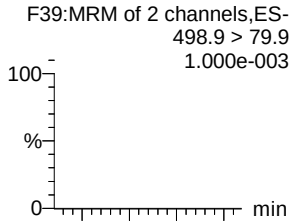
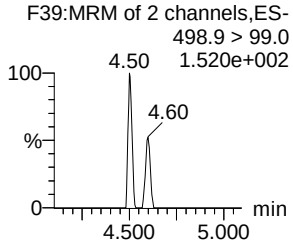




L-PFOS





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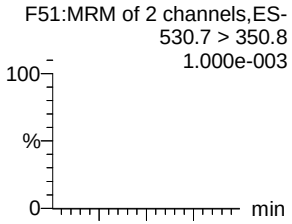

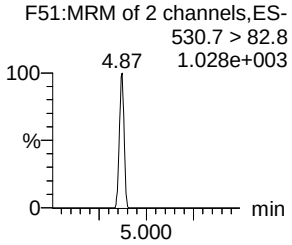

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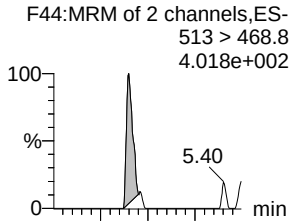

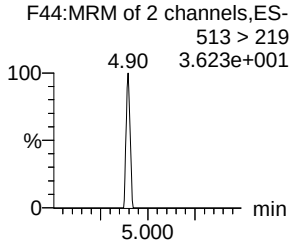

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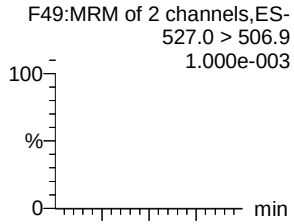
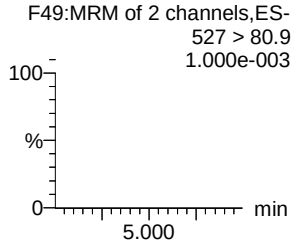
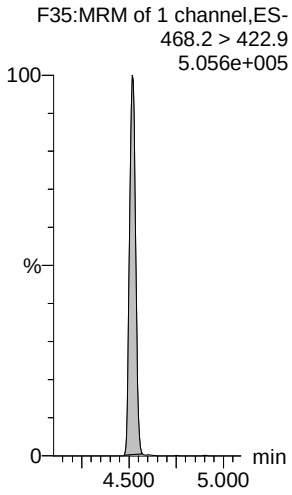
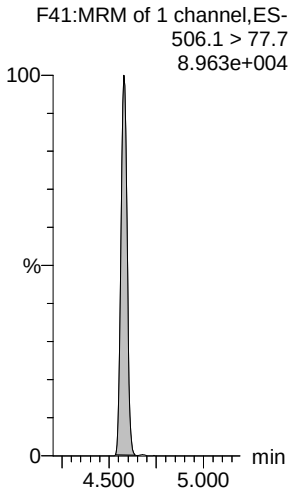




13C5-PFNA



13C8-PFOSA



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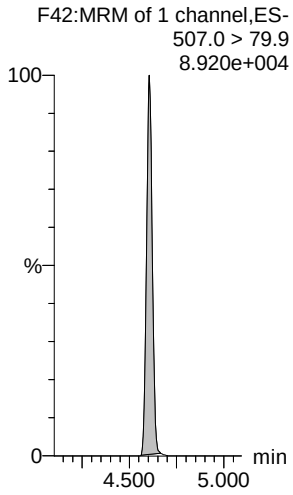

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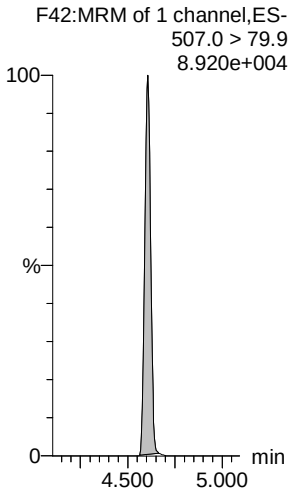

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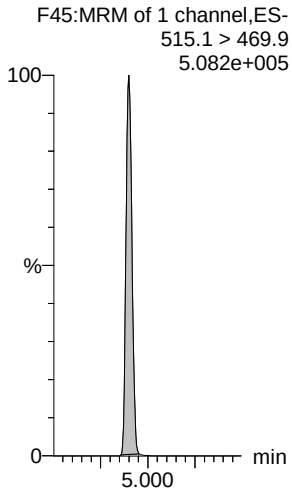

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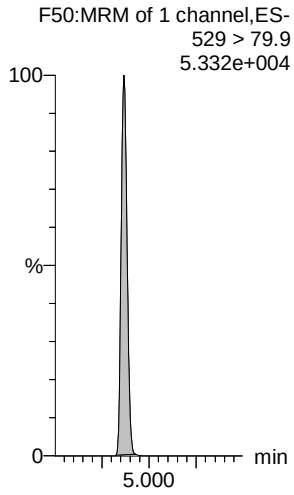

GM 7/14/2019

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Printed: Sunday, July 14, 2019 14:17:01 Pacific Daylight Time

Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

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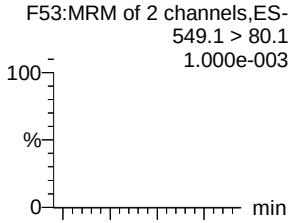

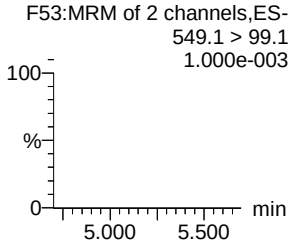

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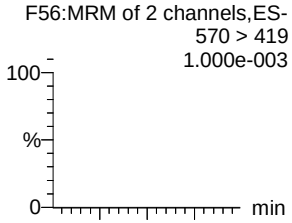

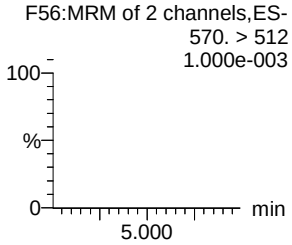

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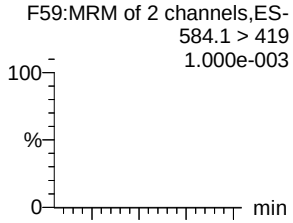

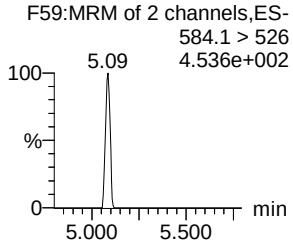

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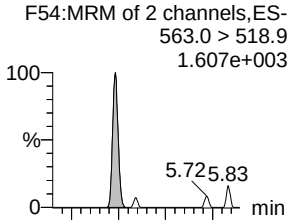

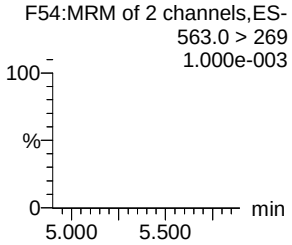

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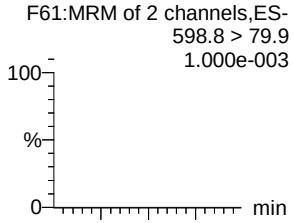

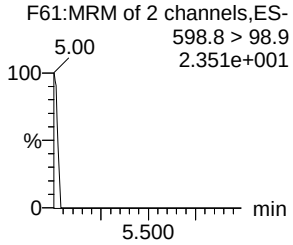

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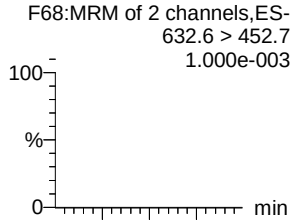

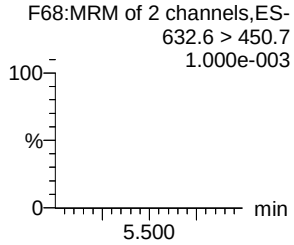

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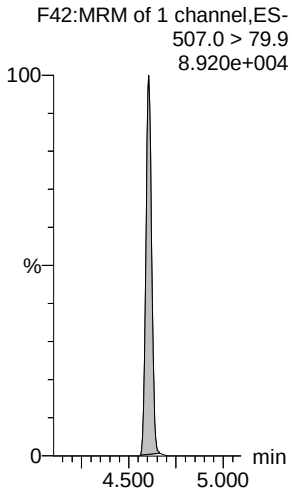
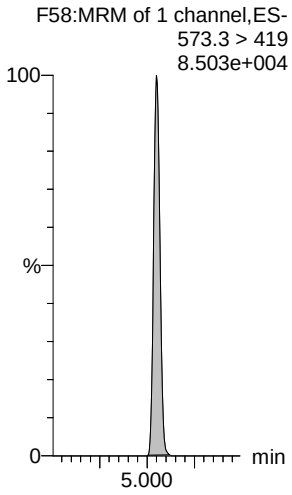


d3-N-MeFOSAA



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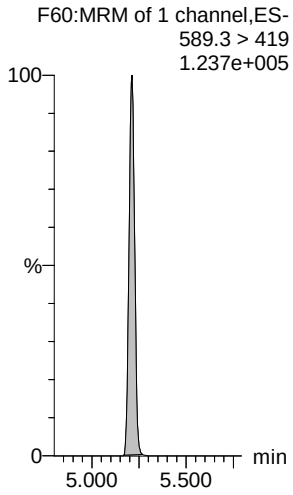

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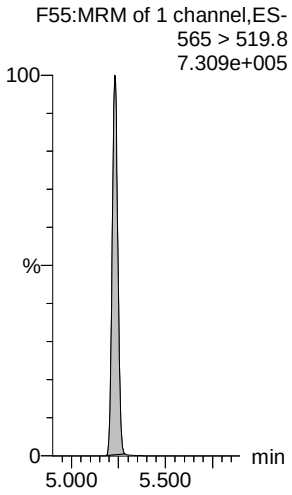

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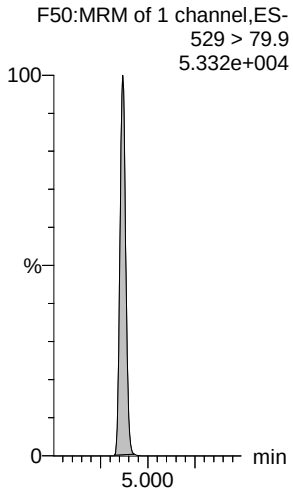

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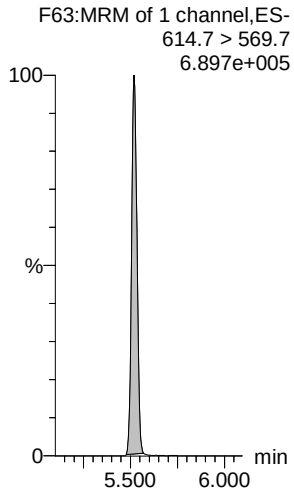

GM 7/14/2019

Dataset: Untitled

Last Altered: Sunday, July 14, 2019 14:16:51 Pacific Daylight Time
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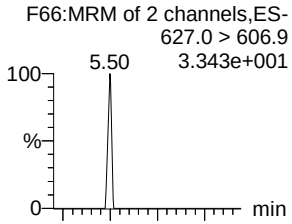
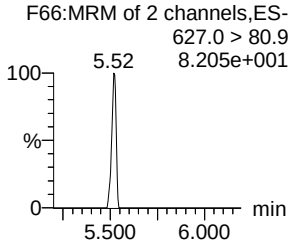
Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

10:2 FTS





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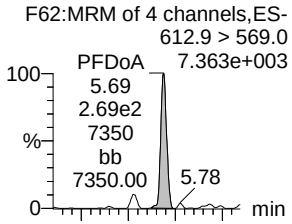

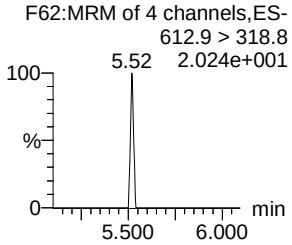

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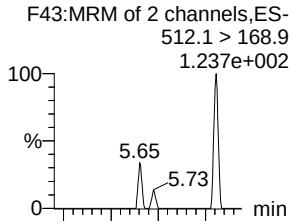

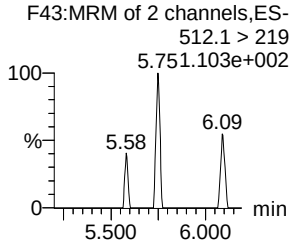

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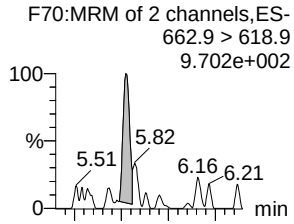

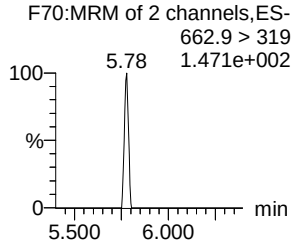

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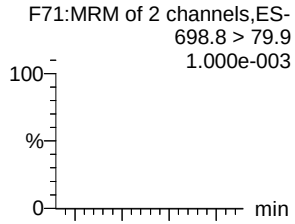

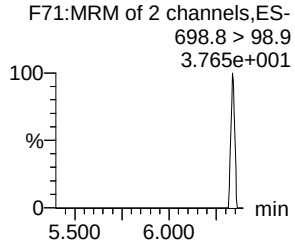

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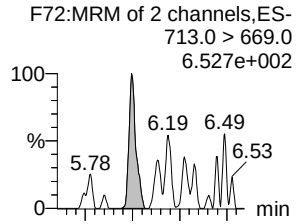

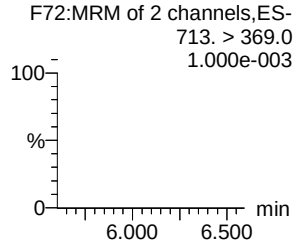

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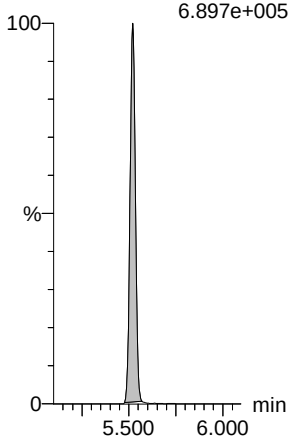

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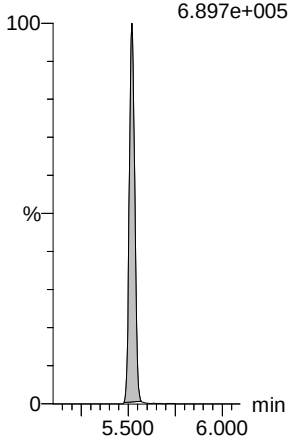

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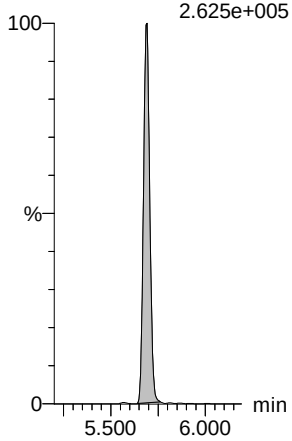

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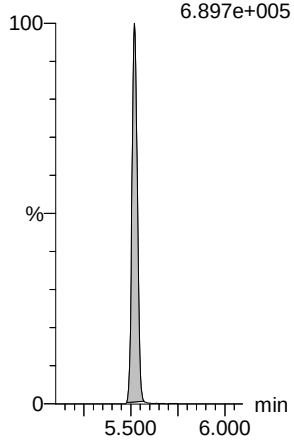

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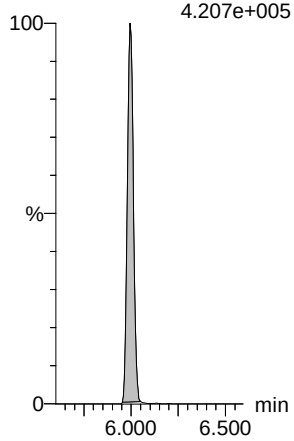

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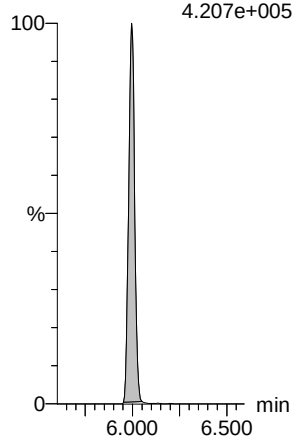

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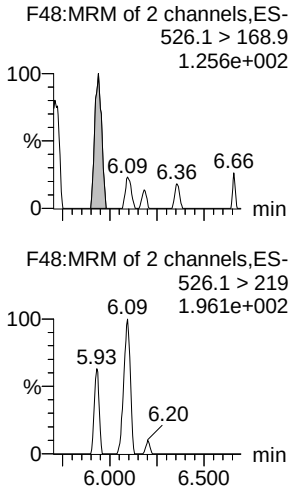
N-EtFOSA



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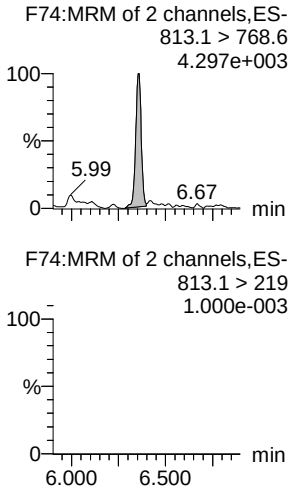

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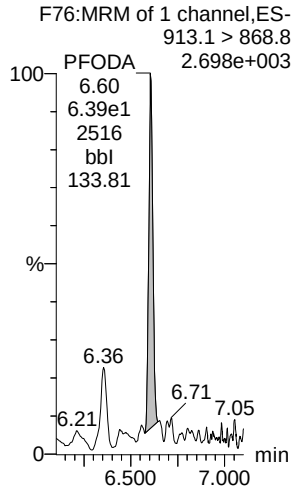

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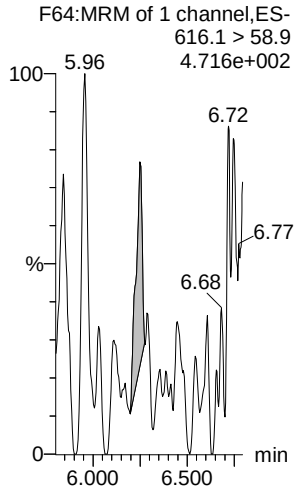

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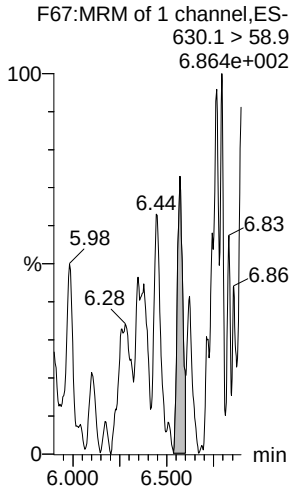

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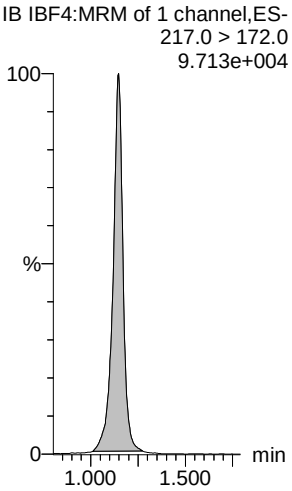

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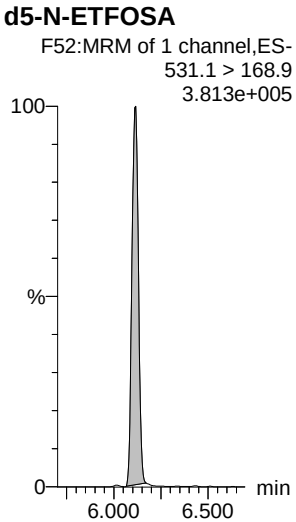

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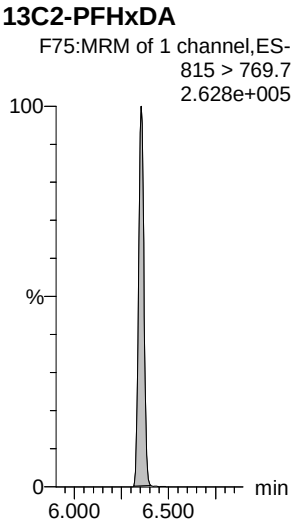

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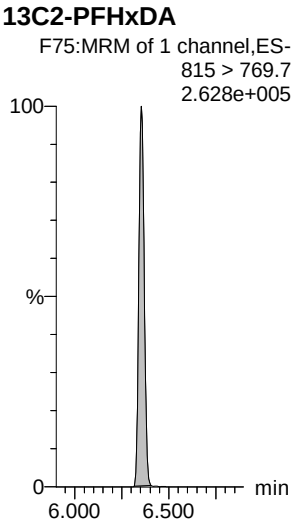

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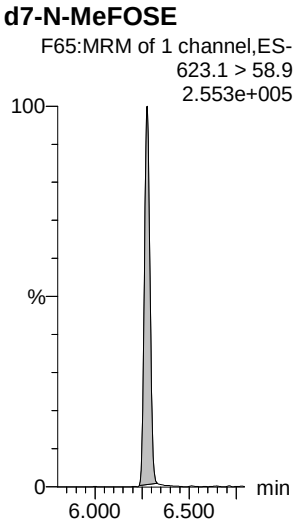
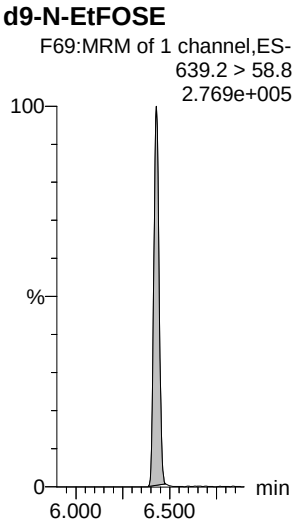
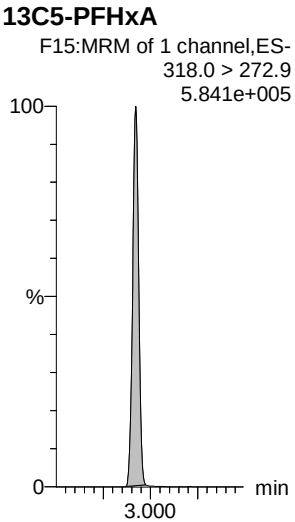


d9-N-EtFOSE



13C5-PFHxA



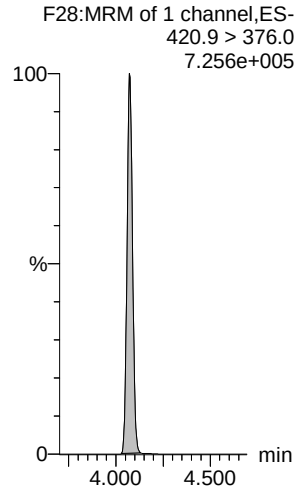
GM 7/14/2019

Dataset: Untitled

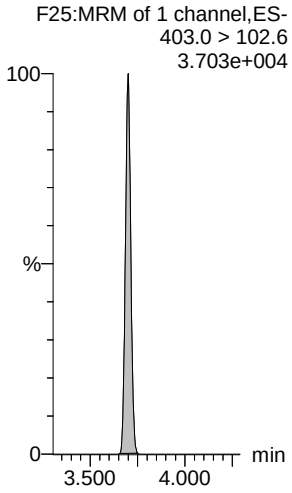
Last Altered: Sunday, July 14, 2019 14:16:51 Pacific Daylight Time
Printed: Sunday, July 14, 2019 14:17:01 Pacific Daylight Time

Name: 190712M2_16, Date: 12-Jul-2019, Time: 20:10:19, ID: IB, Description: IB

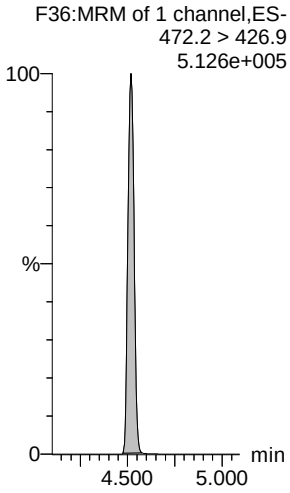
13C8-PFOA



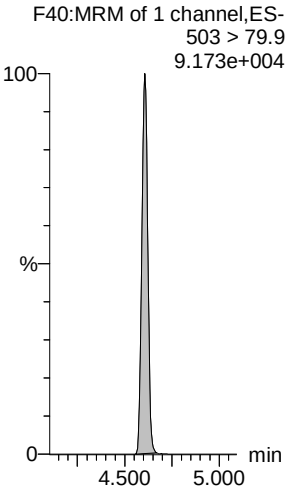
18O2-PFHxS



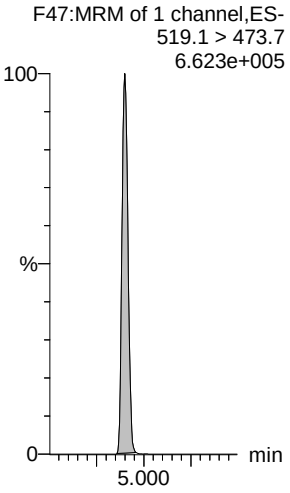
13C9-PFNA



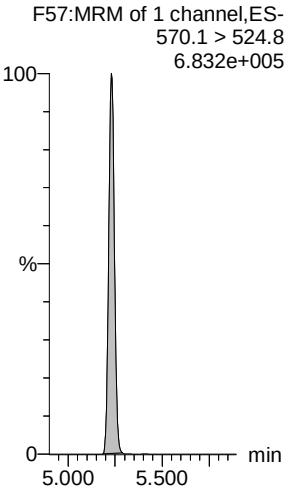
13C4-PFOS



13C6-PFDA



13C7-PFUdA



TUNE CHECKS

Q4(M) 07-10-19

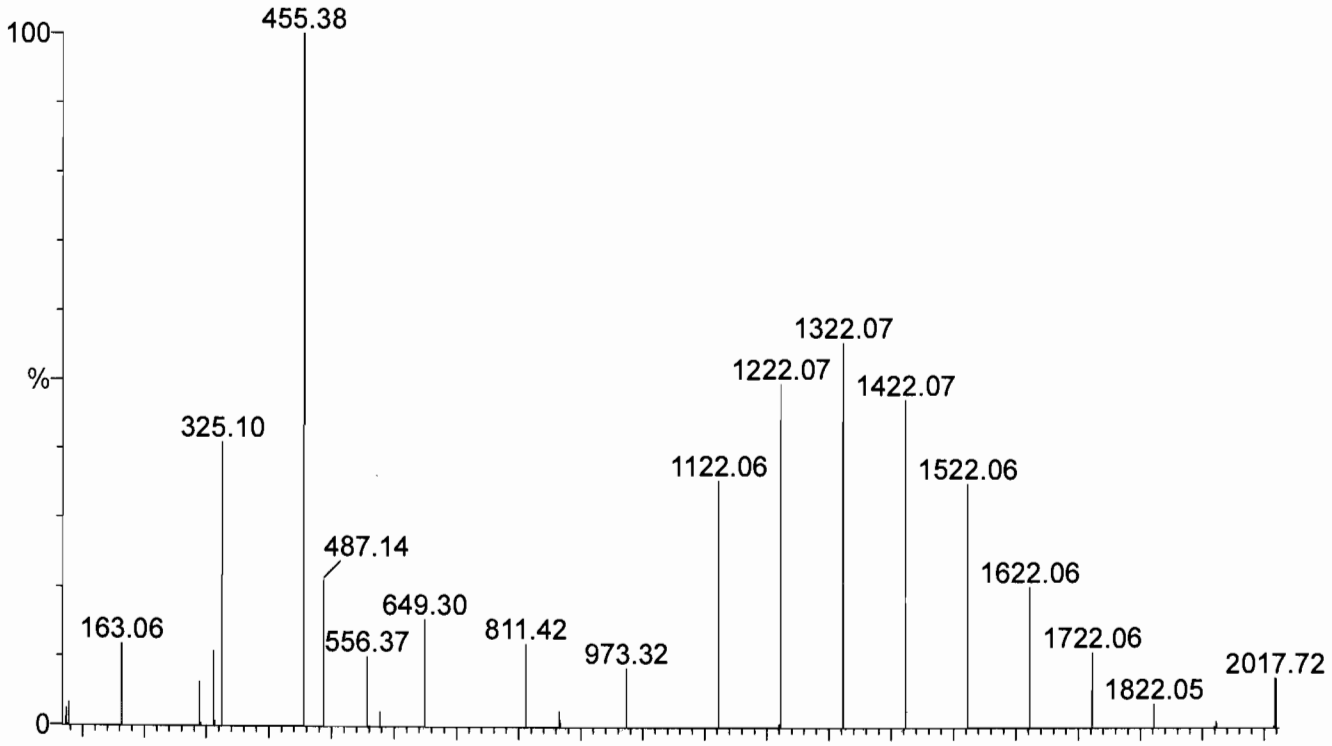
07/03/19 Calt 7/10/19

Calibration Verification Report - MS1 Static

Printed: **Wed Jul 10 07:44:01 2019**

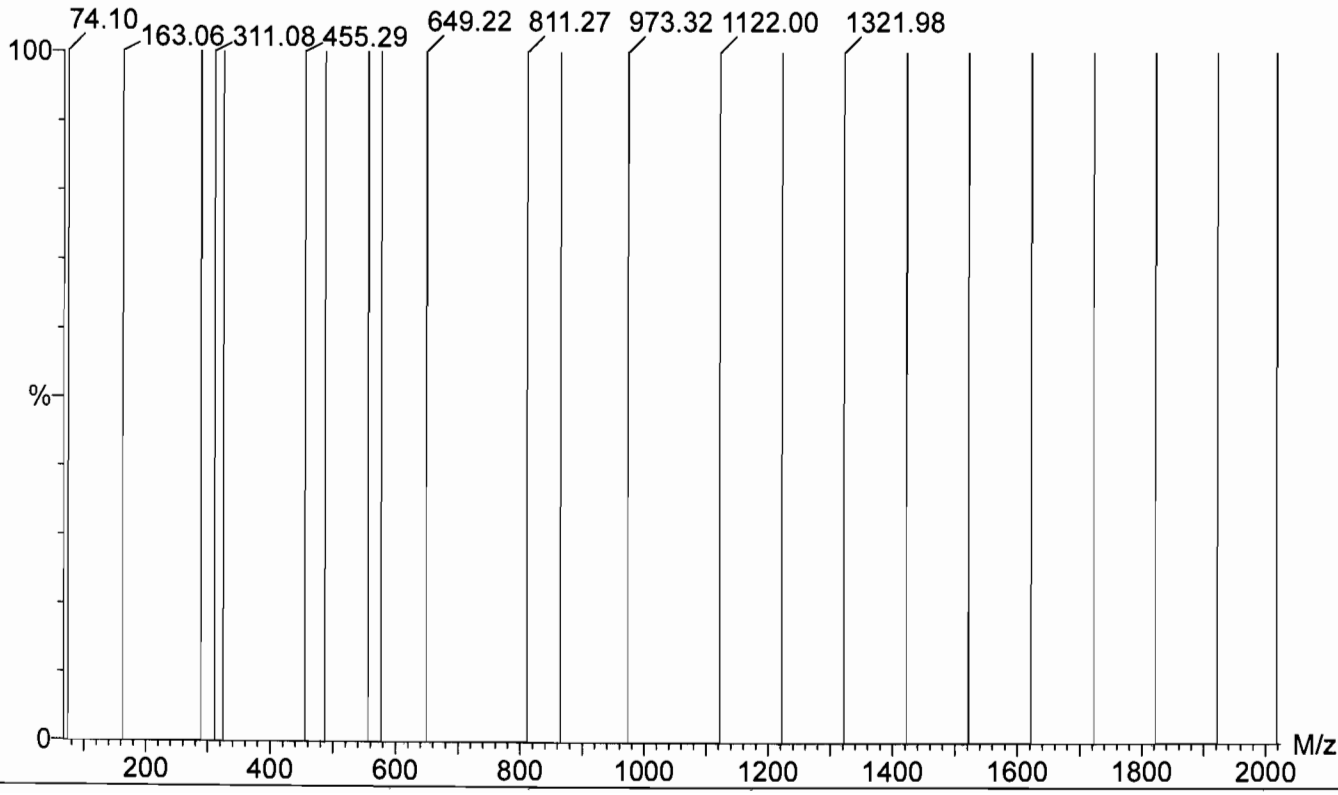
Data file: STATMS1V - Calibrated

23 matches of 23 tested references

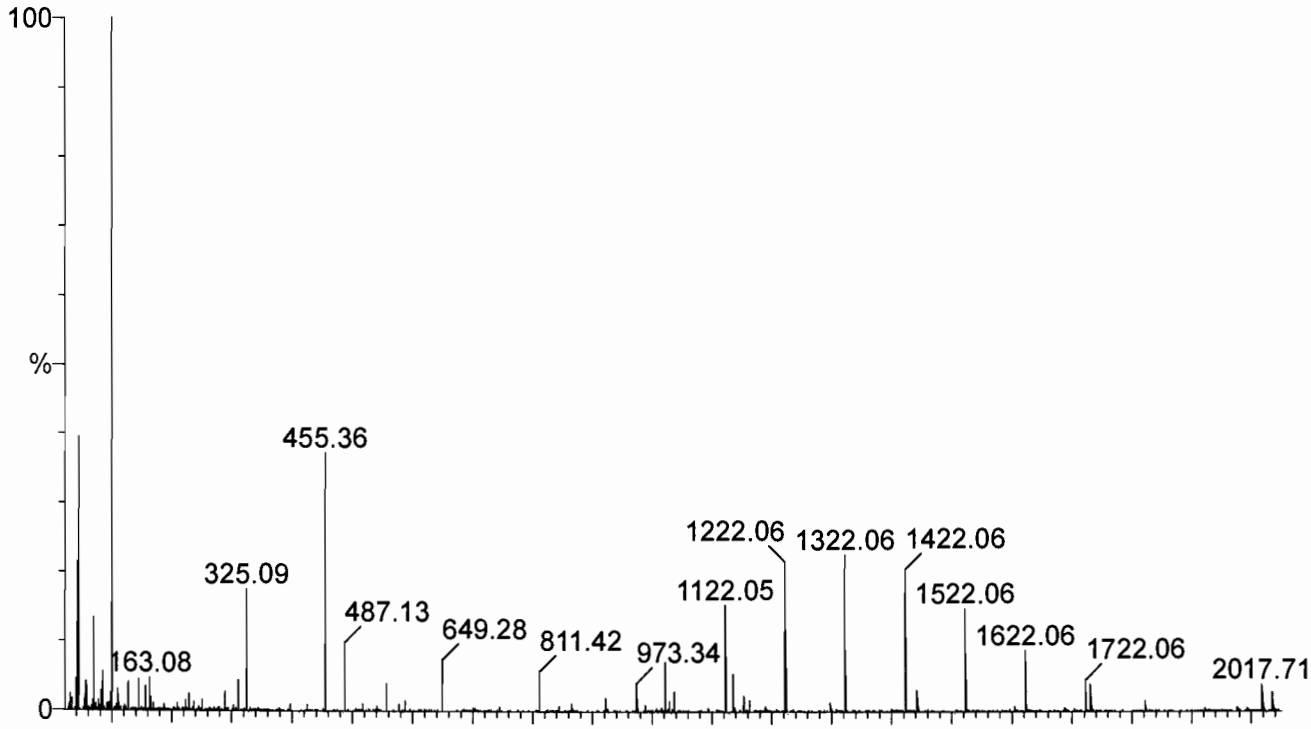


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

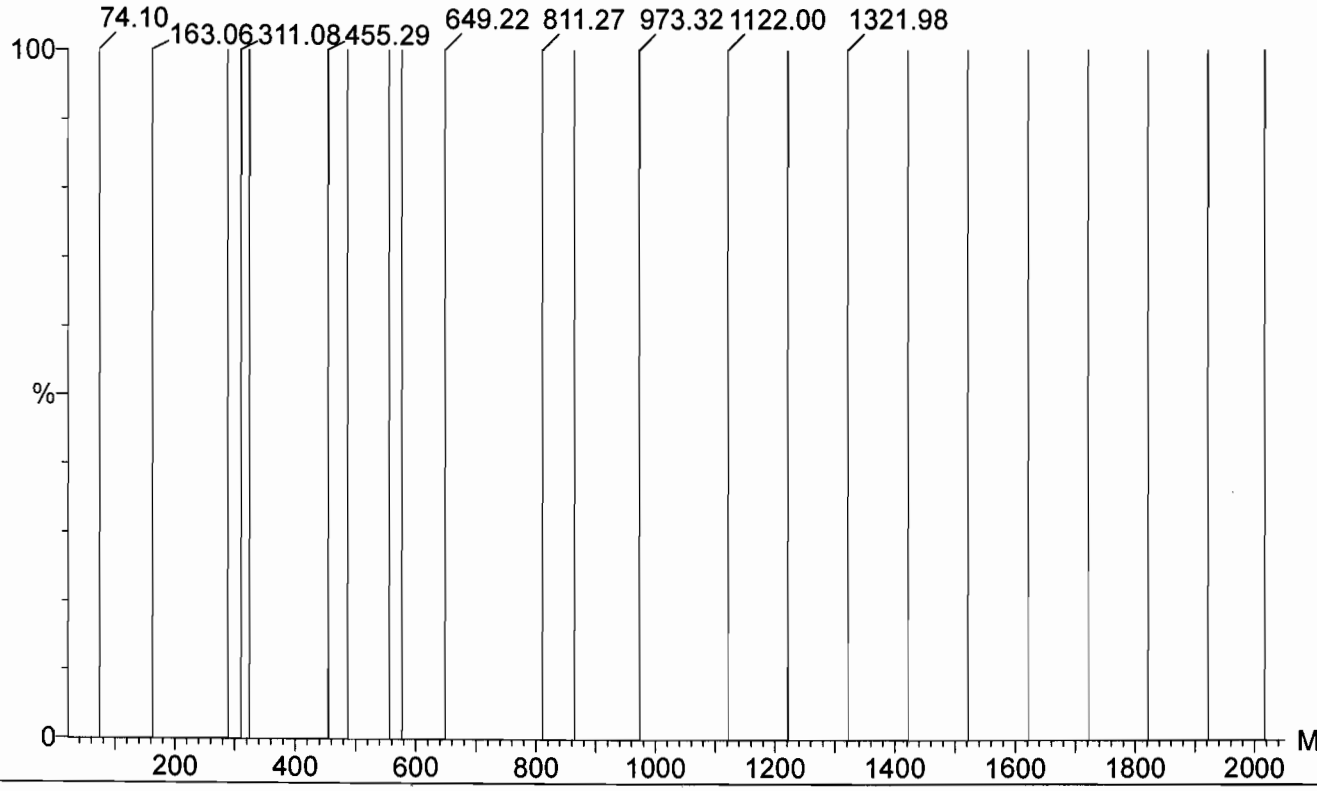
Mean residual = 0.0661 amu



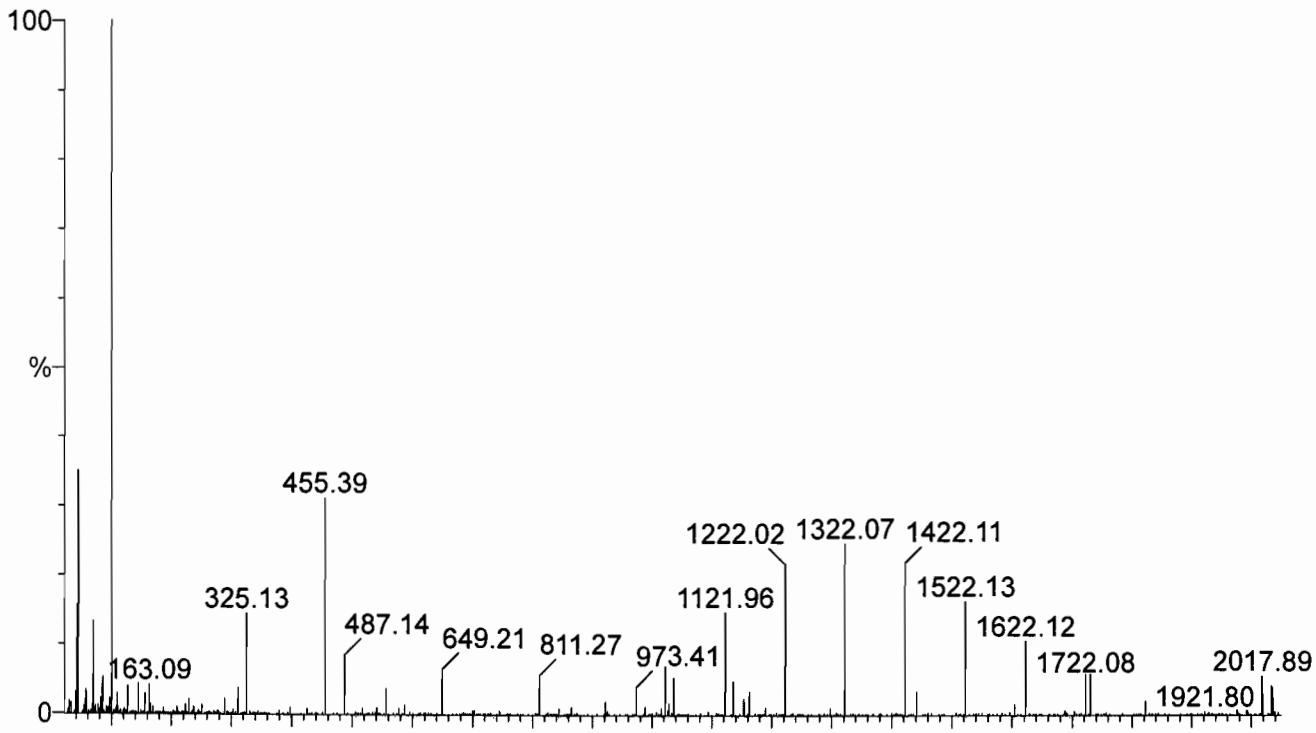
Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



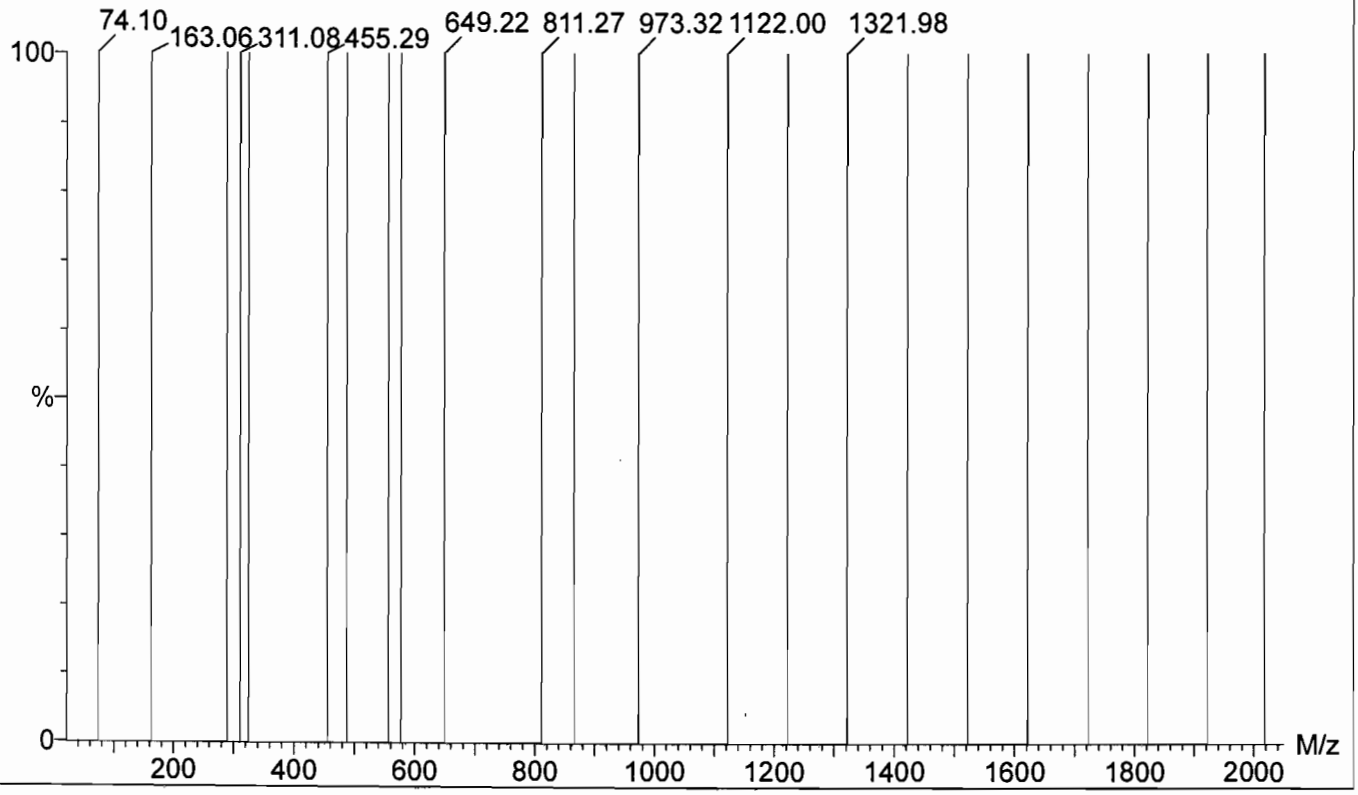
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0656 amu



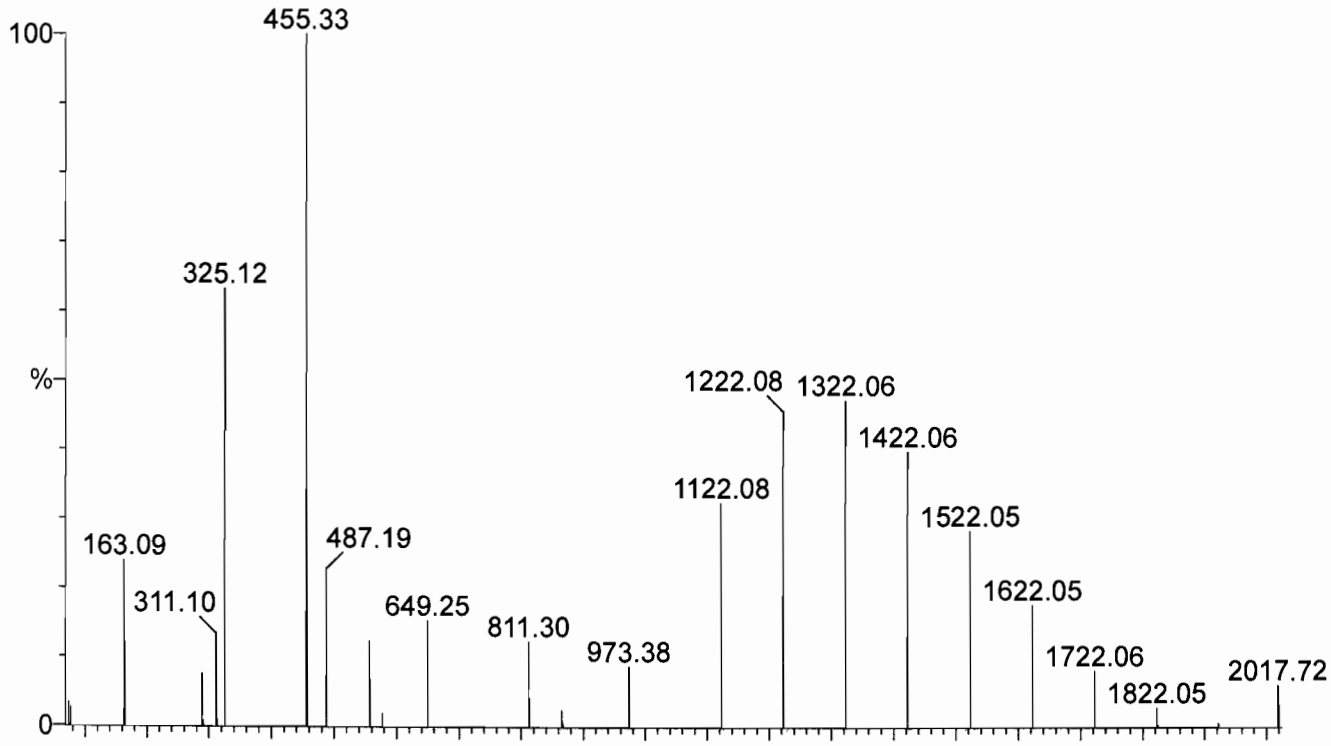
Data file: FASTMS1V - Calibrated 23 matches of 23 tested references



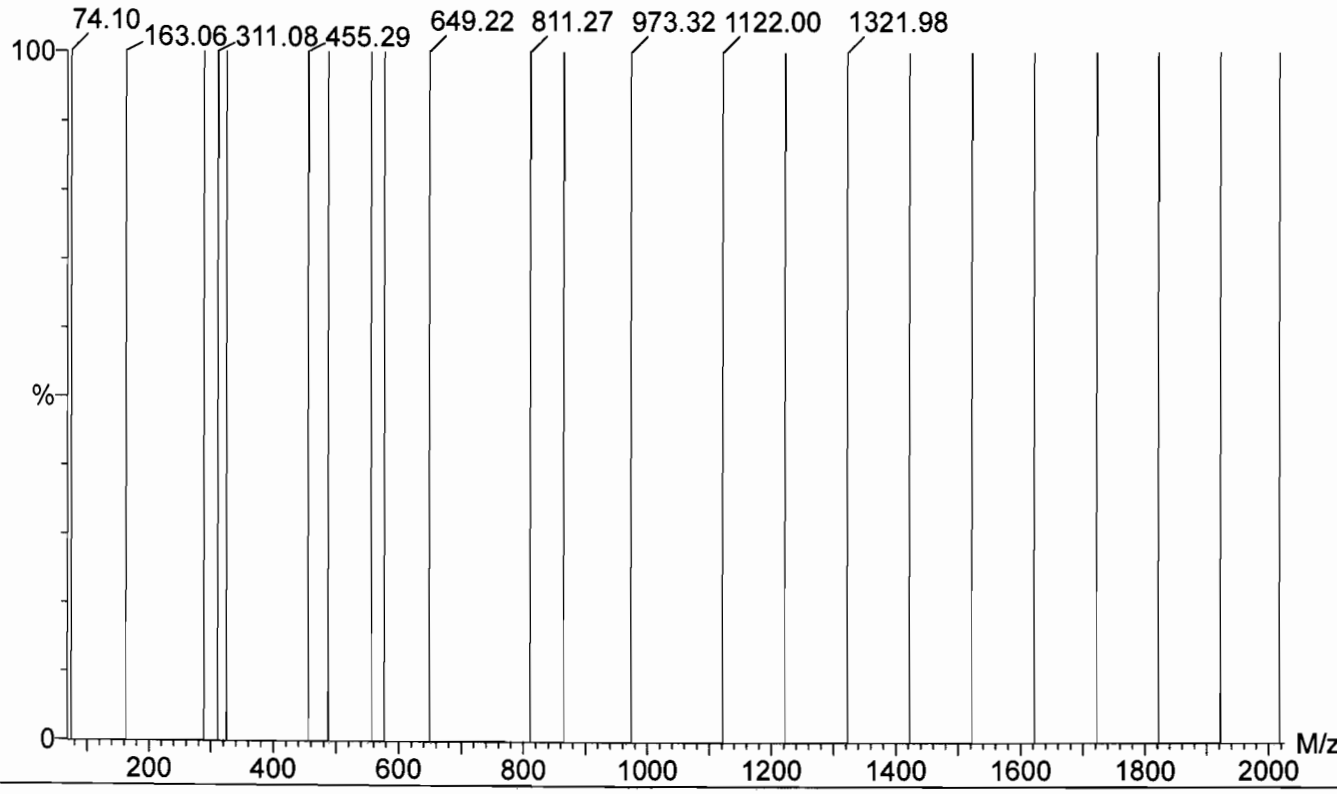
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0675 amu



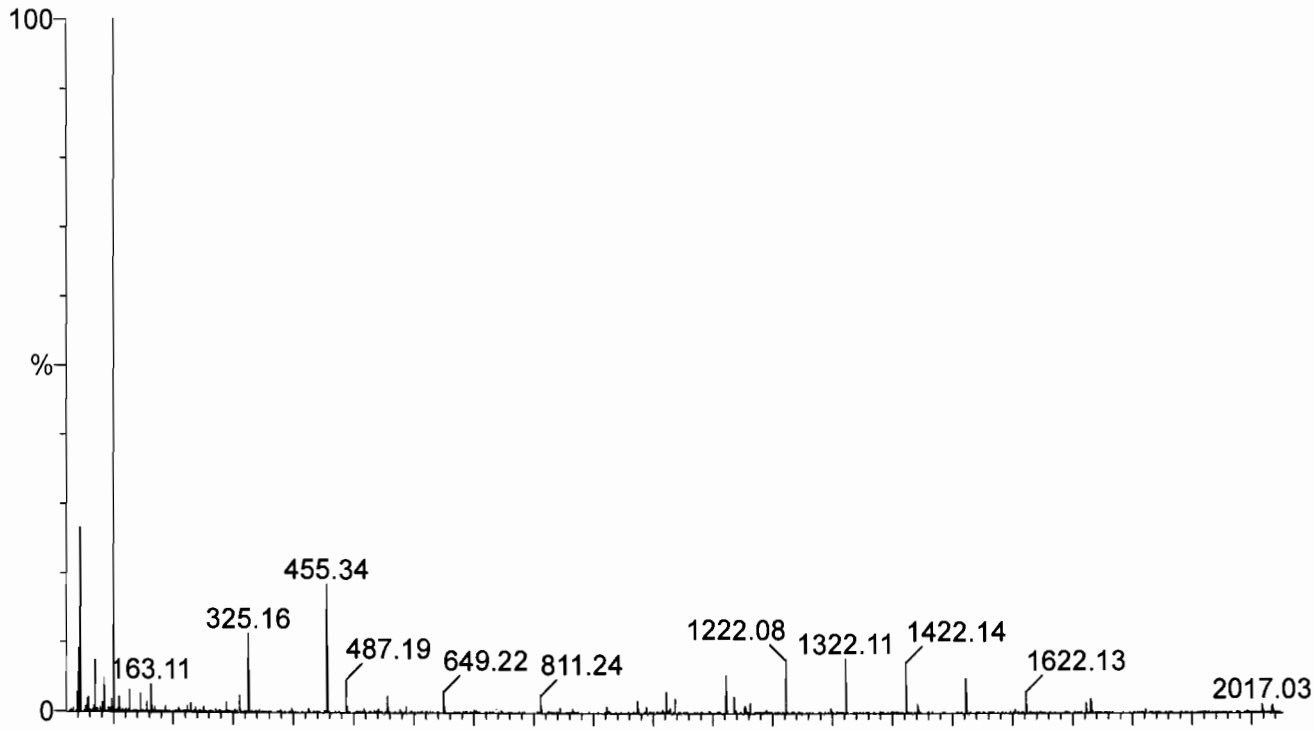
Data file: STATMS2V - Calibrated 23 matches of 23 tested references



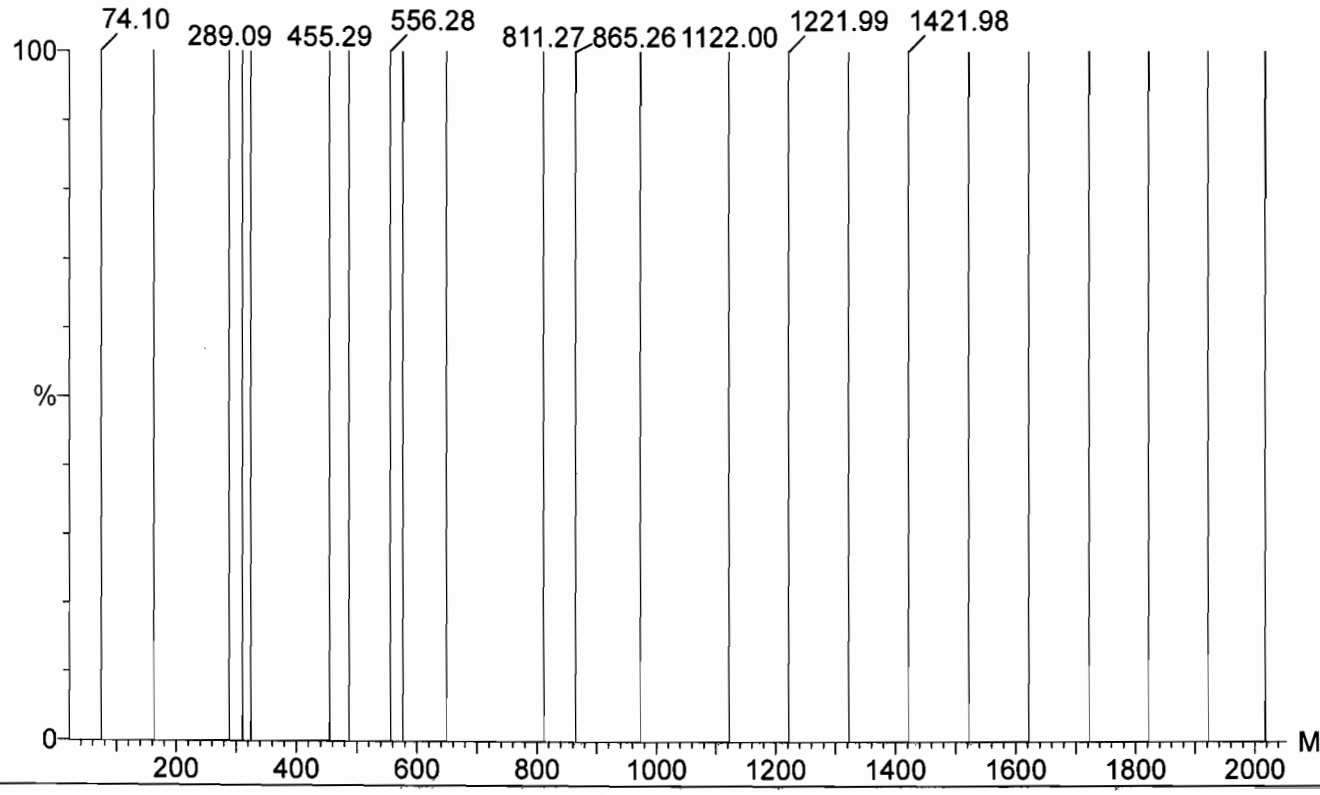
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0542 amu



Data file: SCNMS2V - Calibrated 23 matches of 23 tested references

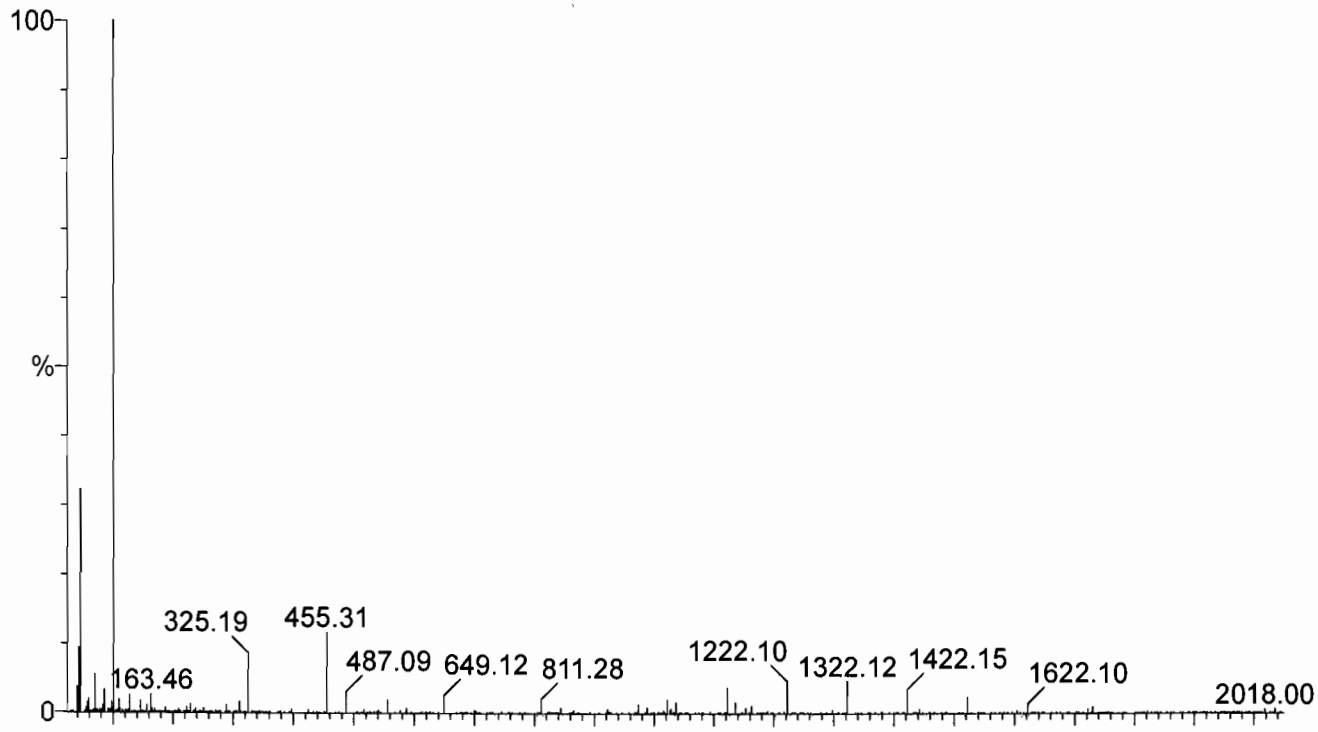


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0969 amu

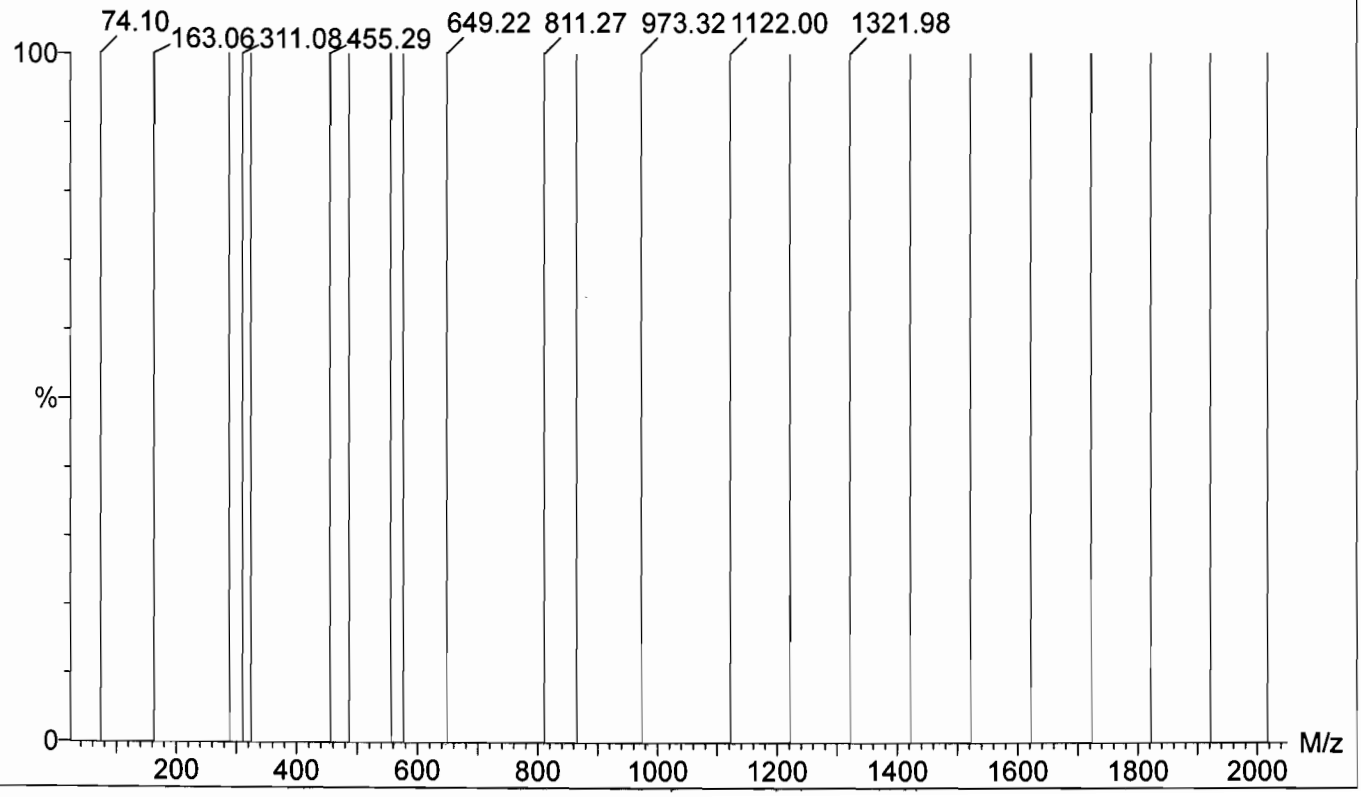


Printed: **Wed Jul 10 07:50:03 2019**

Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.121 amu



Q4(M) 07-11-19

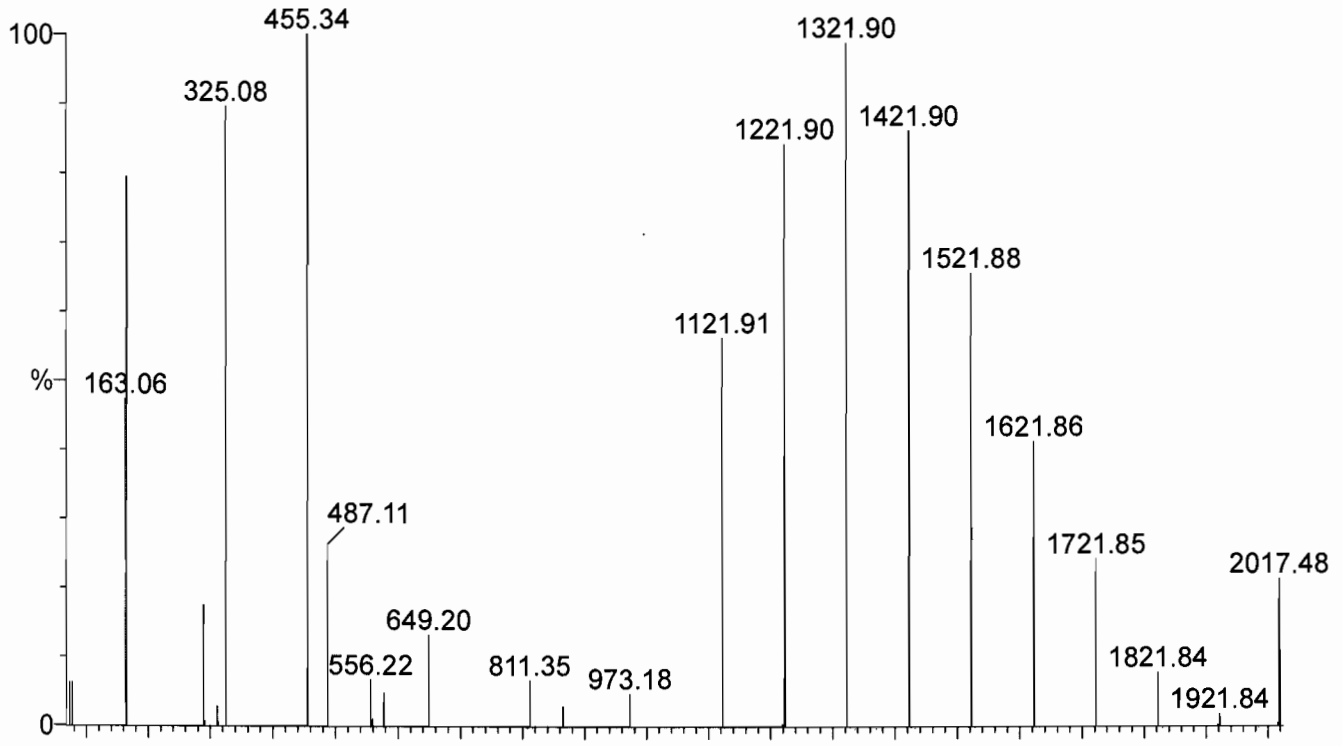
07/03/19 Calt 7/11/19

Calibration Verification Report - MS1 Static

Printed: **Thu Jul 11 09:16:11 2019**

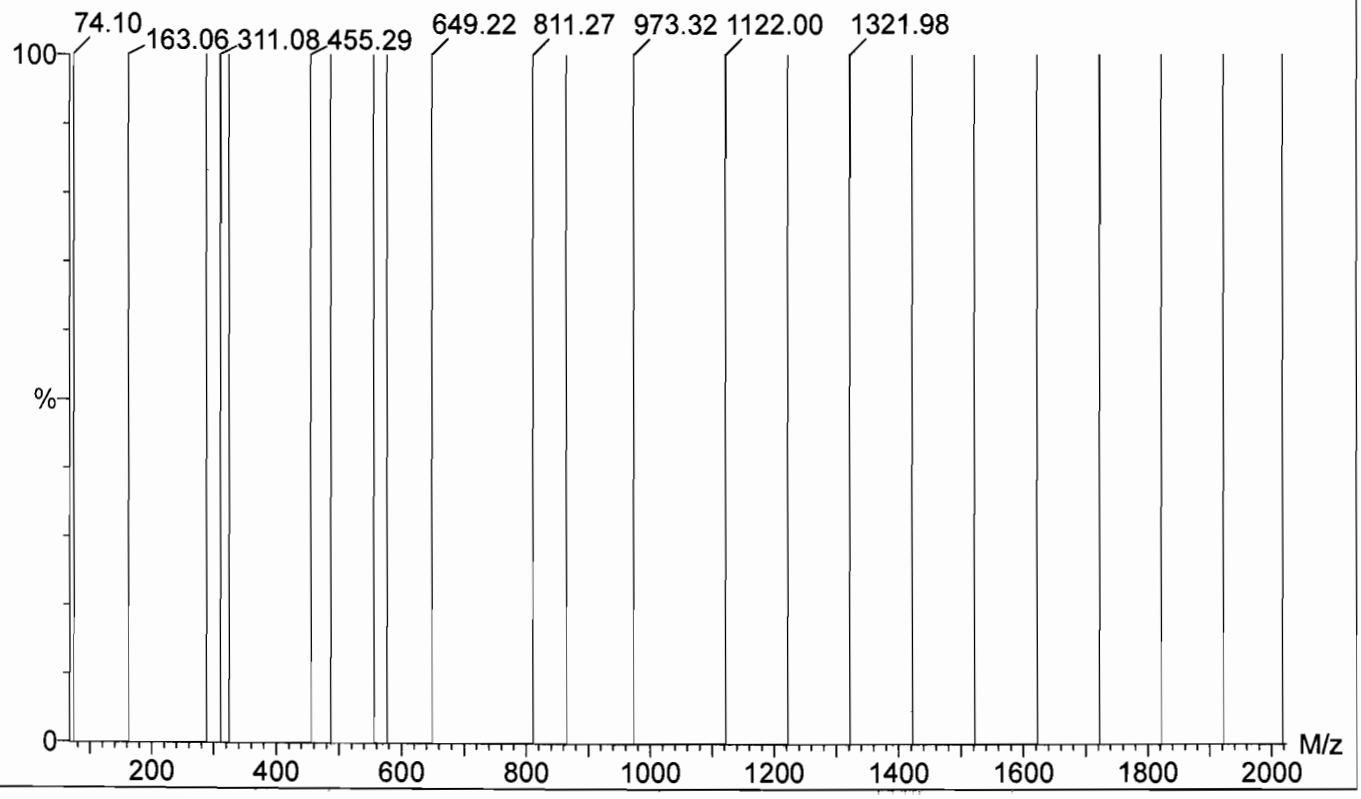
Data file: STATMS1V - Calibrated

23 matches of 23 tested references

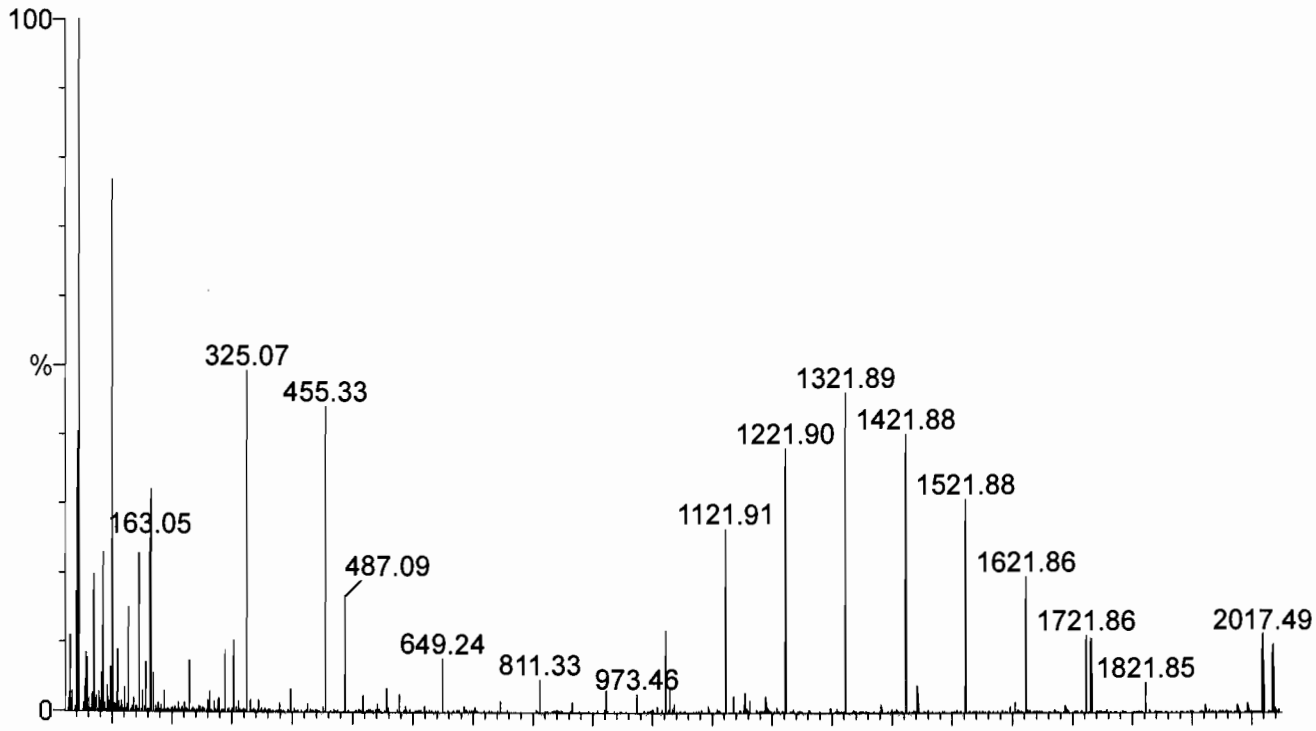


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

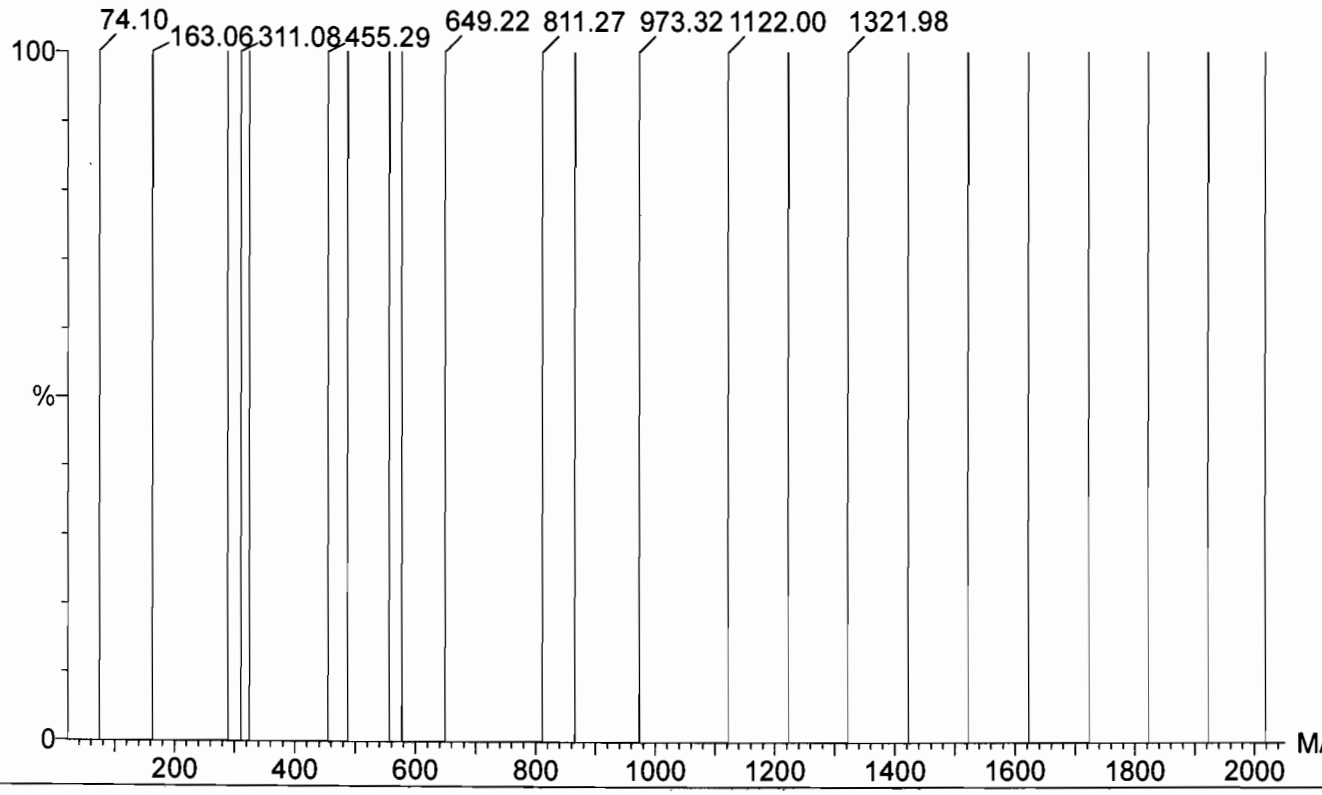
Mean residual = 0.0721 amu



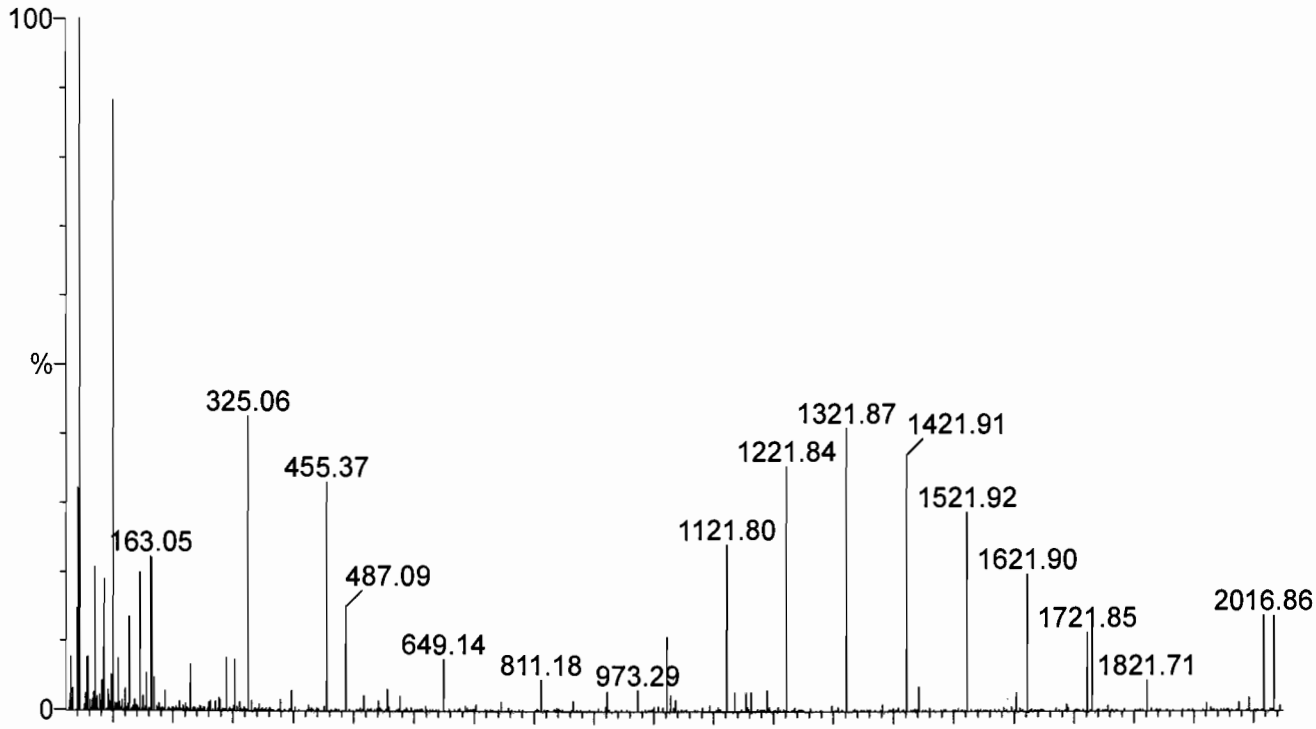
Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



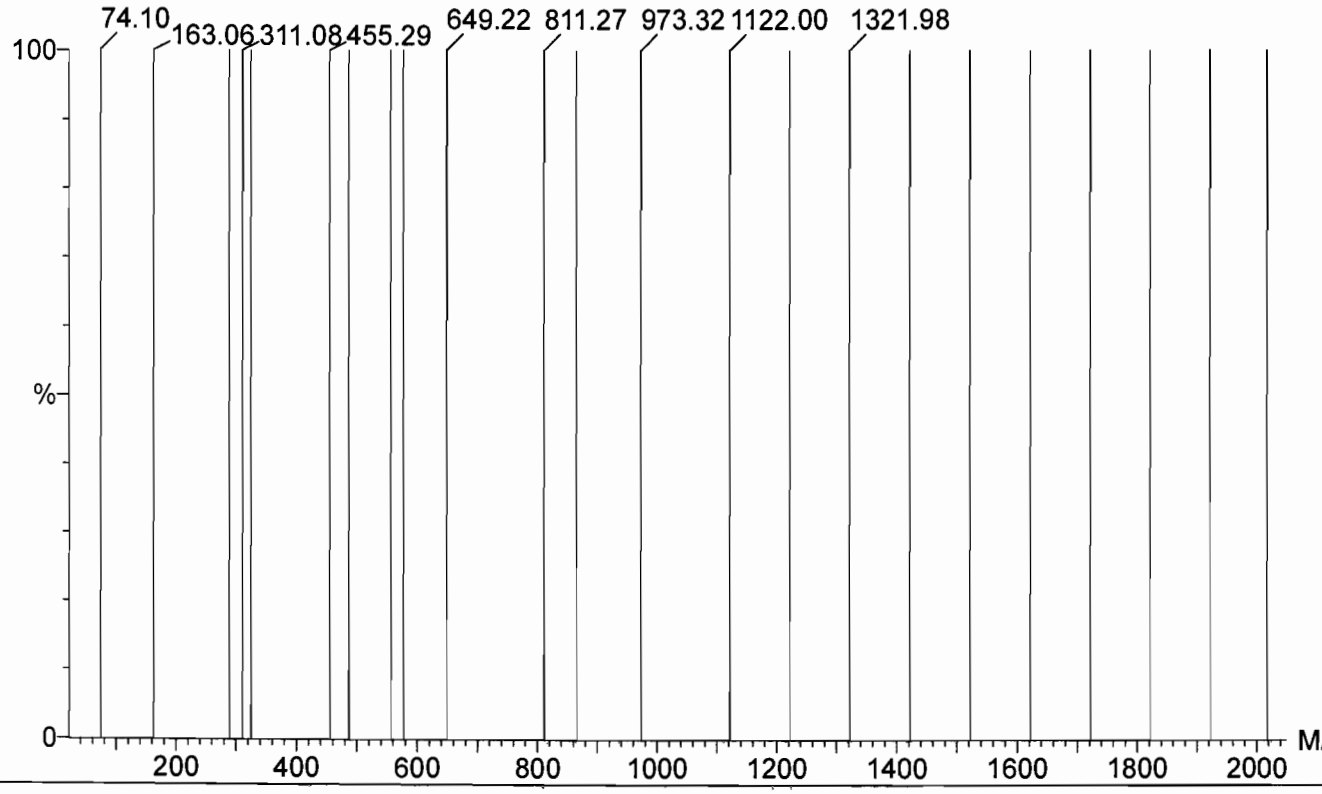
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0717 amu



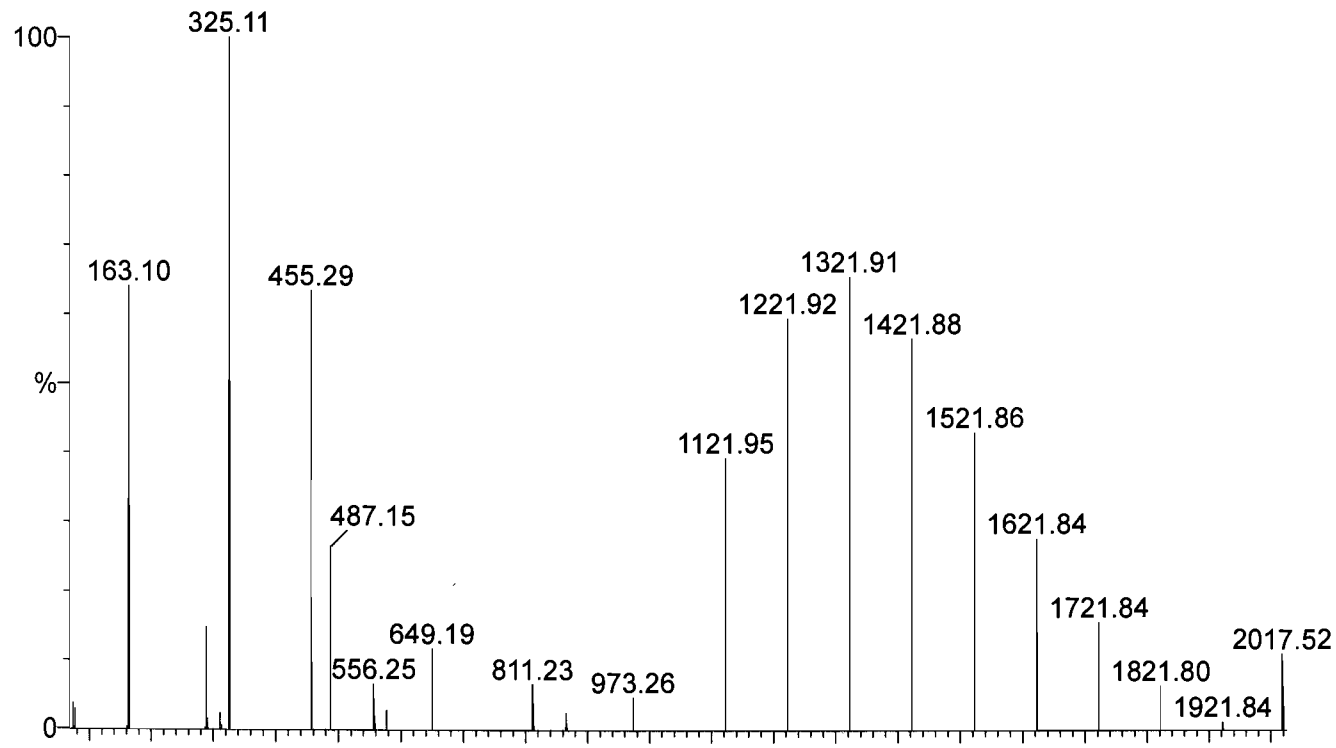
Data file: FASTMS1V - Calibrated 23 matches of 23 tested references



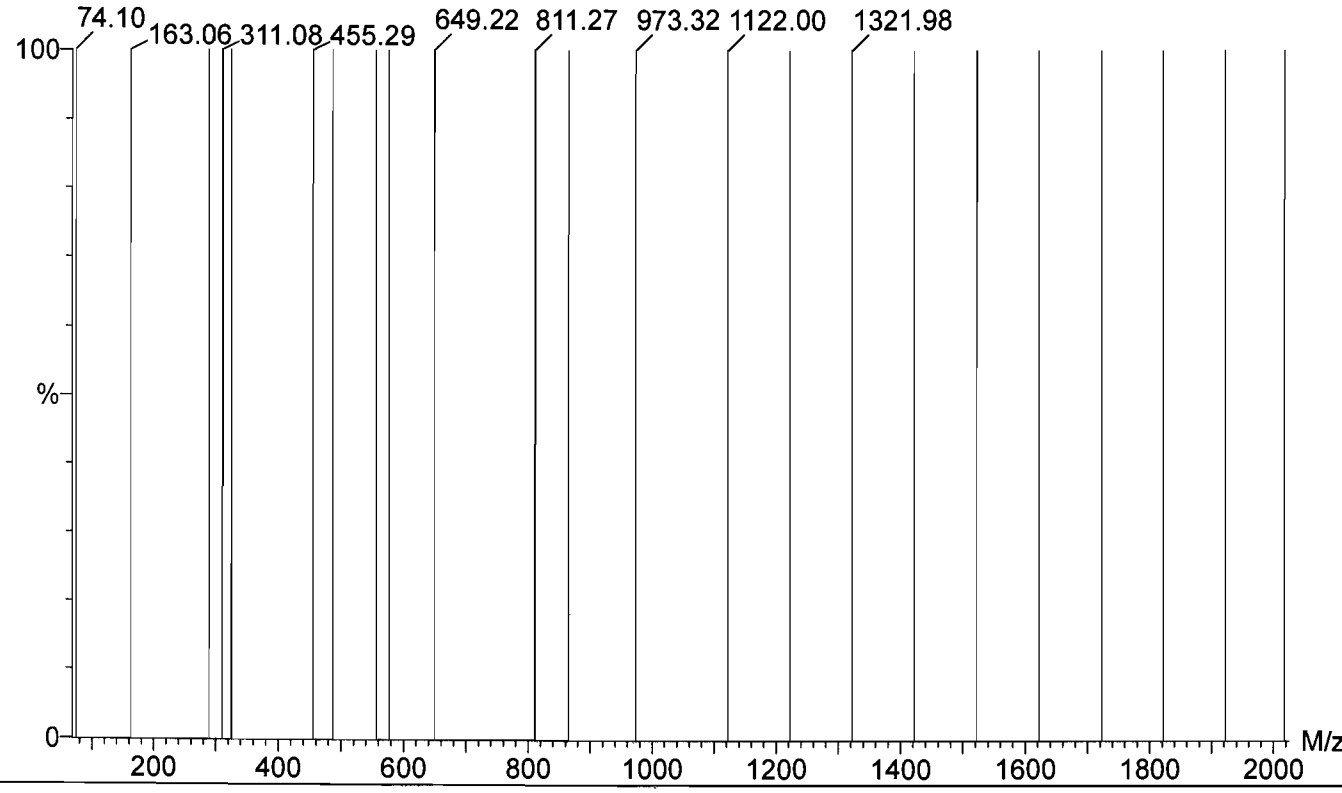
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.13 amu



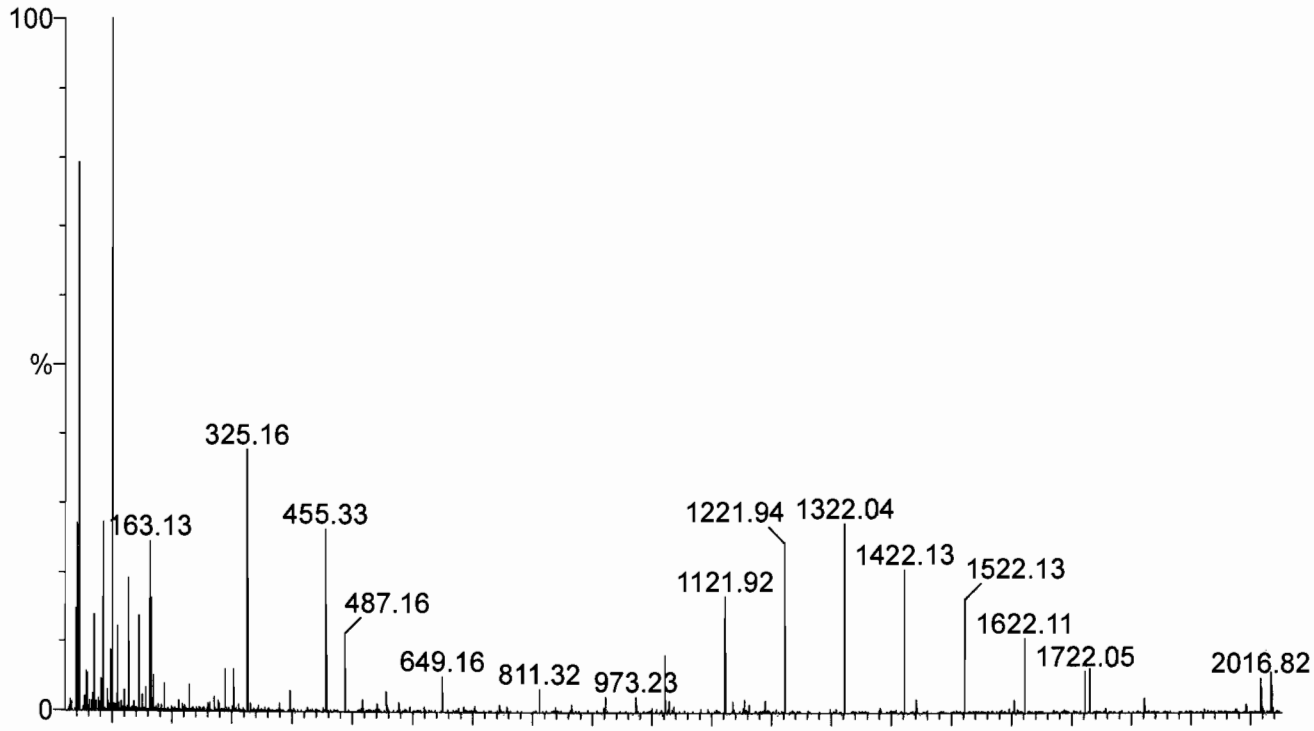
Data file: STATMS2V - Calibrated 23 matches of 23 tested references



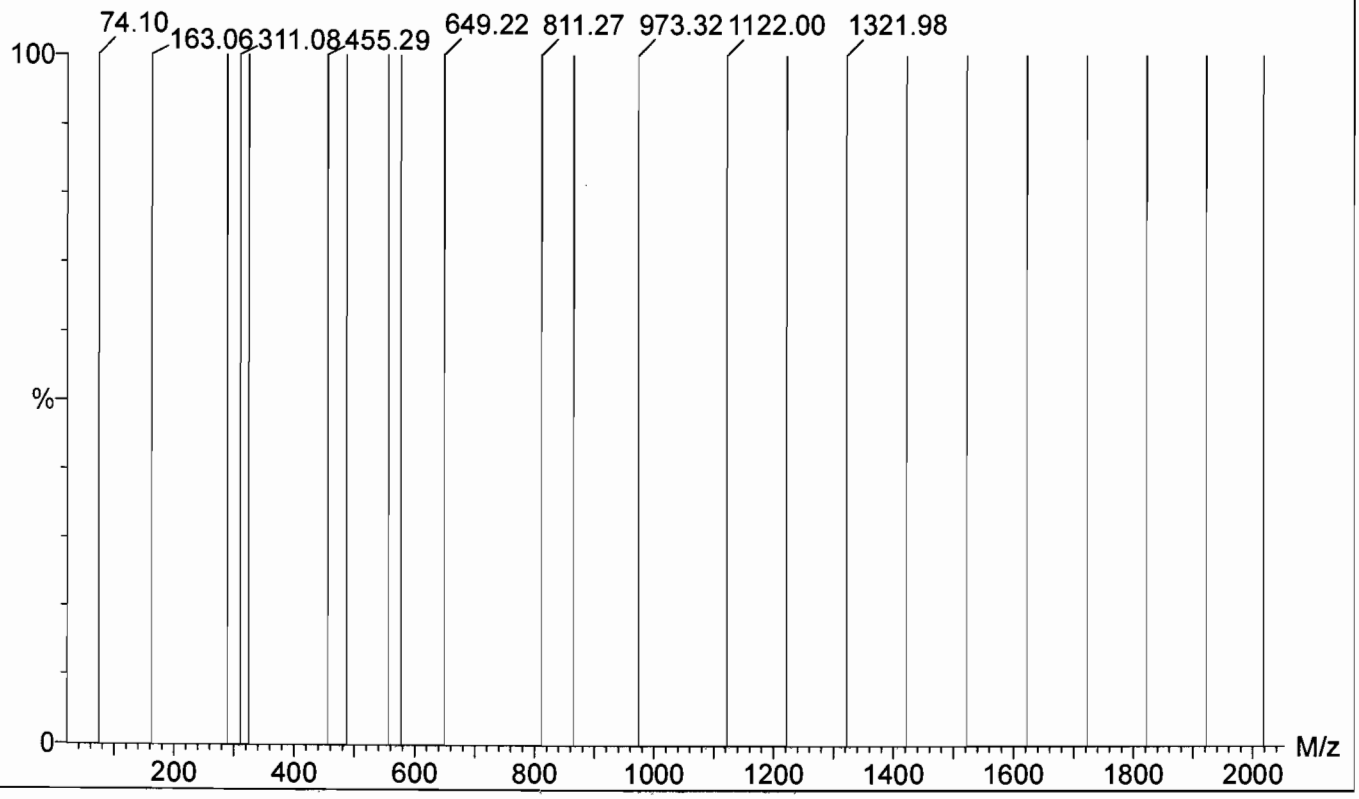
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0609 amu



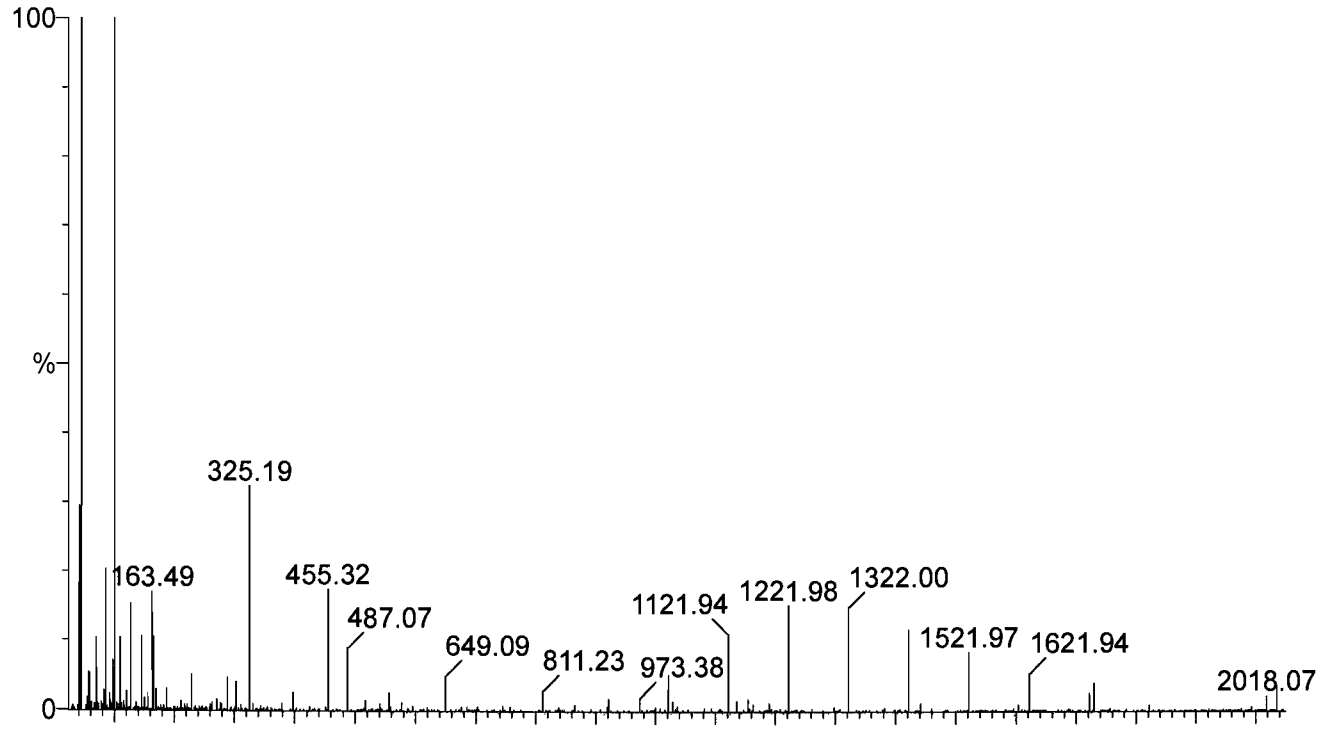
Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



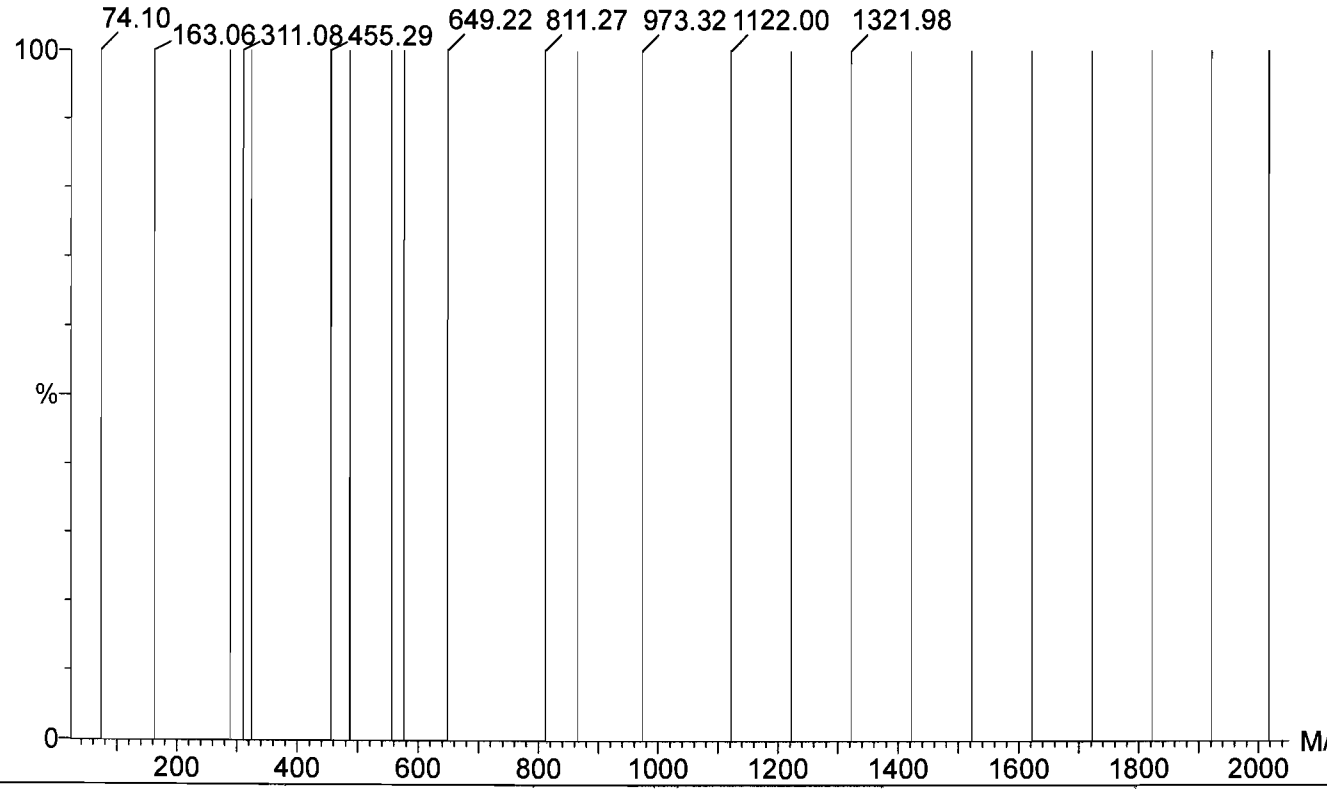
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.127 amu



Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.127 amu



Q4_07-12-19

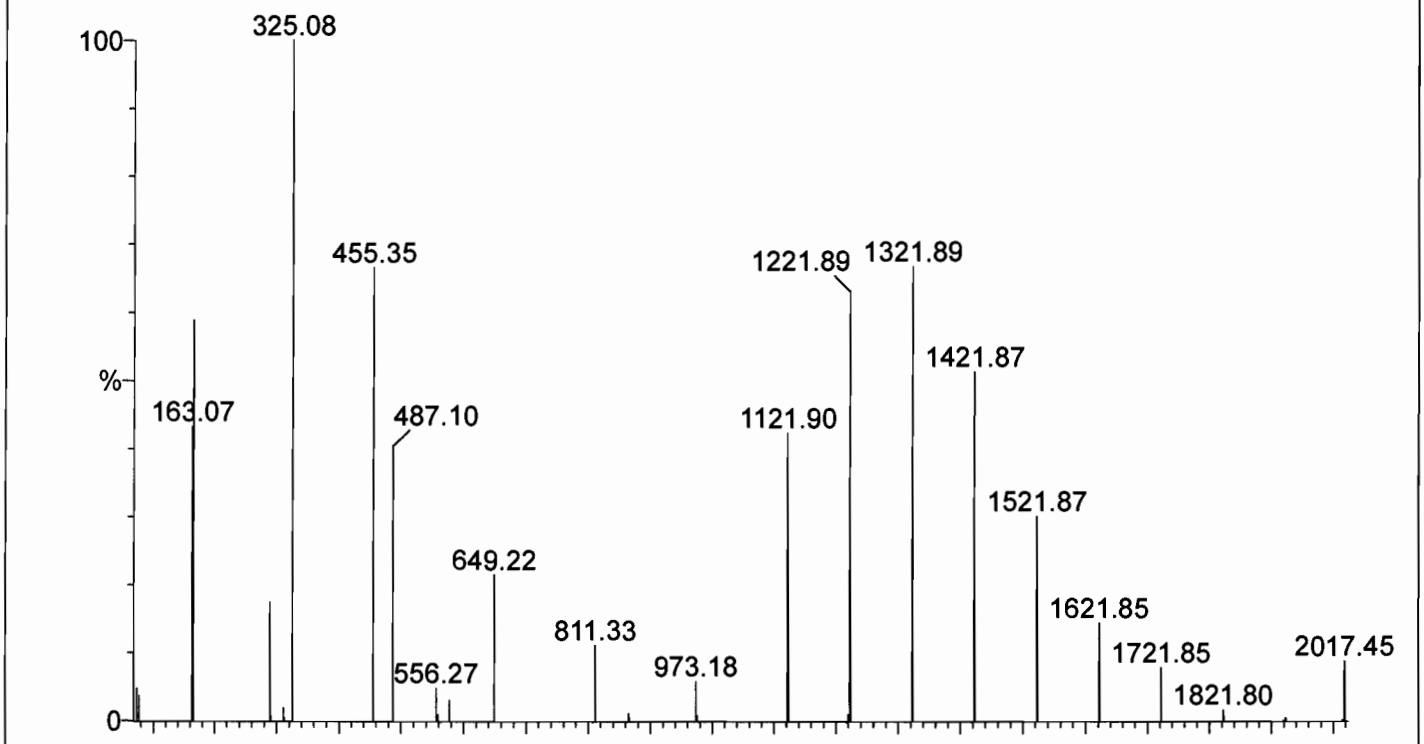
07/03/19 Cal 7/12/19

Calibration Verification Report - MS1 Static

Printed: **Fri Jul 12 10:05:31 2019**

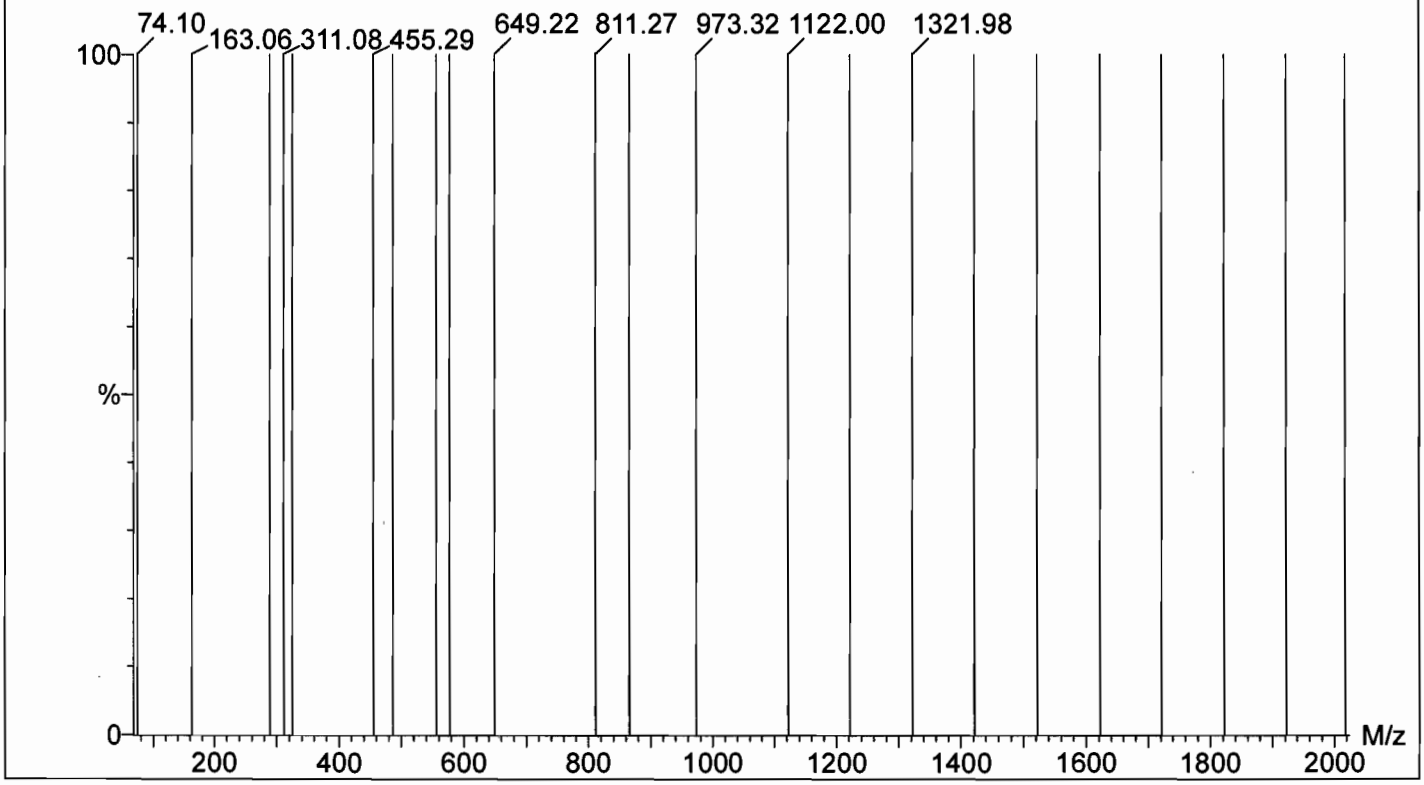
Data file: STATMS1V - Calibrated

22 matches of 23 tested references

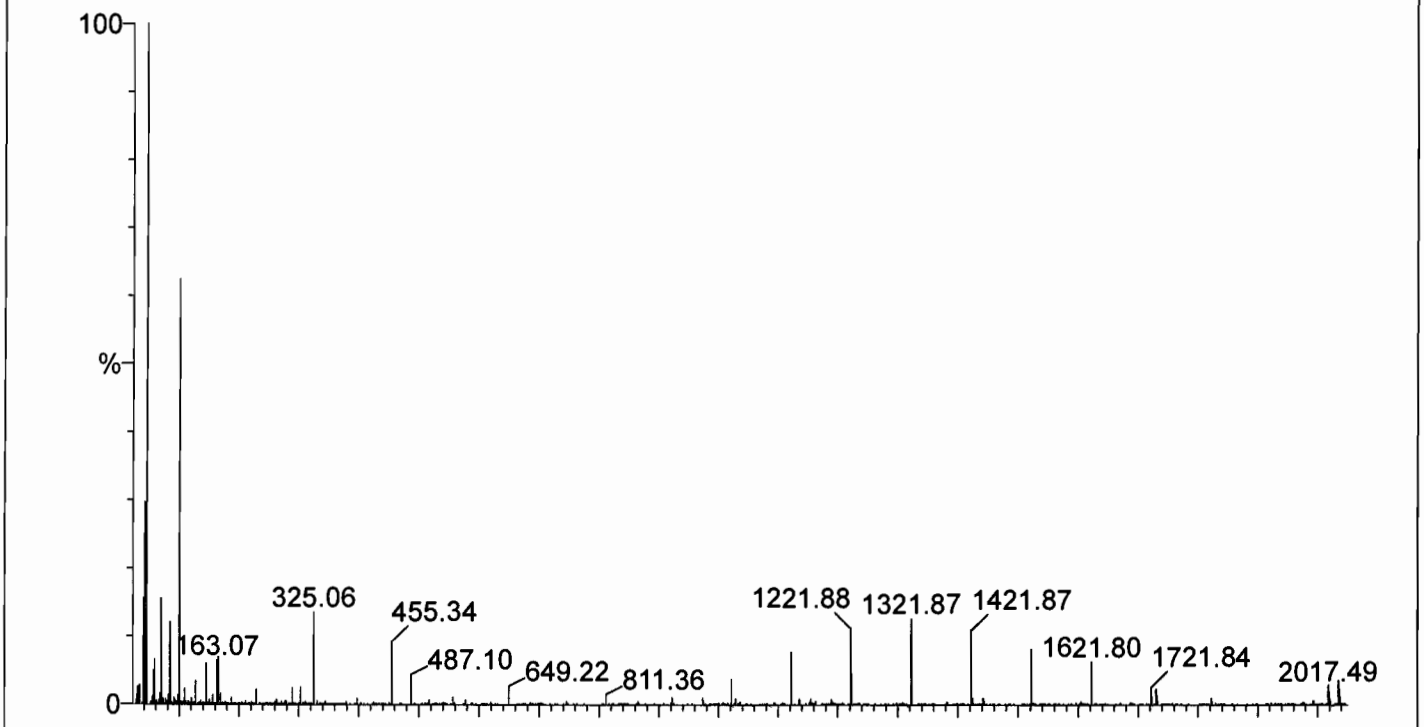


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

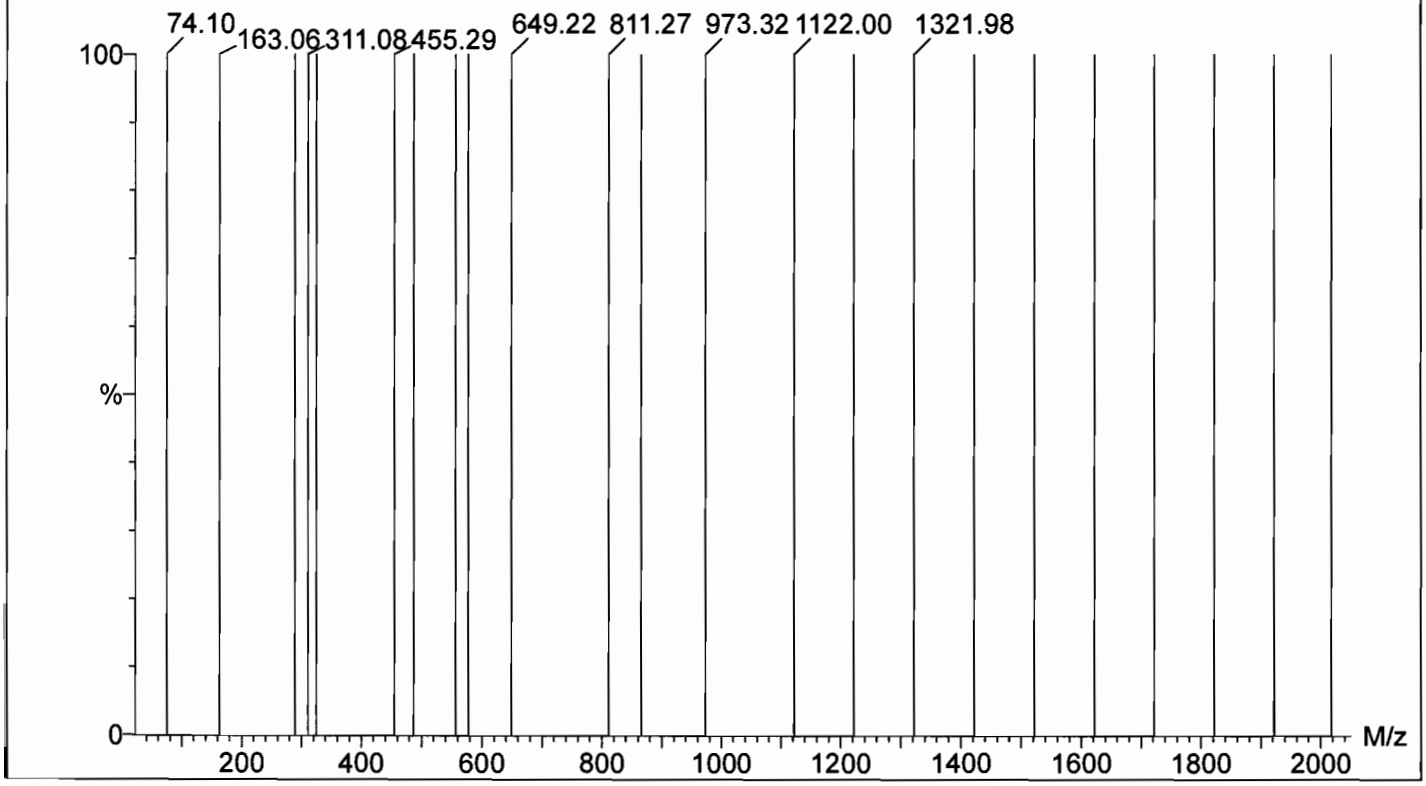
Mean residual = 0.0841 amu



Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



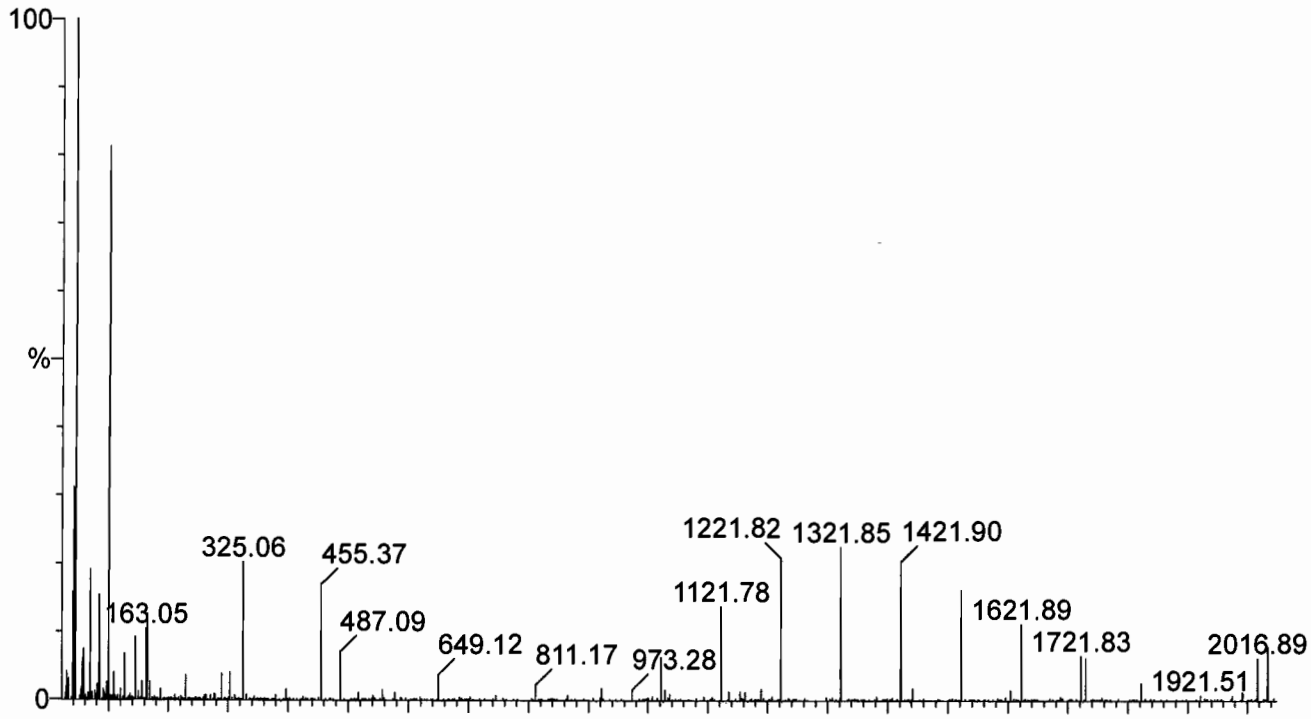
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0782 amu



Printed: **Fri Jul 12 10:07:51 2019**

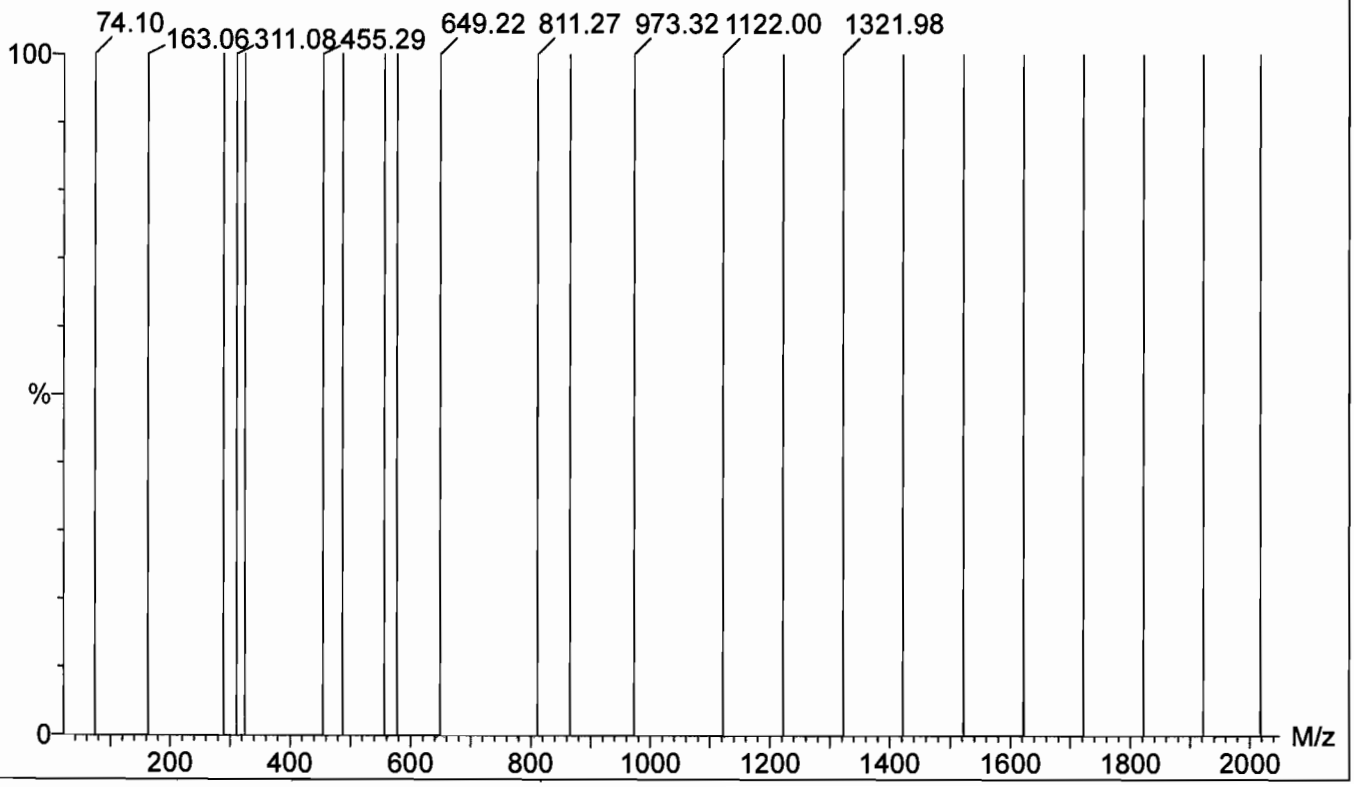
Data file: FASTMS1V - Calibrated

22 matches of 23 tested references

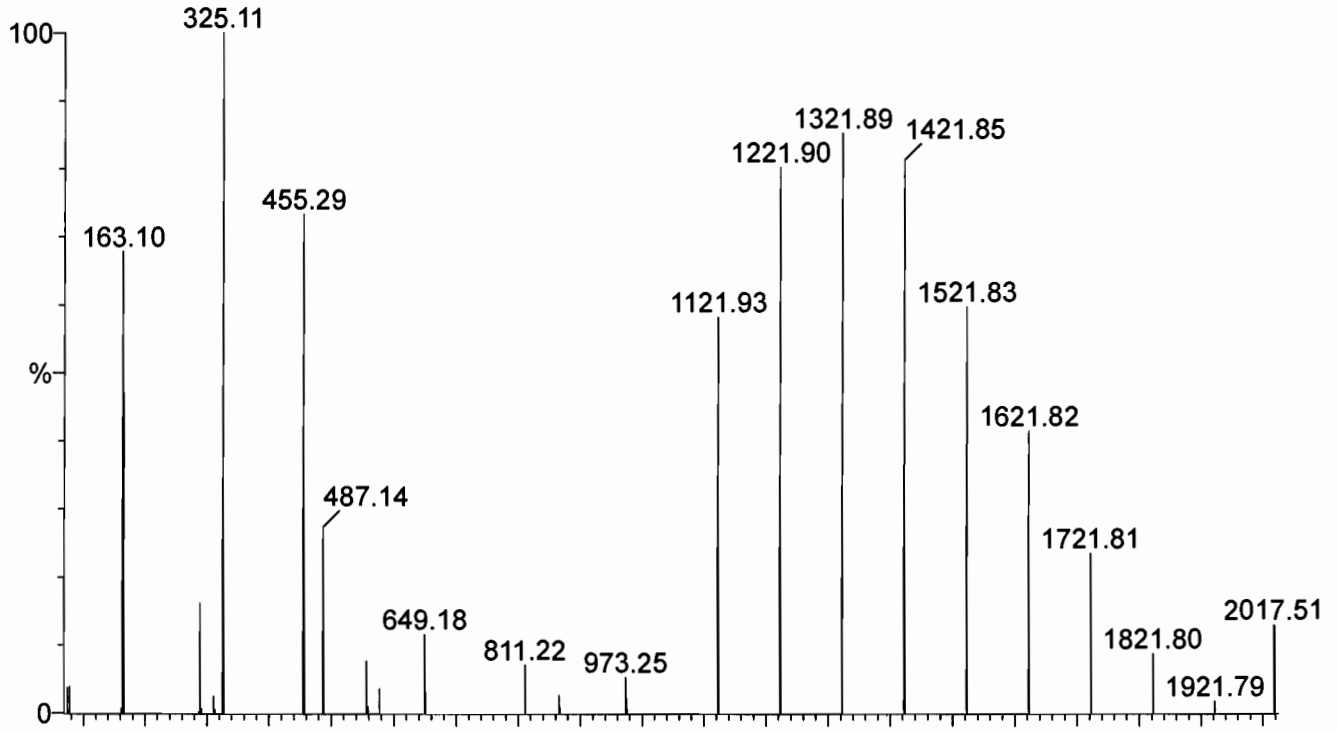


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

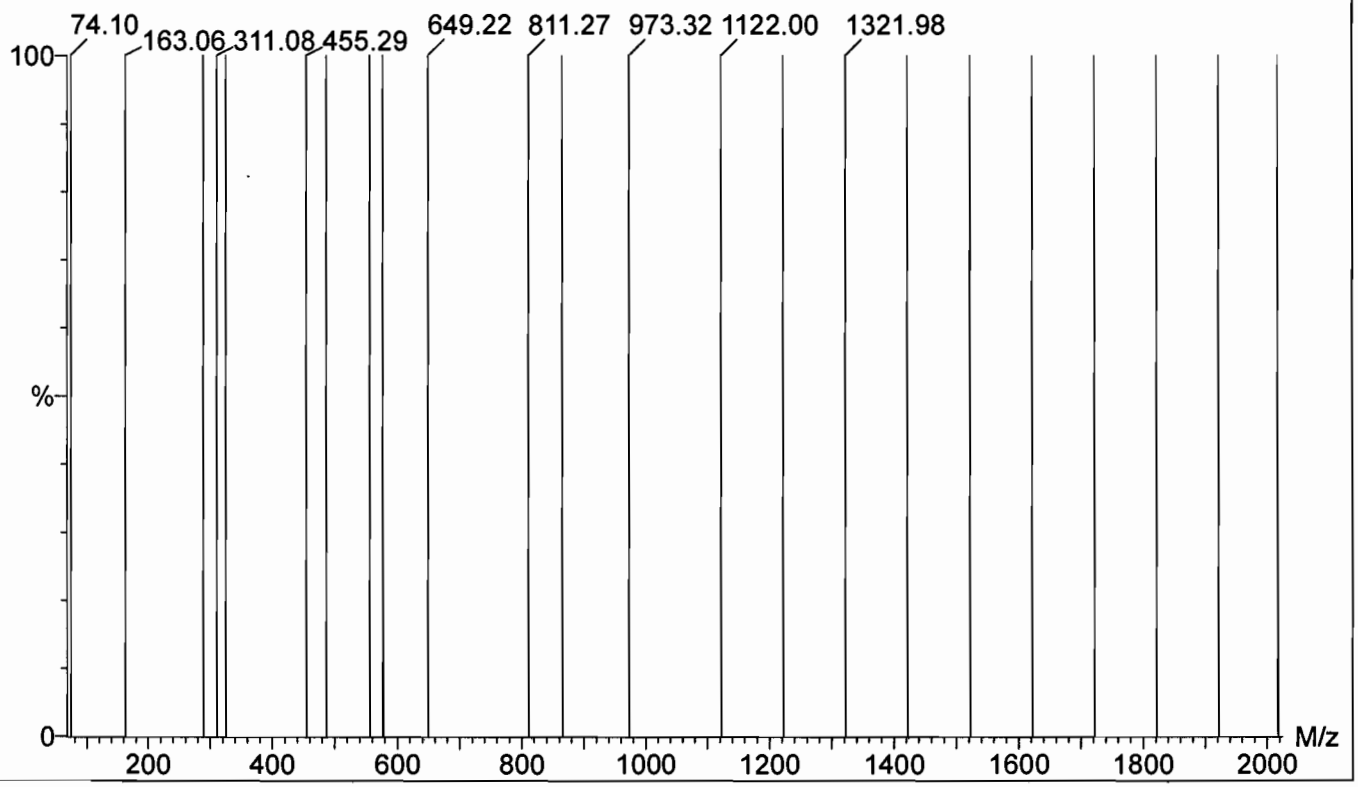
Mean residual = 0.142 amu



Data file: STATMS2V - Calibrated 23 matches of 23 tested references

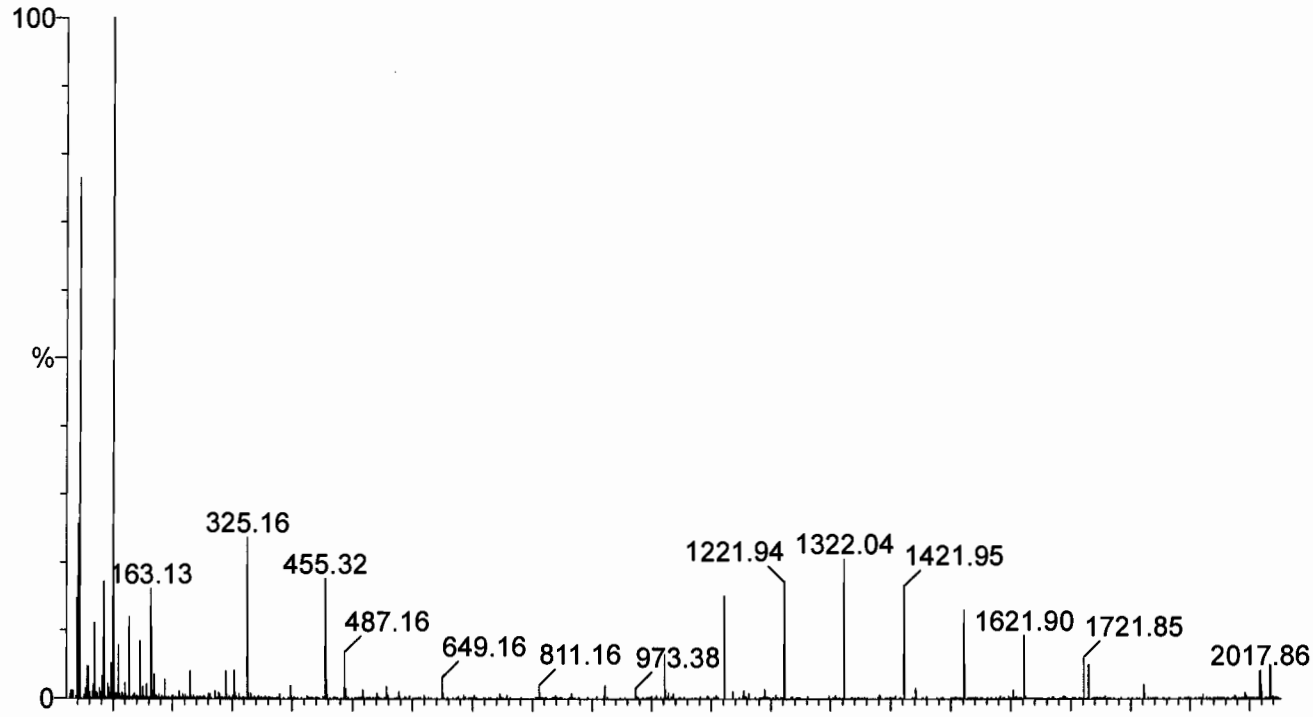


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0721 amu

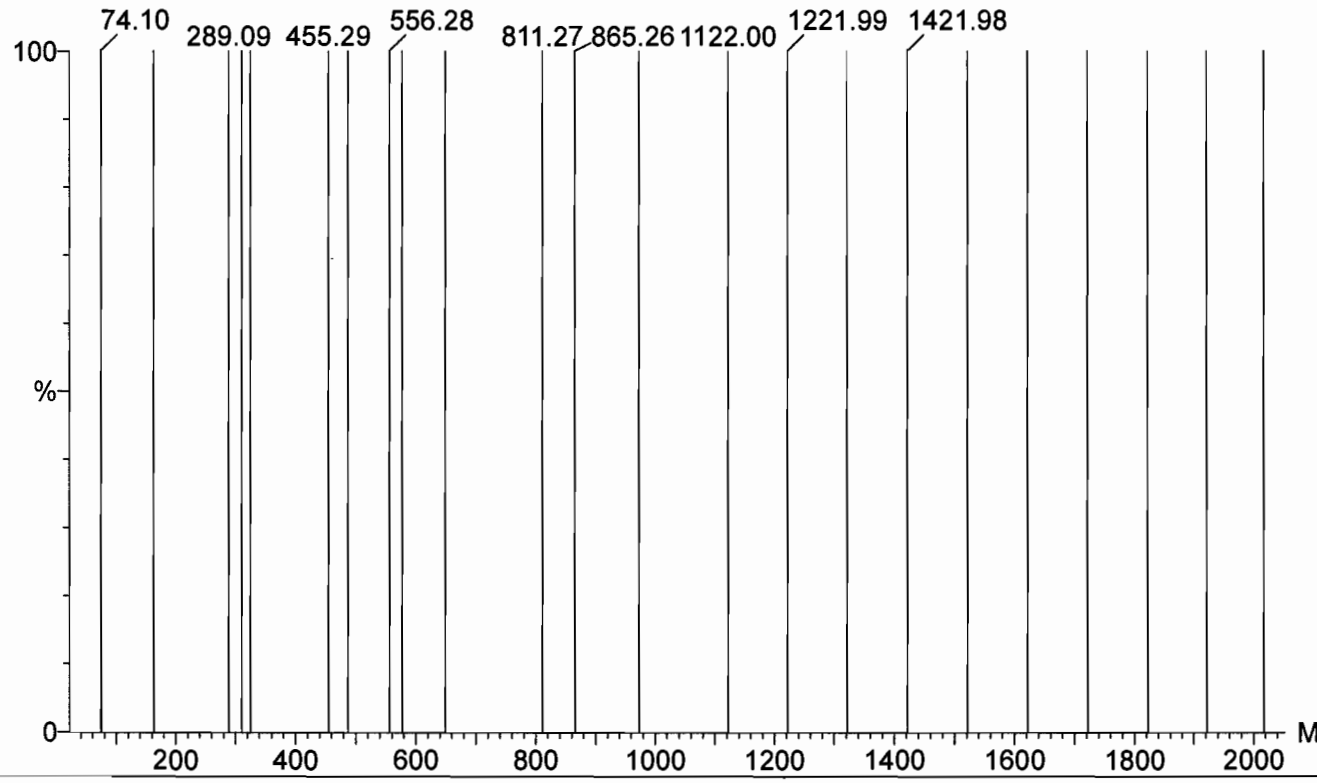


Printed: **Fri Jul 12 10:10:08 2019**

Data file: SCNMS2V - Calibrated 23 matches of 23 tested references

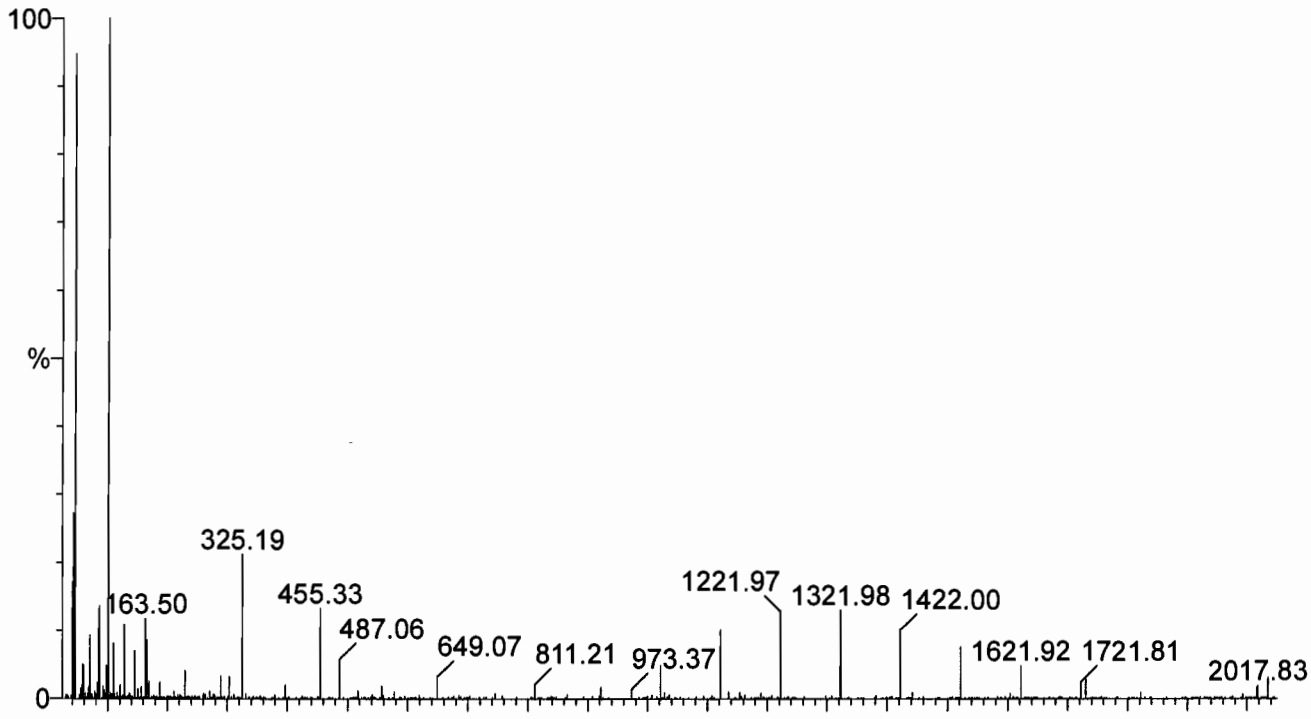


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.078 amu

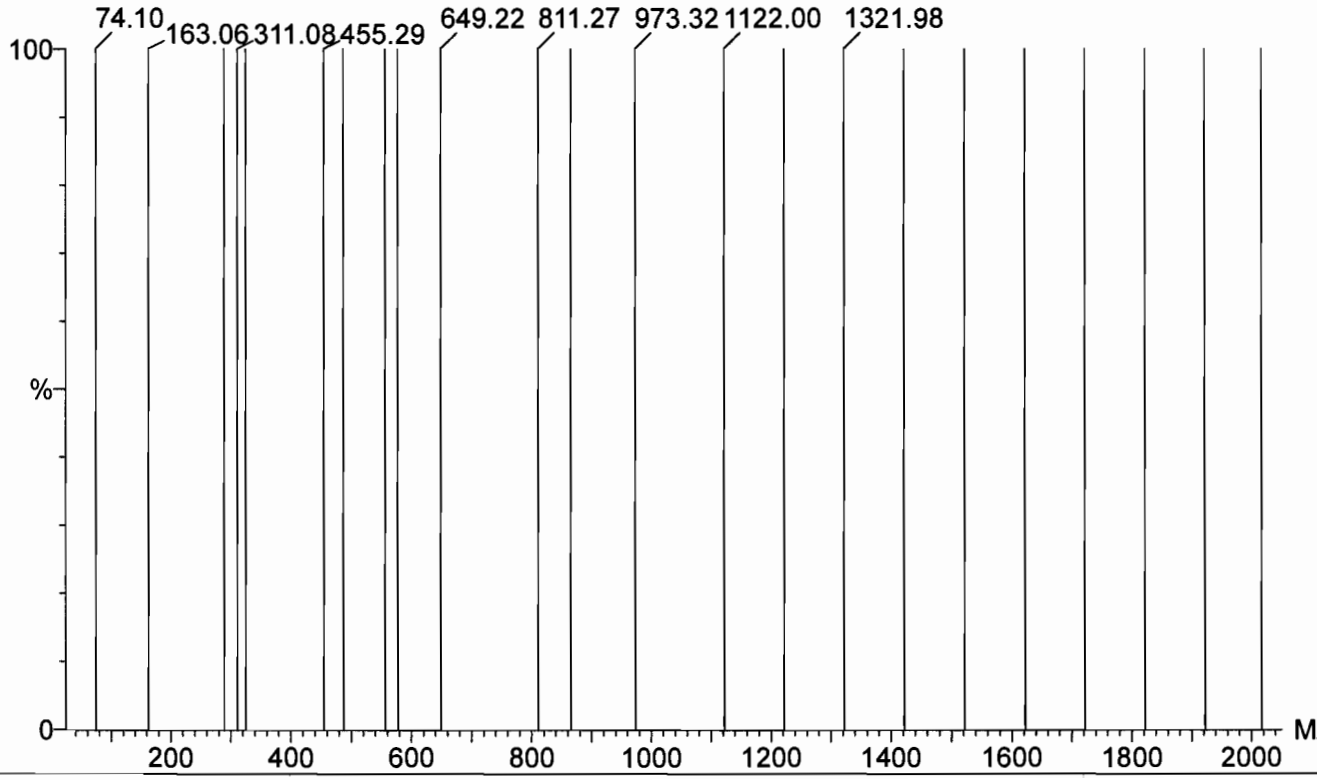


Printed: **Fri Jul 12 10:11:34 2019**

Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.123 amu



STANDARDS

Analytical Standard Record

Vista Analytical Laboratory

19E2201

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	(mls)
18L2001	13C2-4:2 FTS	20-Dec-18	** Vendor **	01-Sep-22	1.07
18L2002	13C2-6:2 FTS	20-Dec-18	** Vendor **	22-Nov-23	1.05
18L2003	13C2-8:2 FTS	20-Dec-18	** Vendor **	24-Jan-23	1.04
18L2004	13C3-PFBA	20-Dec-18	** Vendor **	14-Dec-22	1
18L2005	13C2-PFDA	20-Dec-18	** Vendor **	06-Dec-23	1
18L2006	13C2-PFUdA	20-Dec-18	** Vendor **	11-May-23	1
18L2007	13C2-PFTeDA	20-Dec-18	** Vendor **	30-Nov-22	1
18L2008	13C5-PFNA	20-Dec-18	** Vendor **	14-Dec-22	1
18L2009	13C2-PFDoA	20-Dec-18	** Vendor **	16-Feb-23	1
18L2010	13C4-PFHpA	20-Dec-18	** Vendor **	06-Jul-23	1
18L2011	13C2-PFOA	20-Dec-18	** Vendor **	10-Oct-23	1
18L2012	13C3-PFPeA	20-Dec-18	** Vendor **	20-Apr-22	1
18L2013	13C8-FOSA-I	20-Dec-18	** Vendor **	10-Oct-23	1
18L2014	d3-N-Me-FOSAA	20-Dec-18	** Vendor **	23-Aug-23	1
18L2015	d5-N-EtFOSAA	20-Dec-18	** Vendor **	23-Aug-23	1
18L2016	13C3-PFBS	20-Dec-18	** Vendor **	10-Dec-23	1.075
18L2017	13C8-PFOS	20-Dec-18	** Vendor **	20-Sep-23	1.045
18L2019	13C2-PFHxA	20-Dec-18	** Vendor **	22-May-23	0.4
18L2020	13C2-PFHxDA	20-Dec-18	** Vendor **	11-Oct-23	0.4
18L2027	13C3-PFHxS	20-Dec-18	** Vendor **	20-Jun-23	1.06
18L2077	13C3-HFPO-DA	20-Dec-18	** Vendor **	24-Oct-21	1

Description:	PFC - IS	Expires:	28-May-21
Standard Type:	Reagent	Prepared:	28-May-19
Solvent:	MeOH	Prepared By:	Giana R. Bilotta
Final Volume (mls):	40	Department:	LCMS
Vials:	1	Last Edit:	28-May-19 09:02 by GRB

Analyte	CAS Number	Concentration	Units
13C3-PFBA		1.25	ug/mL
13C2-6:2 FTS		1.25	ug/mL
13C2-8:2 FTS		1.25	ug/mL
13C2-PFDA		1.25	ug/mL
13C2-PFDoA		1.25	ug/mL
13C2-PFHxA		0.5	ug/mL
13C2-PFHxDA		0.5	ug/mL
13C2-PFOA		1.25	ug/mL
13C2-PFTeDA		1.25	ug/mL
13C2-4:2 FTS		1.25	ug/mL
13C3-HFPO-DA		1.25	ug/mL
d5-EtFOSAA		1.25	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

19E2201

Description:	PFC - IS	Expires:	28-May-21
Standard Type:	Reagent	Prepared:	28-May-19
Solvent:	MeOH	Prepared By:	Giana R. Bilotta
Final Volume (mls):	40	Department:	LCMS
Vials:	1	Last Edit:	28-May-19 09:02 by GRB

Analyte	CAS Number	Concentration	Units
13C3-PFBS		1.25	ug/mL
13C3-PFHxS		1.25	ug/mL
13C3-PFPeA		1.25	ug/mL
13C4-PFHpA		1.25	ug/mL
13C5-PFNA		1.25	ug/mL
13C8-PFOS		1.25	ug/mL
13C8-PFOSA		1.25	ug/mL
d3-MeFOSAA		1.25	ug/mL
13C2-PFUnA		1.25	ug/mL

18L2001

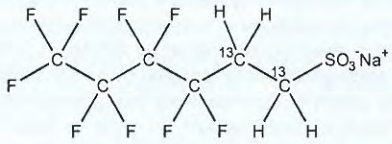
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-4:2FTS **LOT NUMBER:** M242FTS0817

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]hexane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4H_4F_9SO_3Na$	**MOLECULAR WEIGHT:**	352.12
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	46.7 ± 2.3 µg/ml (M2-4:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	09/01/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/01/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 4:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 4:2FTS and M2-4:2FTS will produce signals in the m/z 329 to m/z 309 channel during SRM analysis. We recommend using the m/z 329 to m/z 81 transition to monitor for M2-4:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

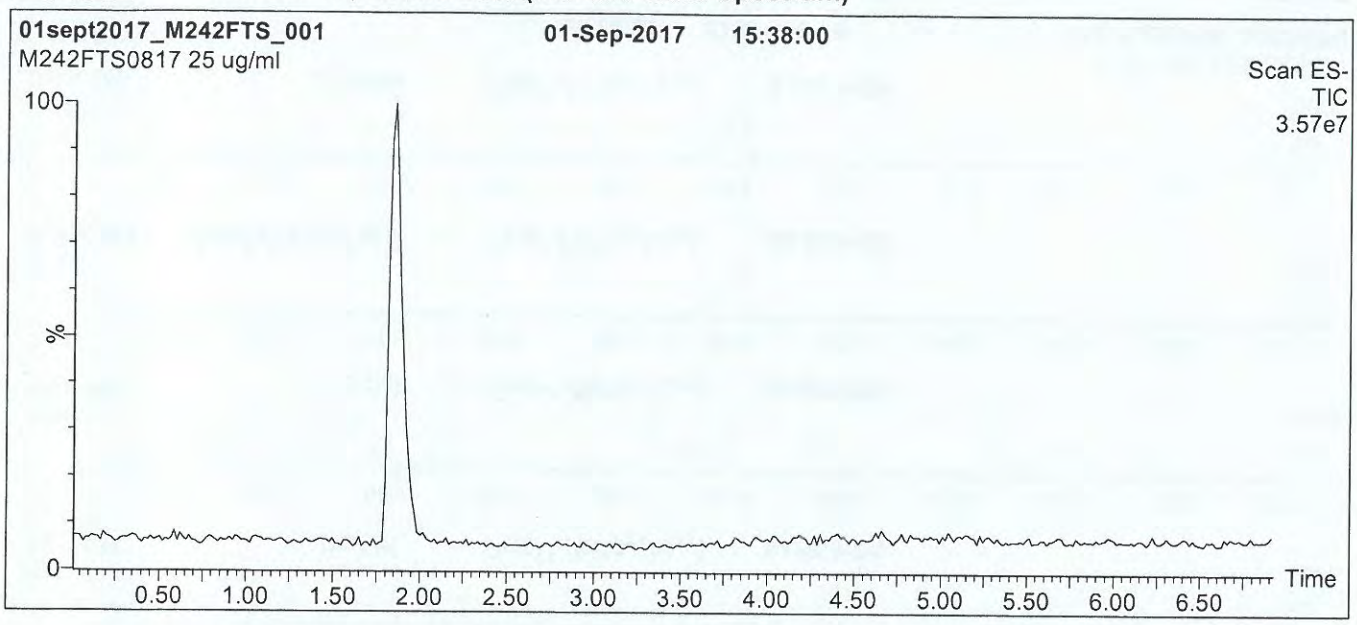
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

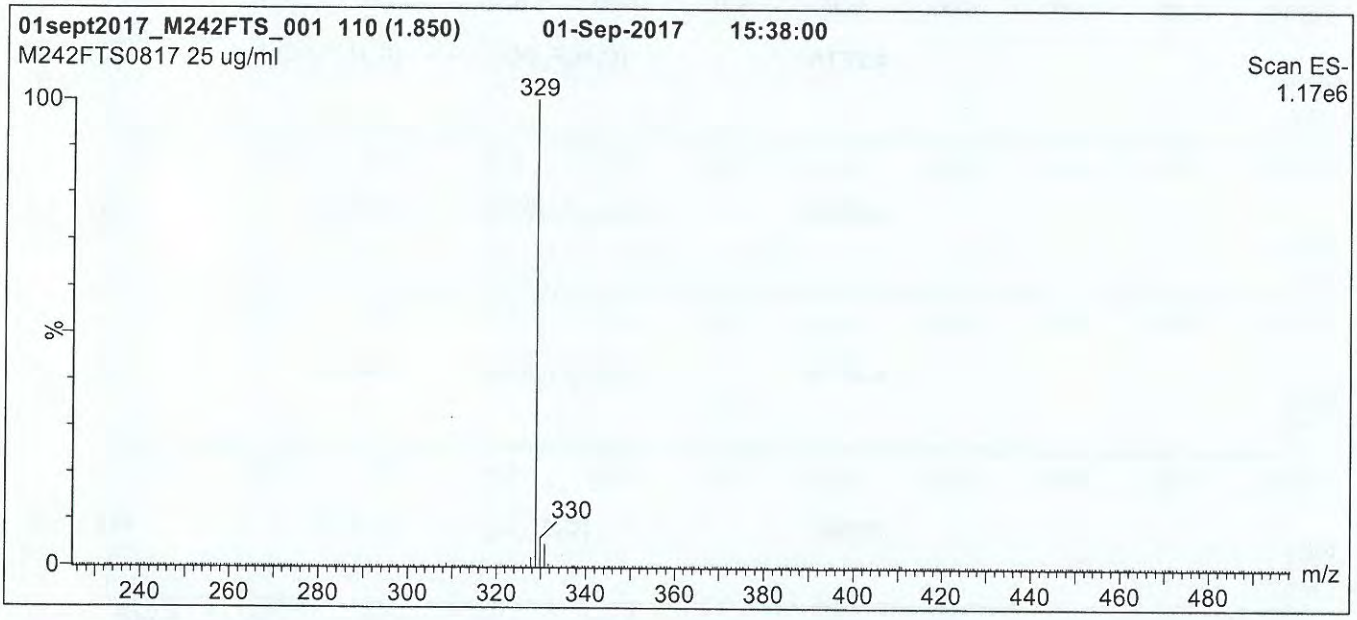
Certified By: _____ **Date:** 09/29/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2001

Figure 1: **M2-4:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min
and hold for 1 min before returning
to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 25.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

18L2001

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

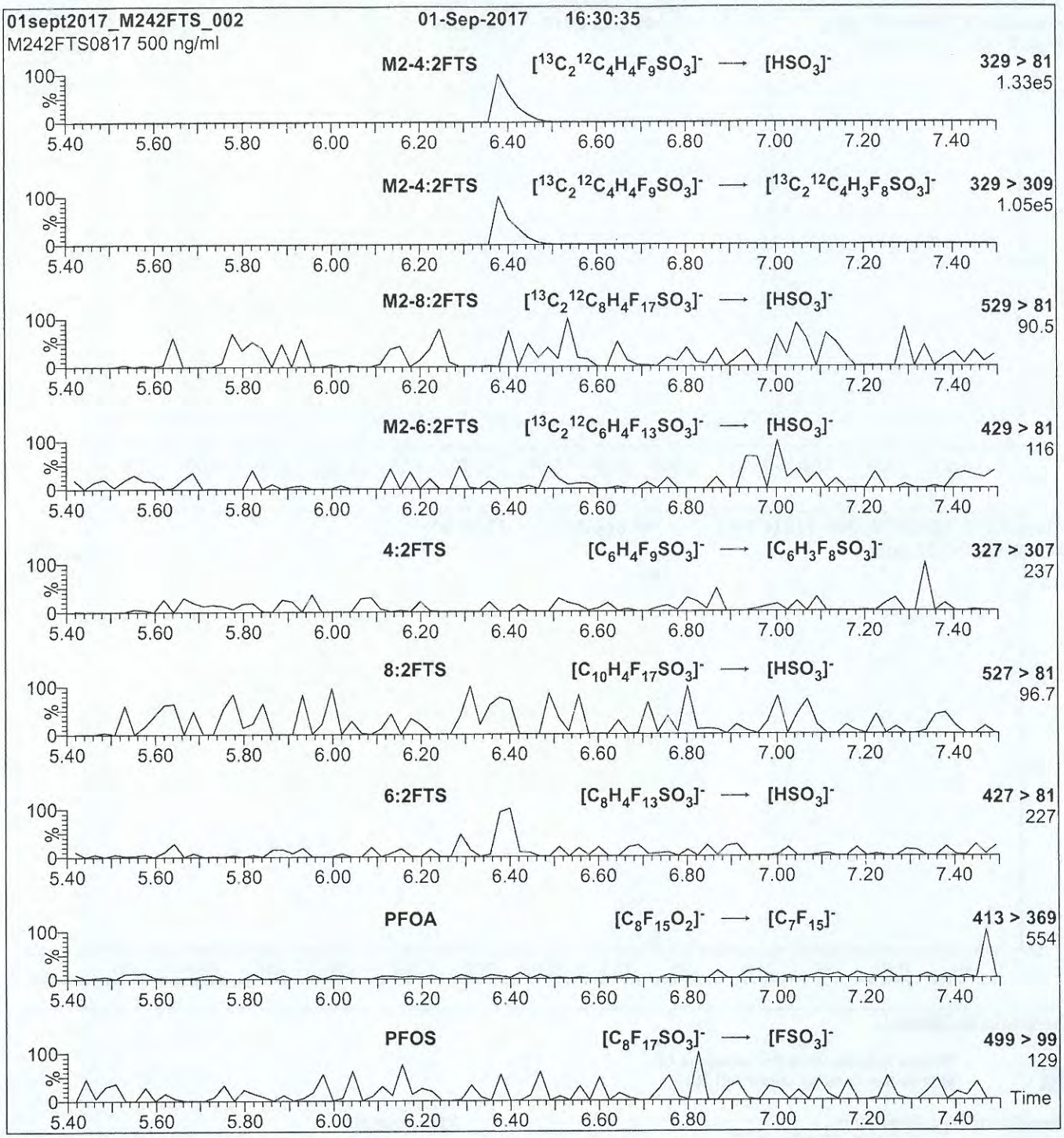
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812001

Figure 2: **M2-4:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M2-4:2FTS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3
Collision Energy (eV) = 25

18L2002

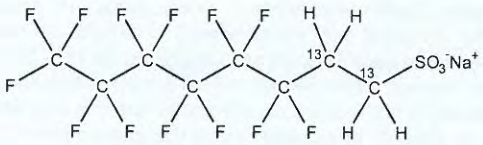
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-6:2FTS **LOT NUMBER:** M262FTS1118

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]octane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	452.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.5 ± 2.4 µg/ml (M2-6:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	11/22/2018		
EXPIRY DATE: (mm/dd/yyyy)	11/22/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 6:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/26/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2002

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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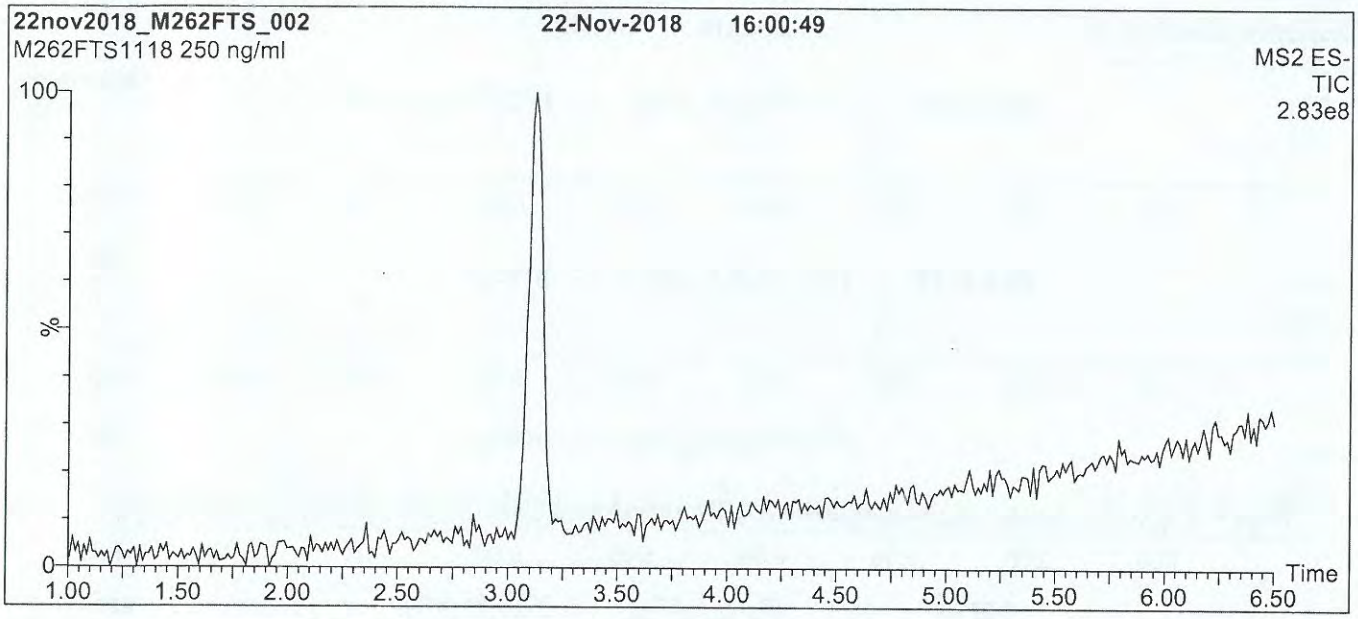
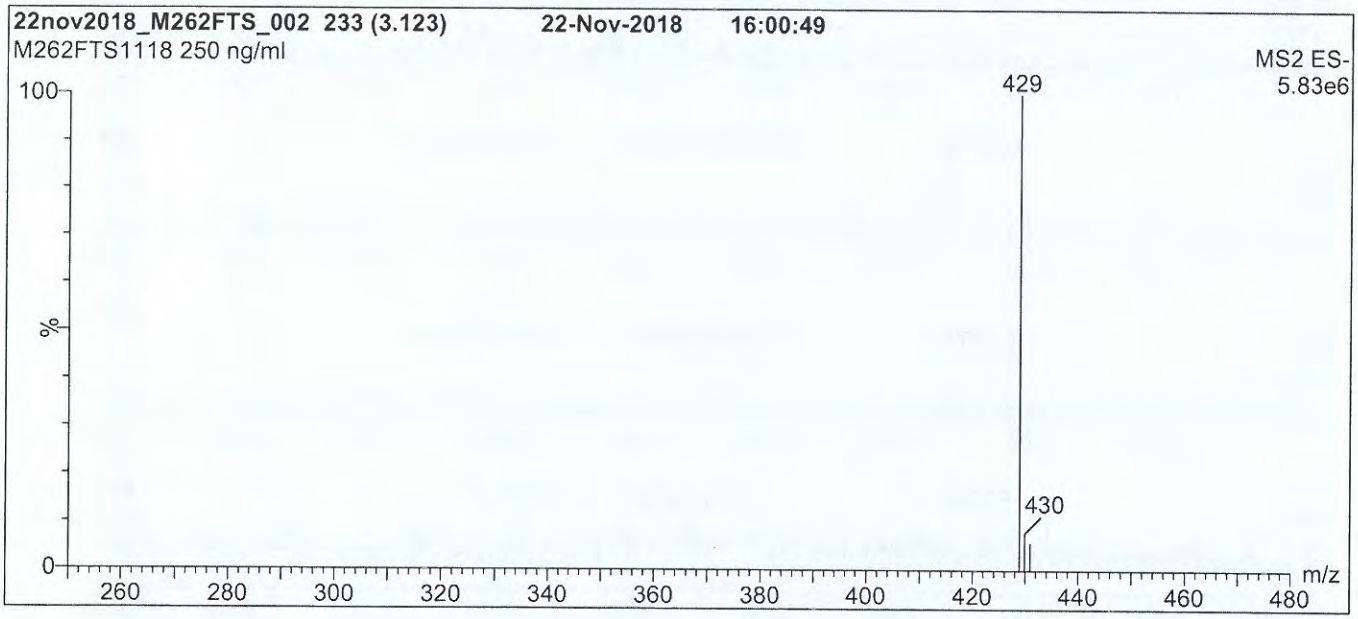
18L2002

Figure 1: **M2-6:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

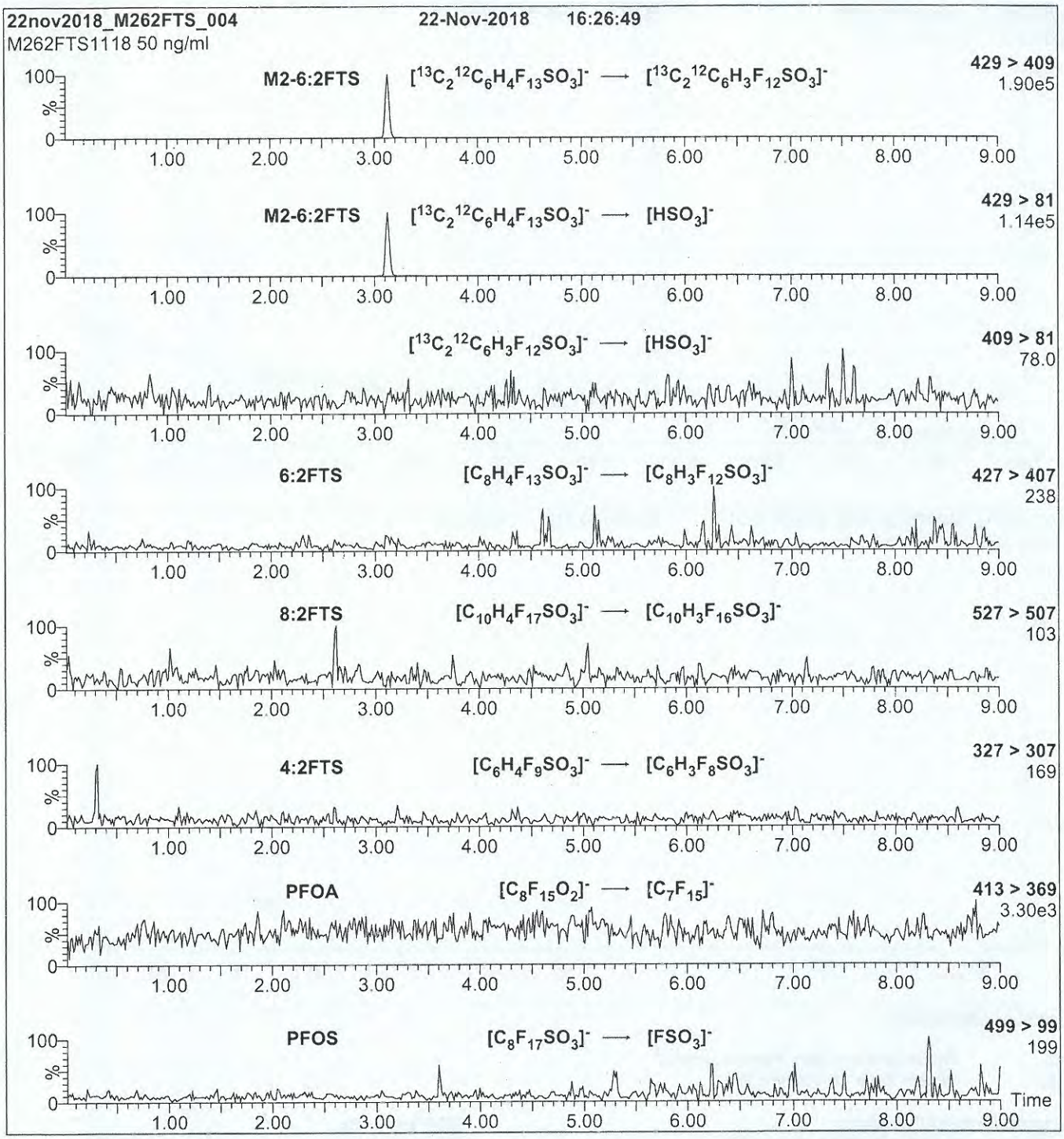
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812002

Figure 2: **M2-6:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2-6:2FTS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 20

18L2003

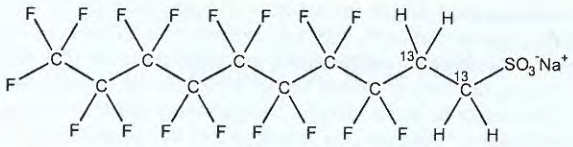
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS0118

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]decane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	552.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml (M2-8:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	01/24/2018		
EXPIRY DATE: (mm/dd/yyyy)	01/24/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 8:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for M2-8:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 01/26/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Form#:27, Issued 2004-11-10
Revision#:5, Revised 2018-01-22

18L2003

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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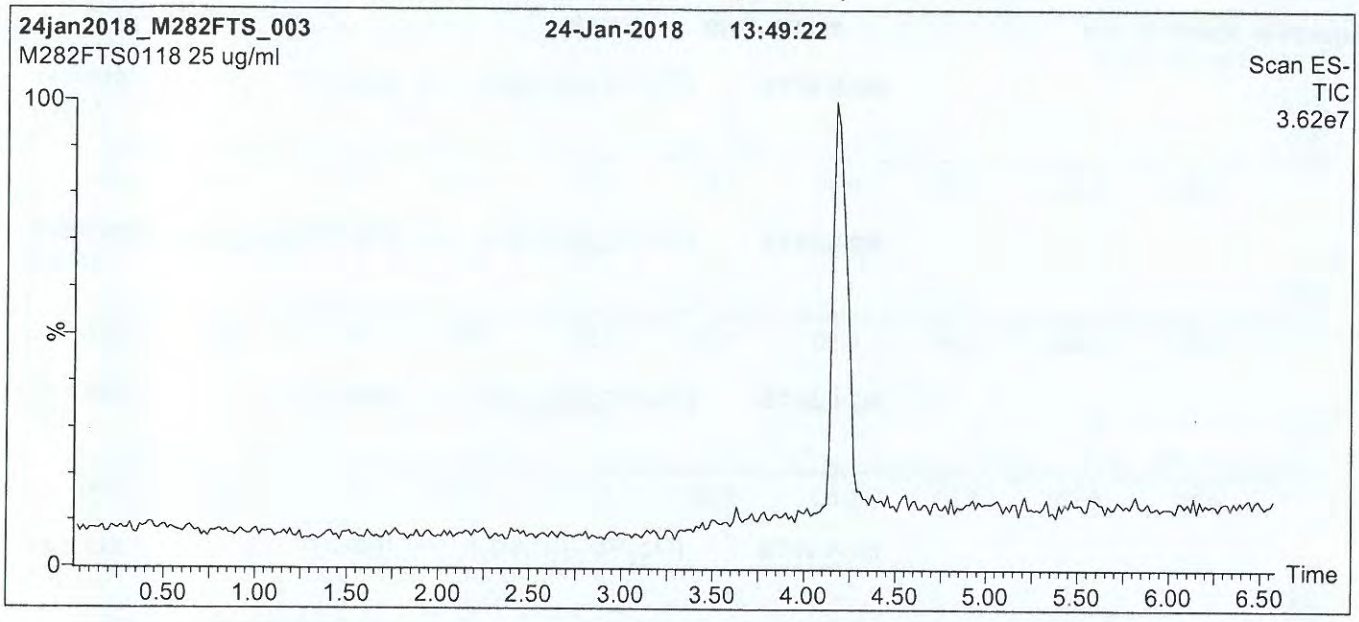
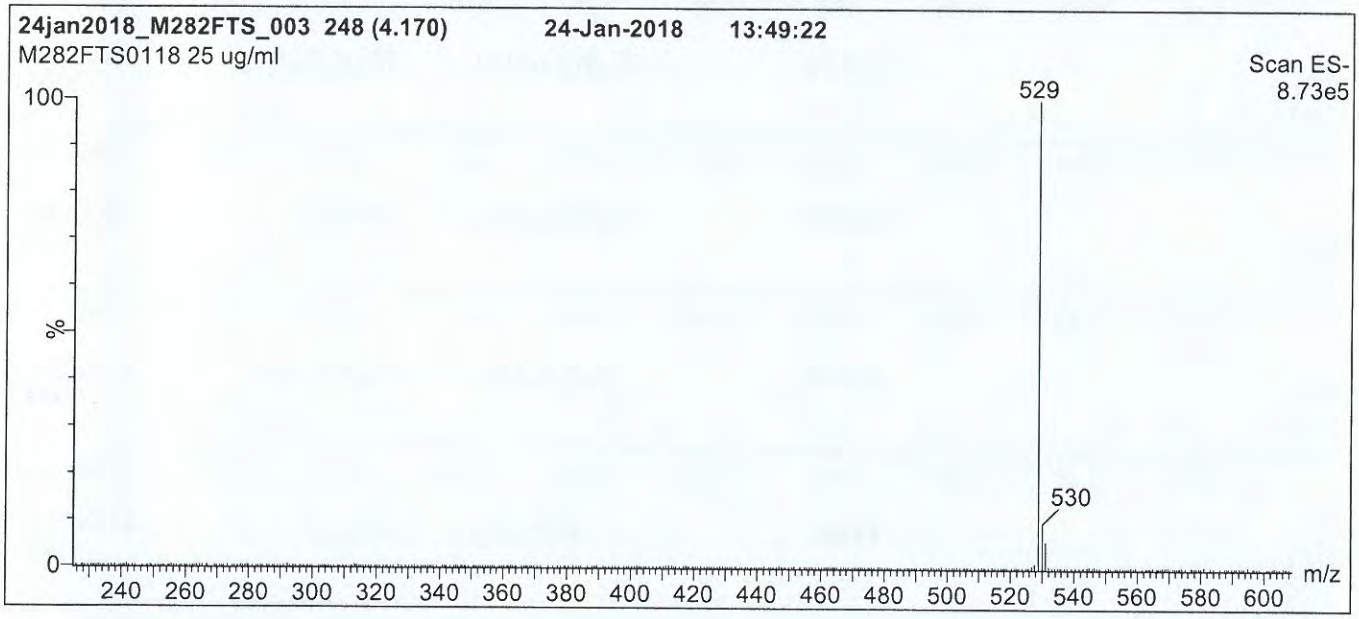
1812003

Figure 1: **M2-8:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

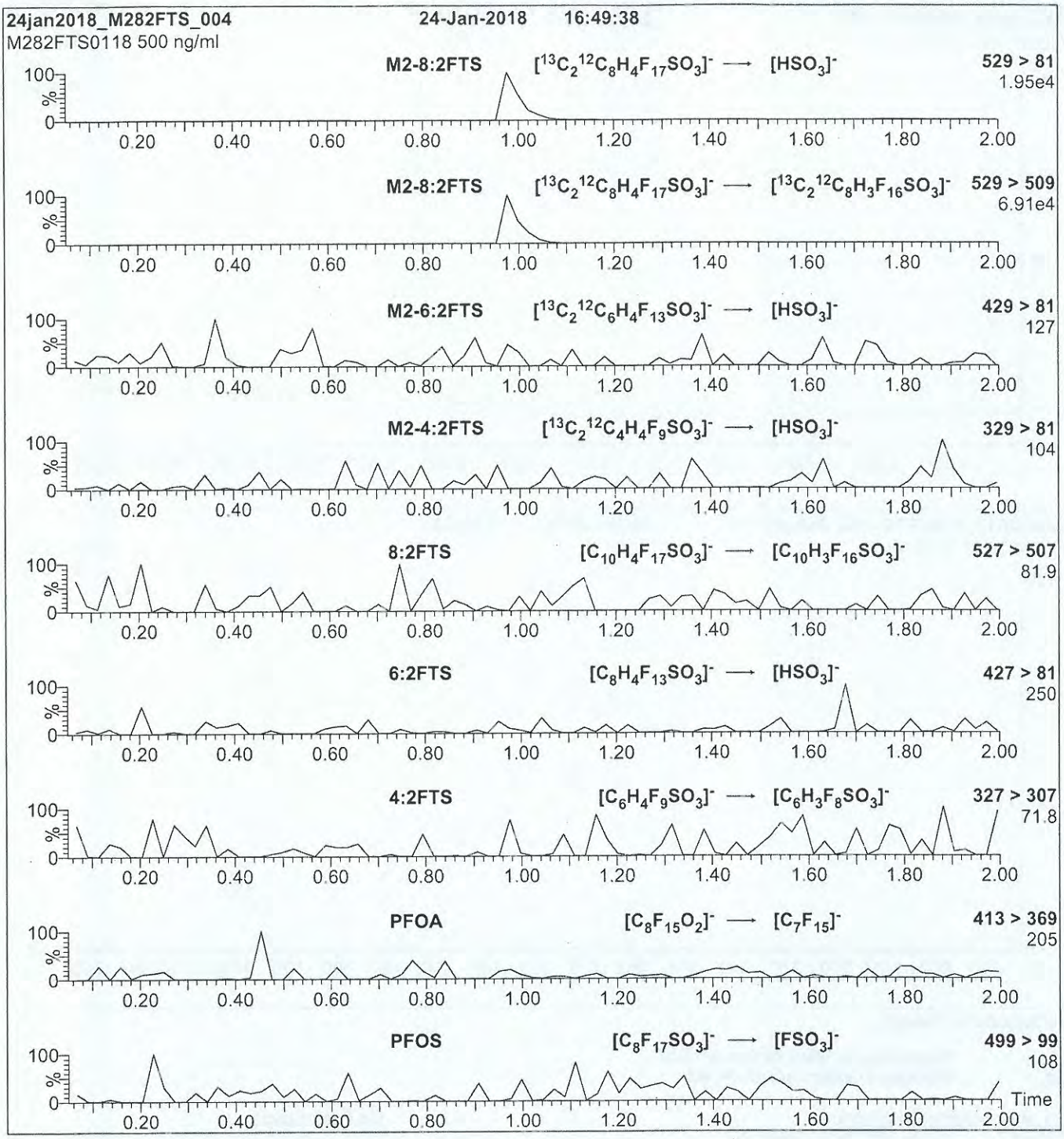
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source:Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 30.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

1812003

Figure 2: **M2-8:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M2-8:2FTS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

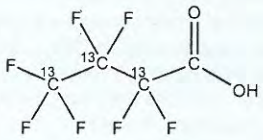
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 25

18L2004

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M3PFBA	**LOT NUMBER:**	M3PFBA1217
COMPOUND:	Perfluoro-n-[2,3,4-$^{13}C_3$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CHF_7O_2$	**MOLECULAR WEIGHT:**	217.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (2,3,4-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	12/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	12/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-[$^{13}C_3$]propanoic acid and also contains ~ 1.0% of perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid due to the naturally occurring isotopic abundance of ^{13}C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/22/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2004

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

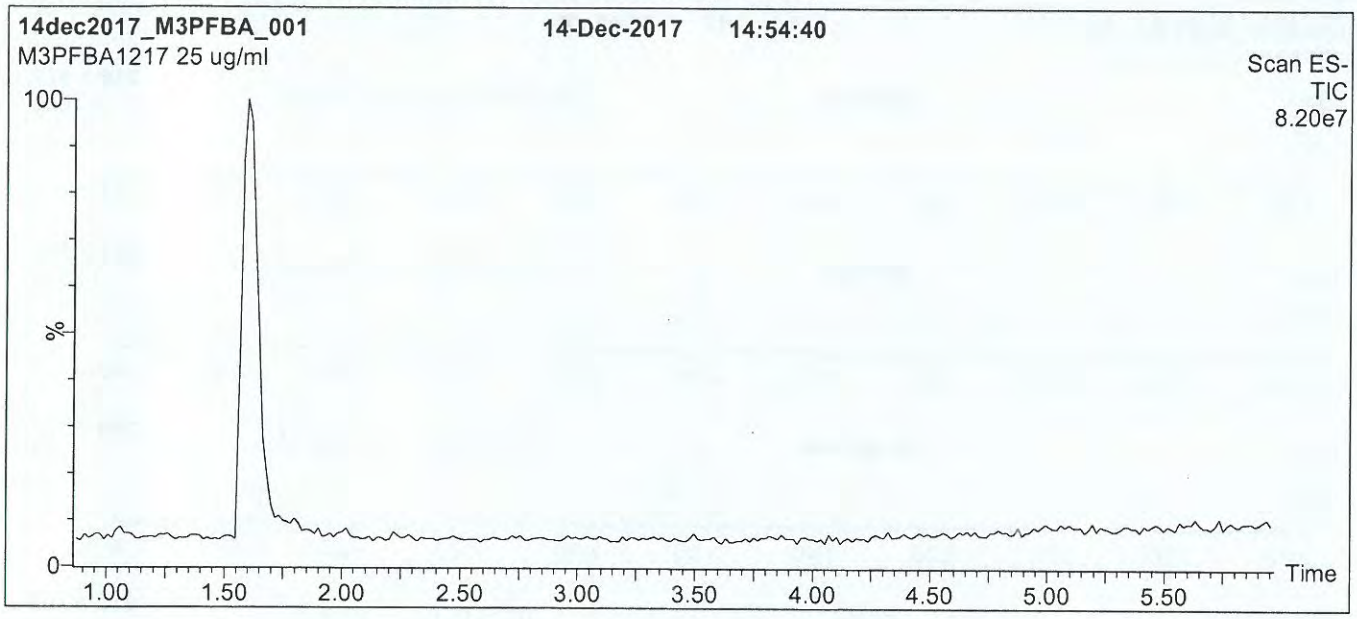
CALA Testing Accreditation No. A 1226

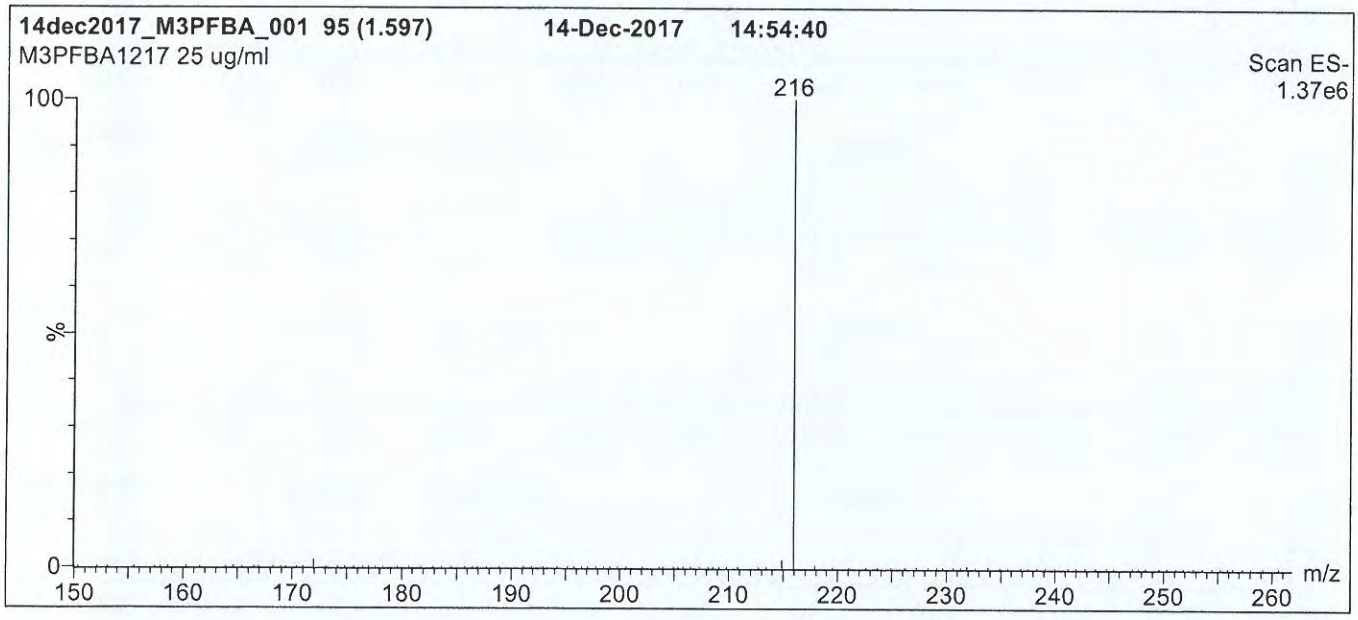
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812004

Figure 1: **M3PFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

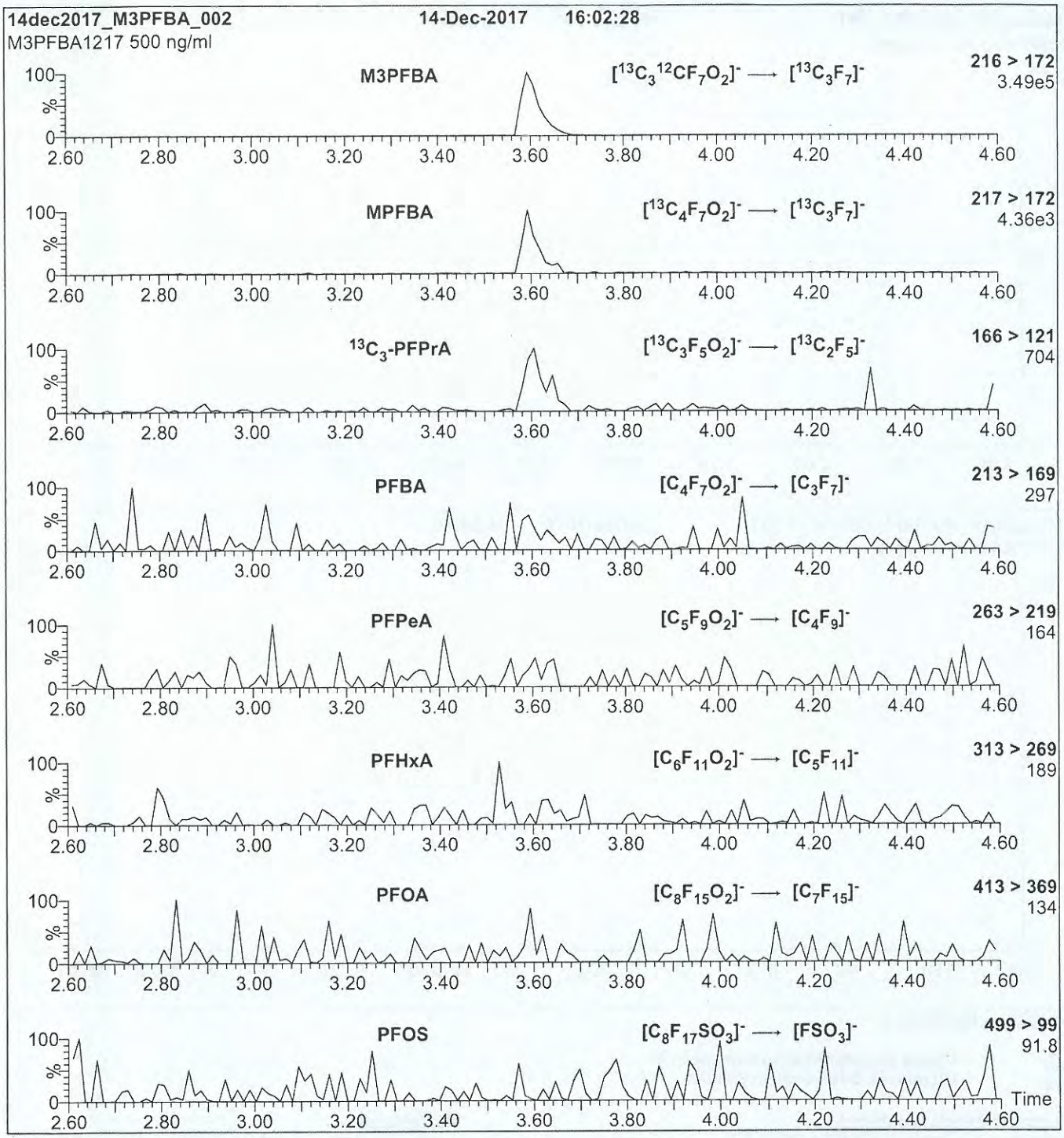
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

18L2004

Figure 2: **M3PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M3PFBA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

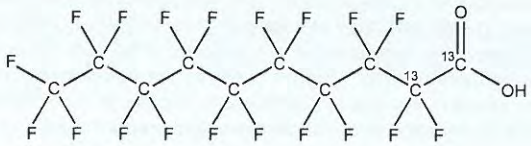
Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

18L2005

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFDA	**LOT NUMBER:**	MPFDA1218
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	**MOLECULAR WEIGHT:**	516.07
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	12/06/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/06/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/10/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812005

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

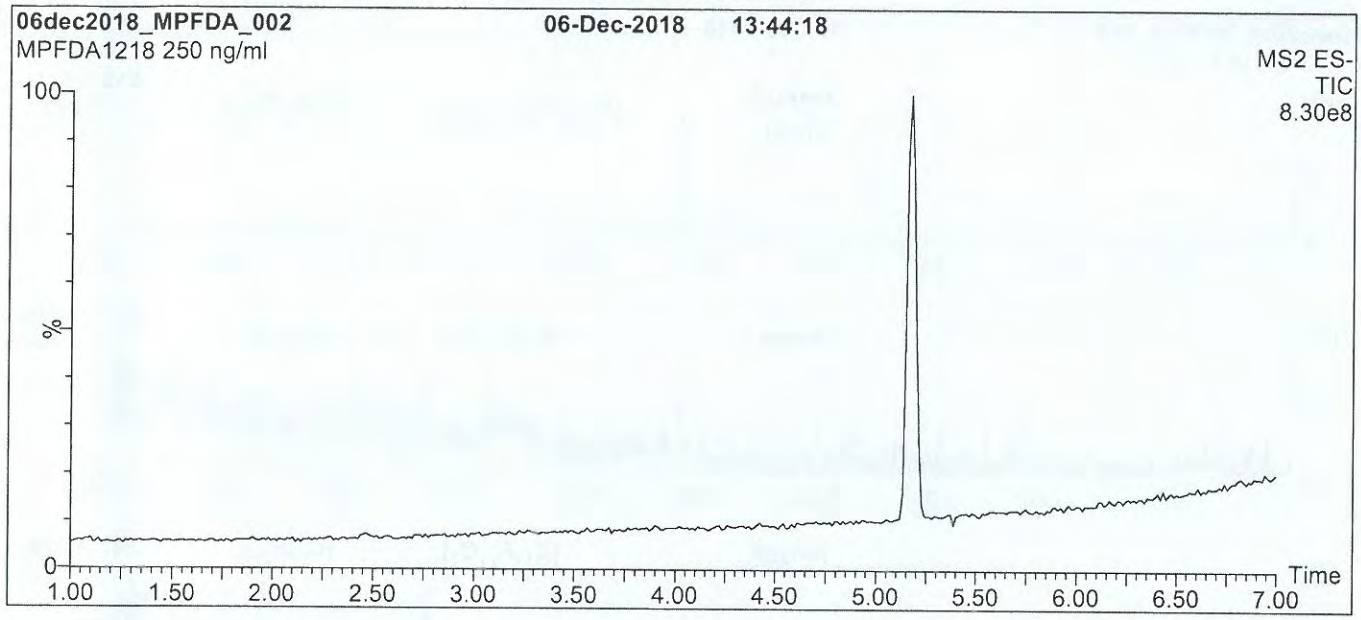
CALA Testing Accreditation No. A 1226

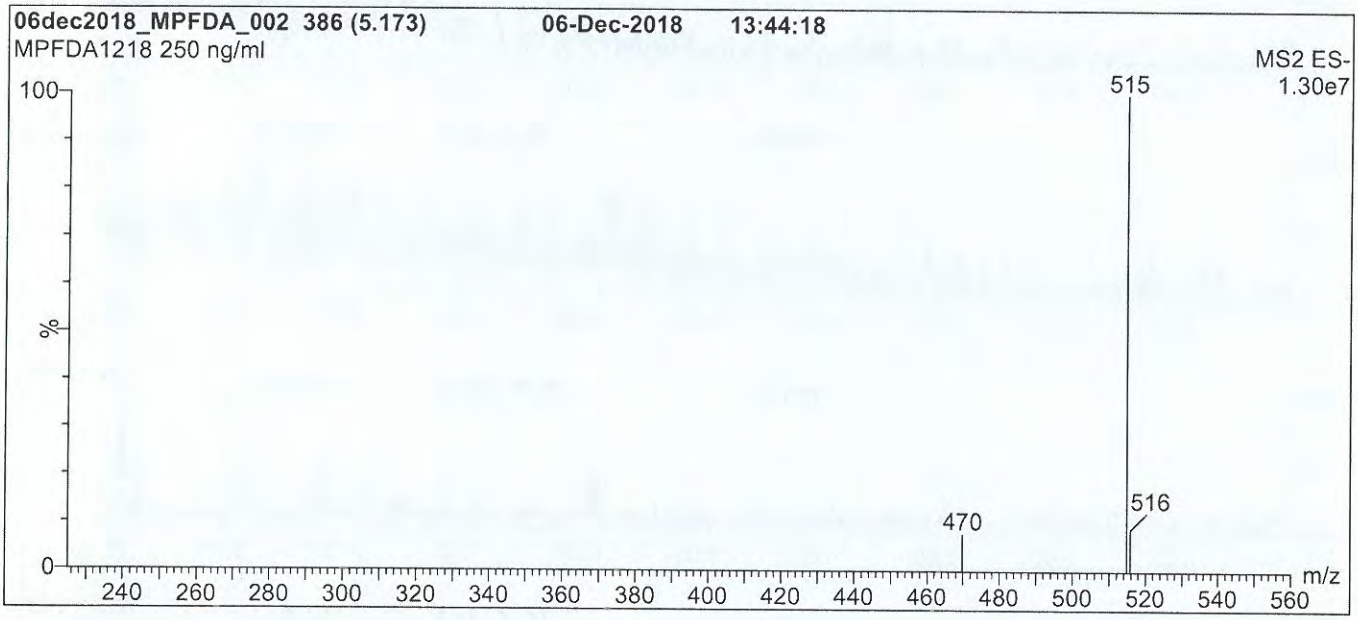
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812005

Figure 1: **MPFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

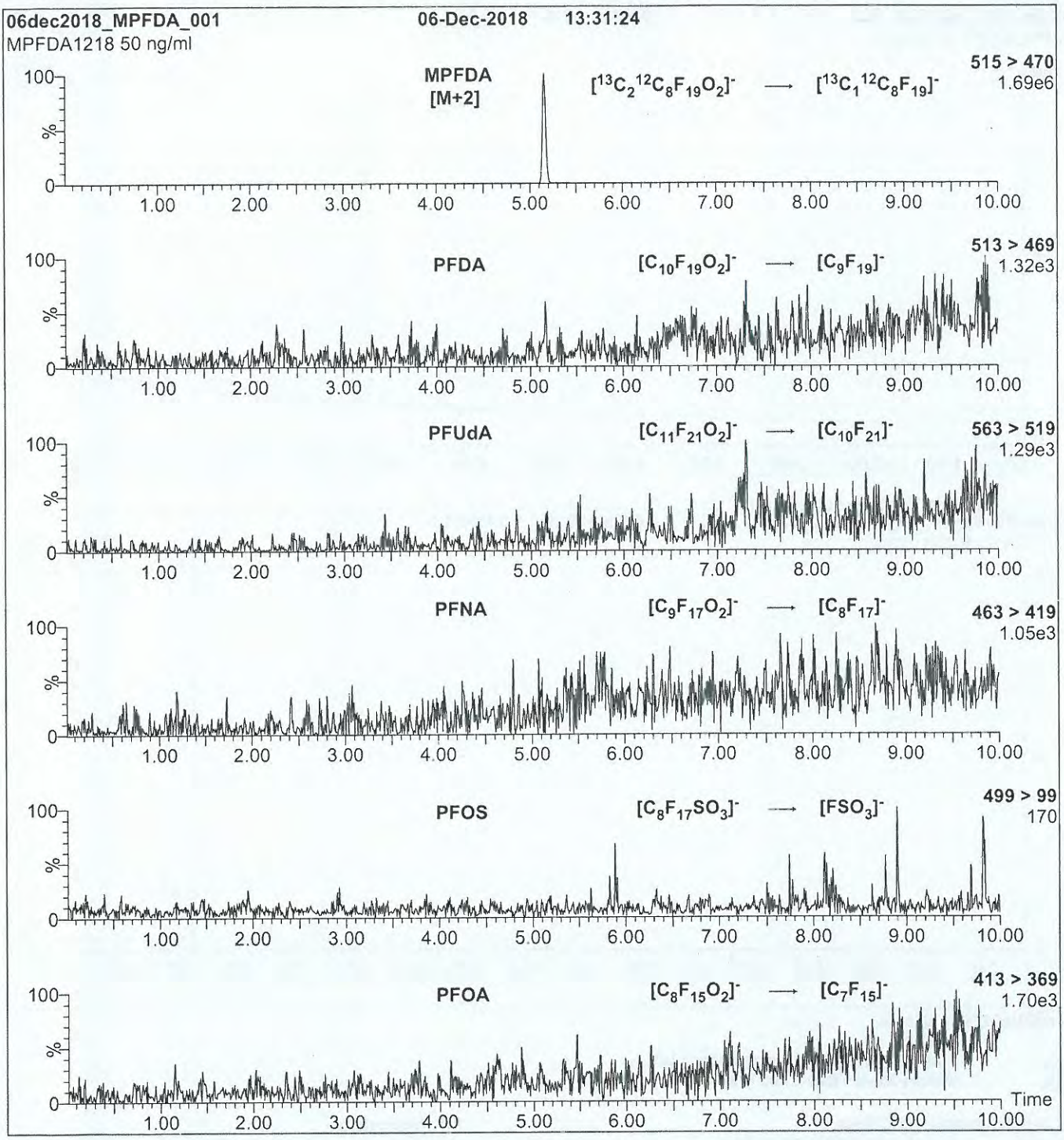
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812005

Figure 2: **MPFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFDA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

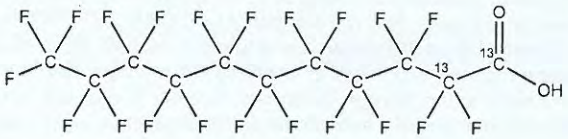
Collision Gas (mbar) = 3.27e-3
Collision Energy (eV) = 10

18L2006

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFUdA	**LOT NUMBER:**	MPFUdA0518
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]undecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_9HF_{21}O_2$	**MOLECULAR WEIGHT:**	566.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	05/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/11/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Presence of 1-$^{13}C_1$-PFUdA (~1%; see Figure 2), 2-$^{13}C_1$-PFUdA (~1%), and PFUdA (~0.2%; see Figure 2) are due to the isotopic purity of the ^{13}C-precursor.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/25/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812006

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

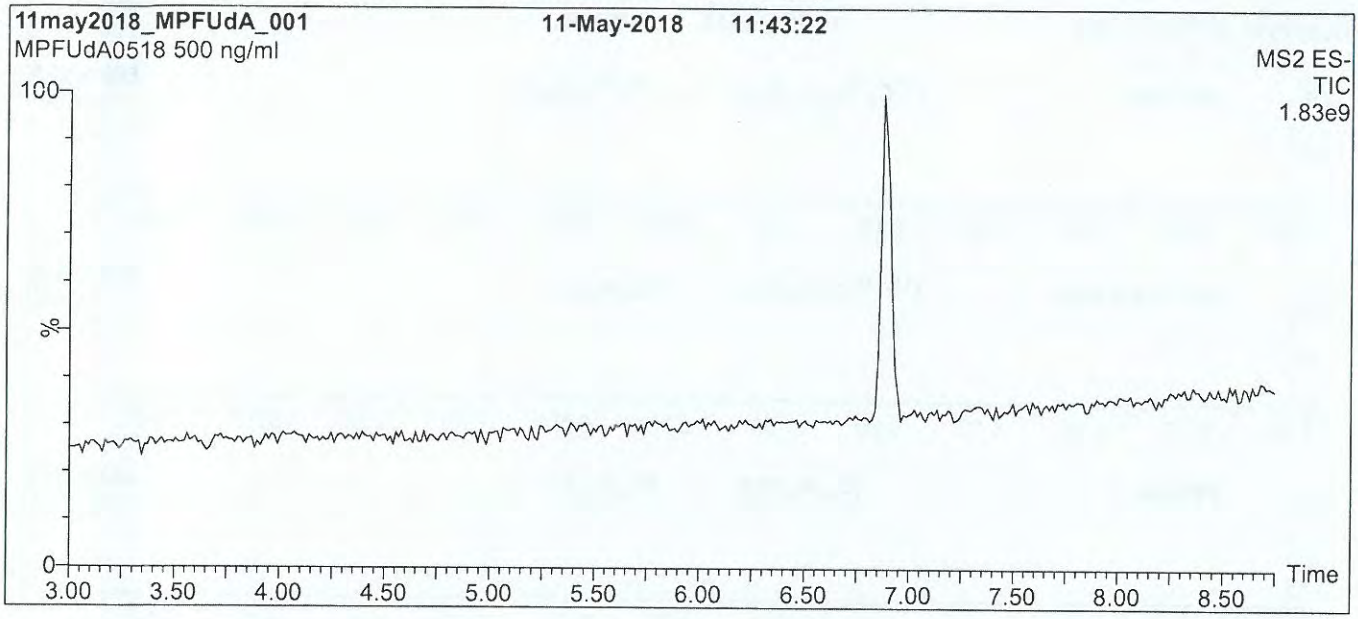
CALA Testing Accreditation No. A 1226

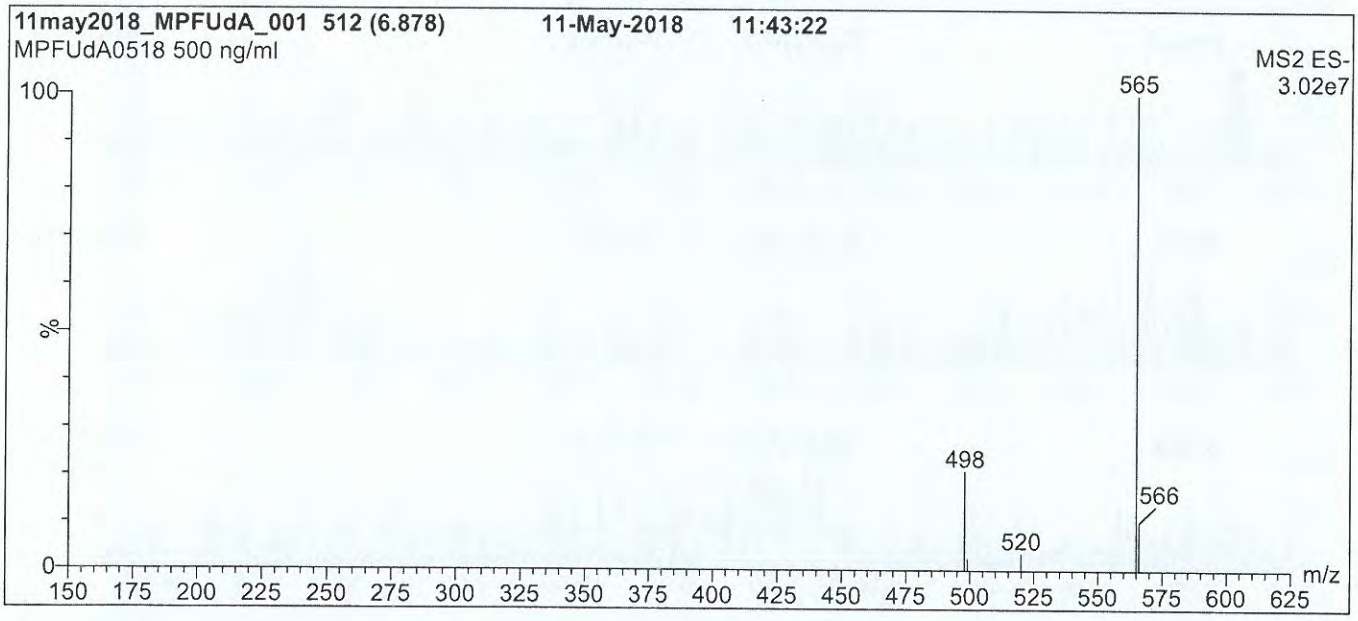
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2006

Figure 1: **MPFUdA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

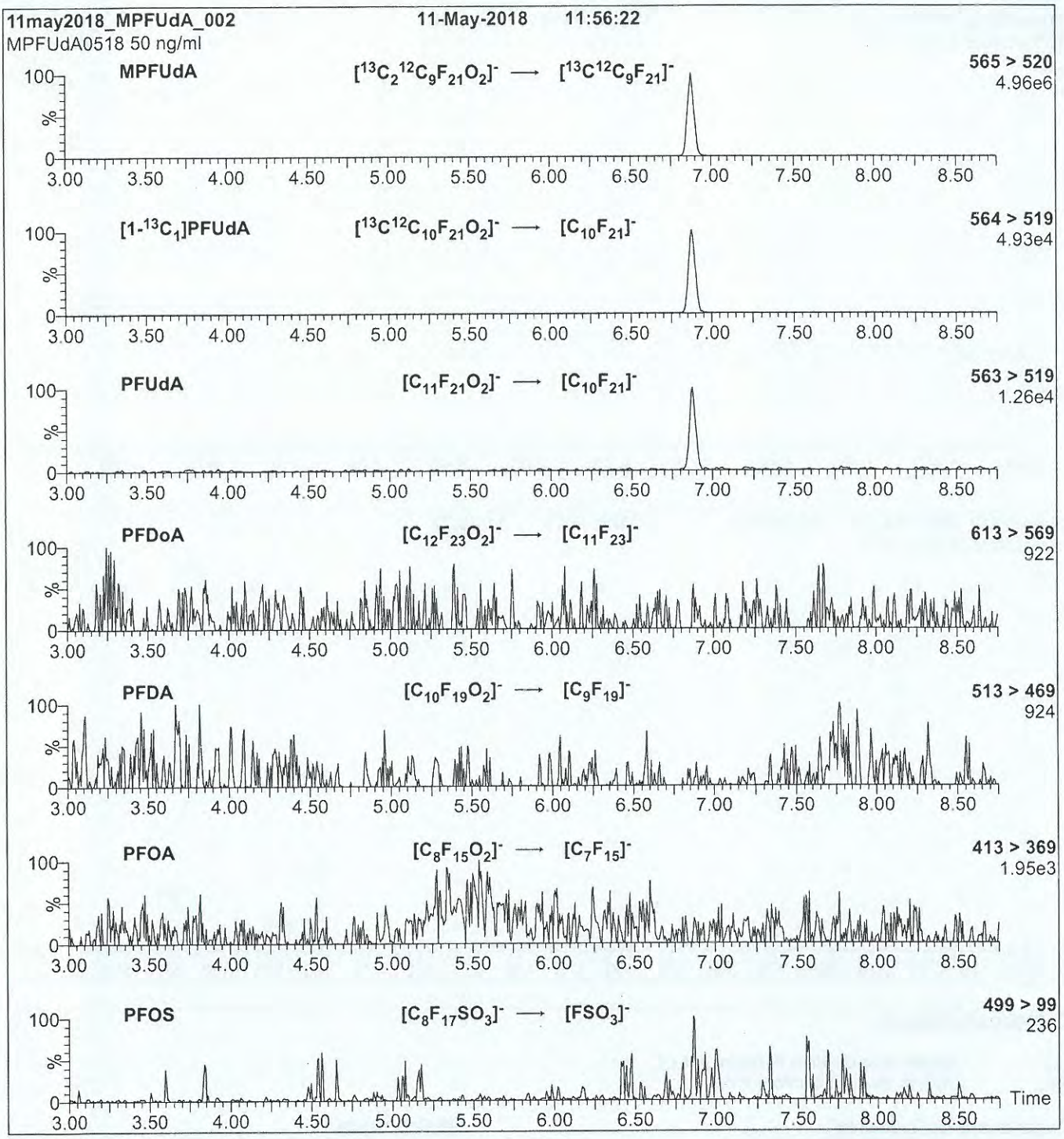
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

18L2006

Figure 2: **MPFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFUdA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

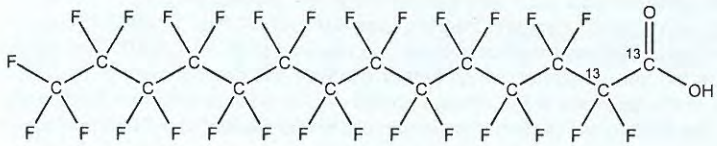
Collision Gas (mbar) = 3.51e-3
Collision Energy (eV) = 12

18L2007

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFTeDA	**LOT NUMBER:**	M2PFTeDA1117
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{12}HF_{27}O_2$	**MOLECULAR WEIGHT:**	716.10
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	11/30/2017		
EXPIRY DATE: (mm/dd/yyyy)	11/30/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/01/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812007

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

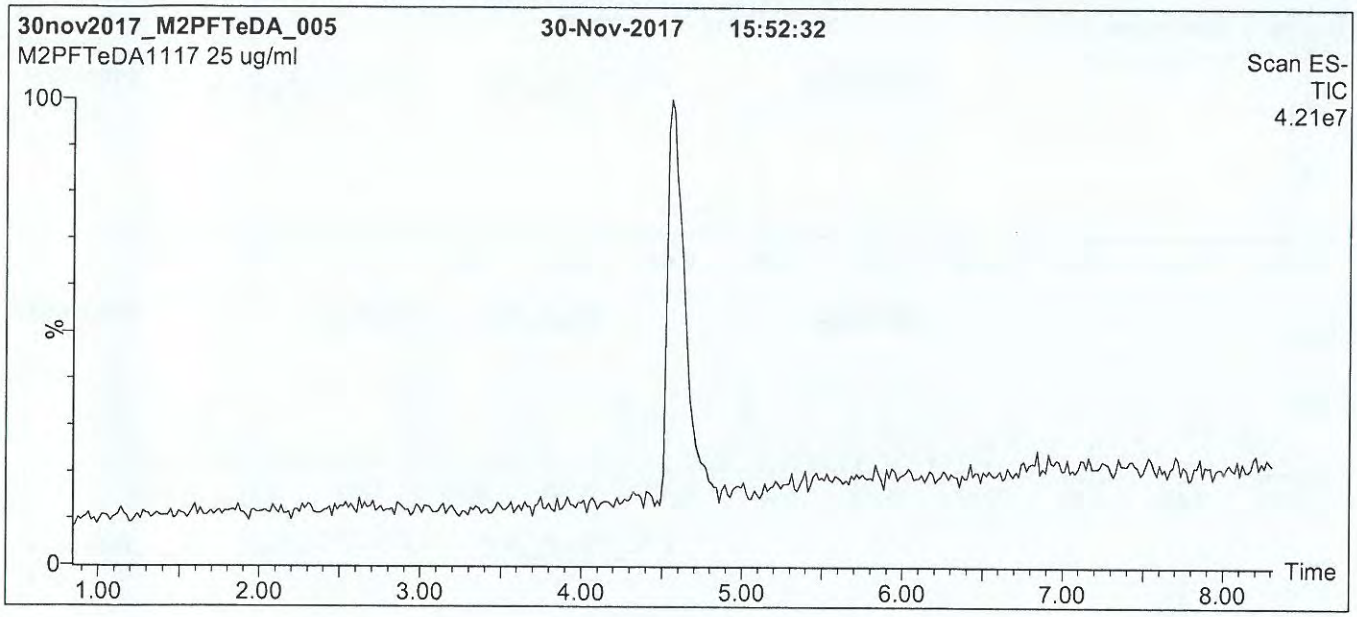
CALA Testing Accreditation No. A1226

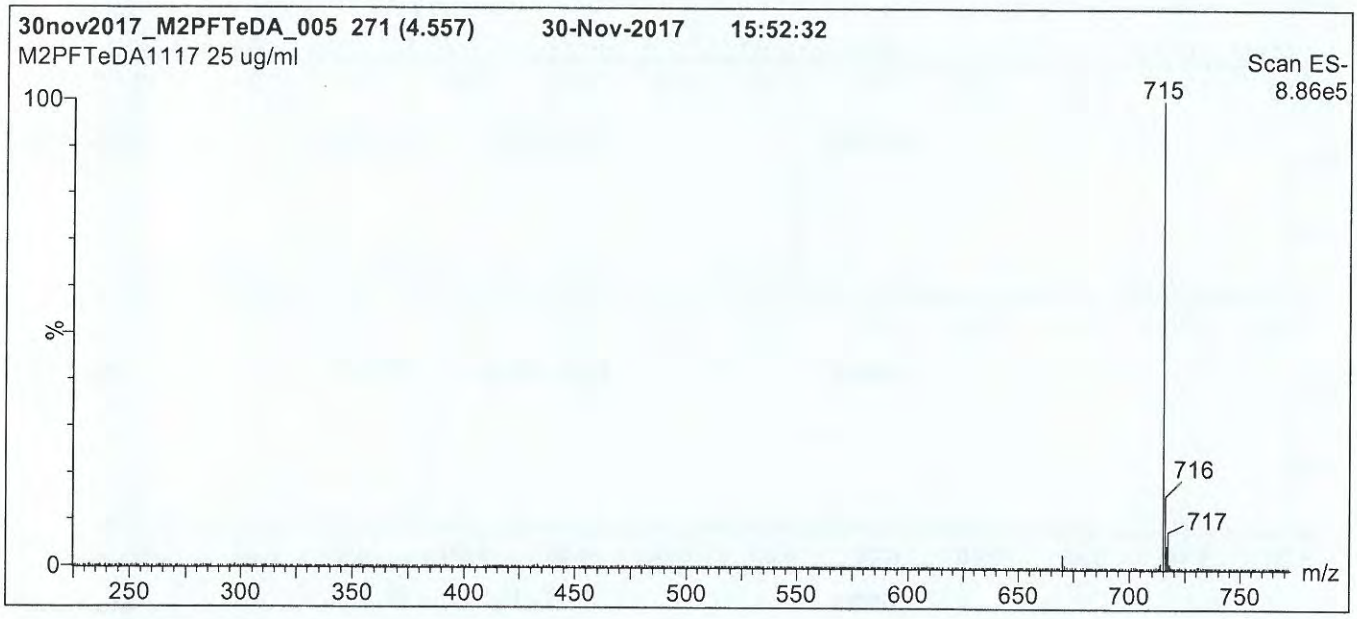
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1862007

Figure 1: **M2PFTeDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% (80:20 MeOH:ACN) / 35% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

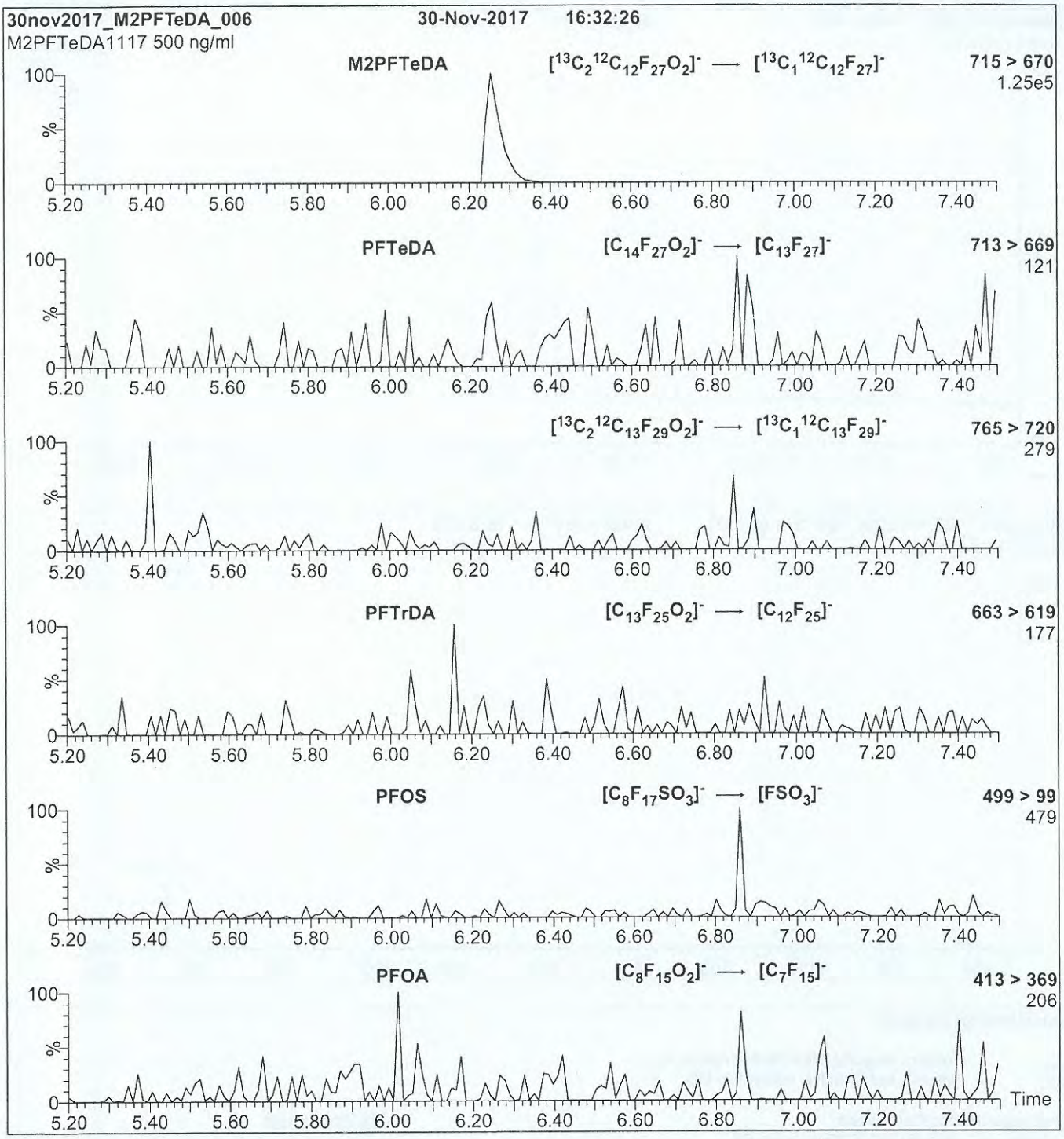
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

18L2007

Figure 2: **M2PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M2PFTeDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 14

1812008

WELLINGTON LABORATORIES

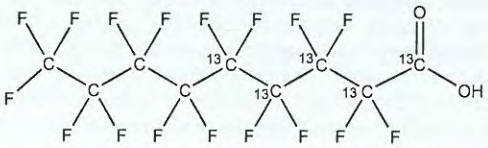
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFNA
COMPOUND: Perfluoro-n-[1,2,3,4,5-$^{13}C_5$]nonanoic acid

LOT NUMBER: MPFNA1217

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_4HF_{17}O_2$	**MOLECULAR WEIGHT:**	469.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4,5$-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	12/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	12/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/19/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812008

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

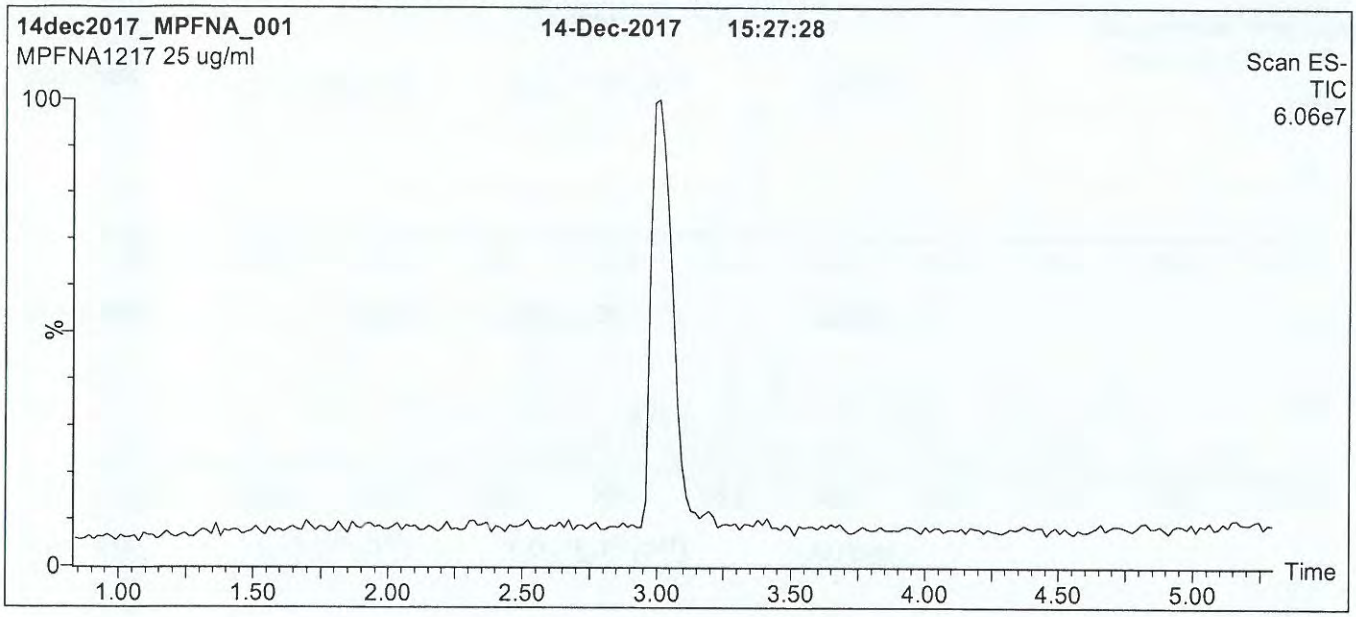
CALA Testing Accreditation No. A 1226

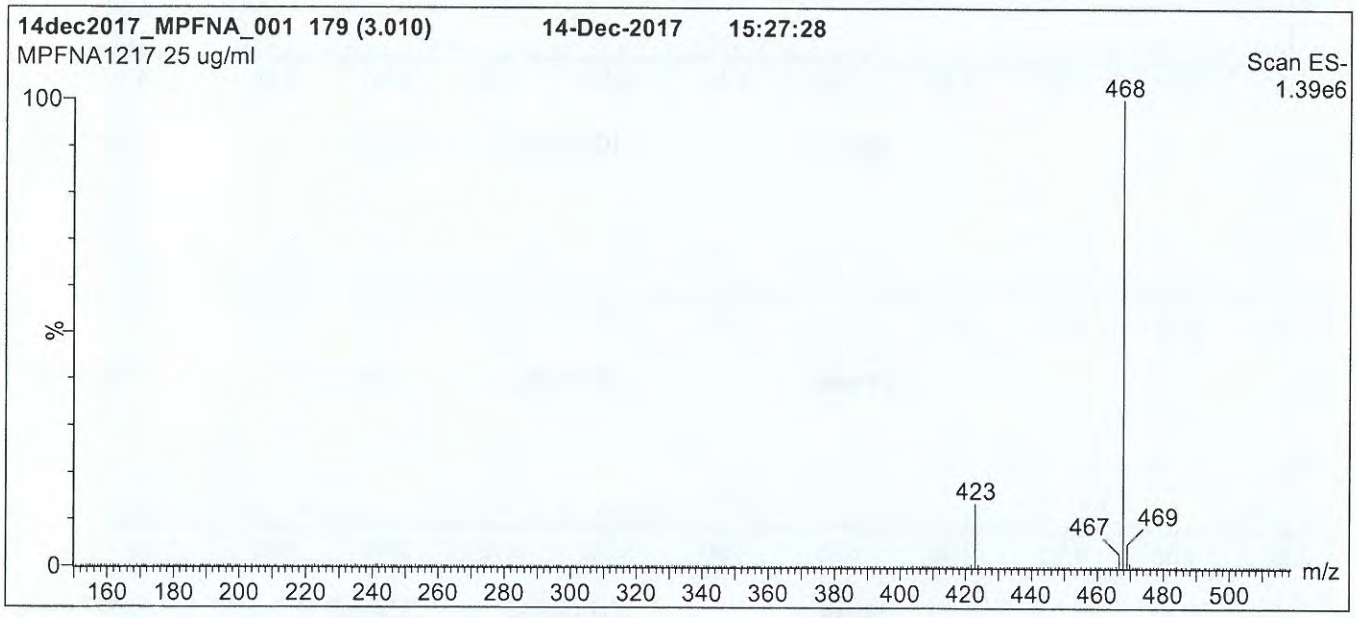
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812008

Figure 1: **MPFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

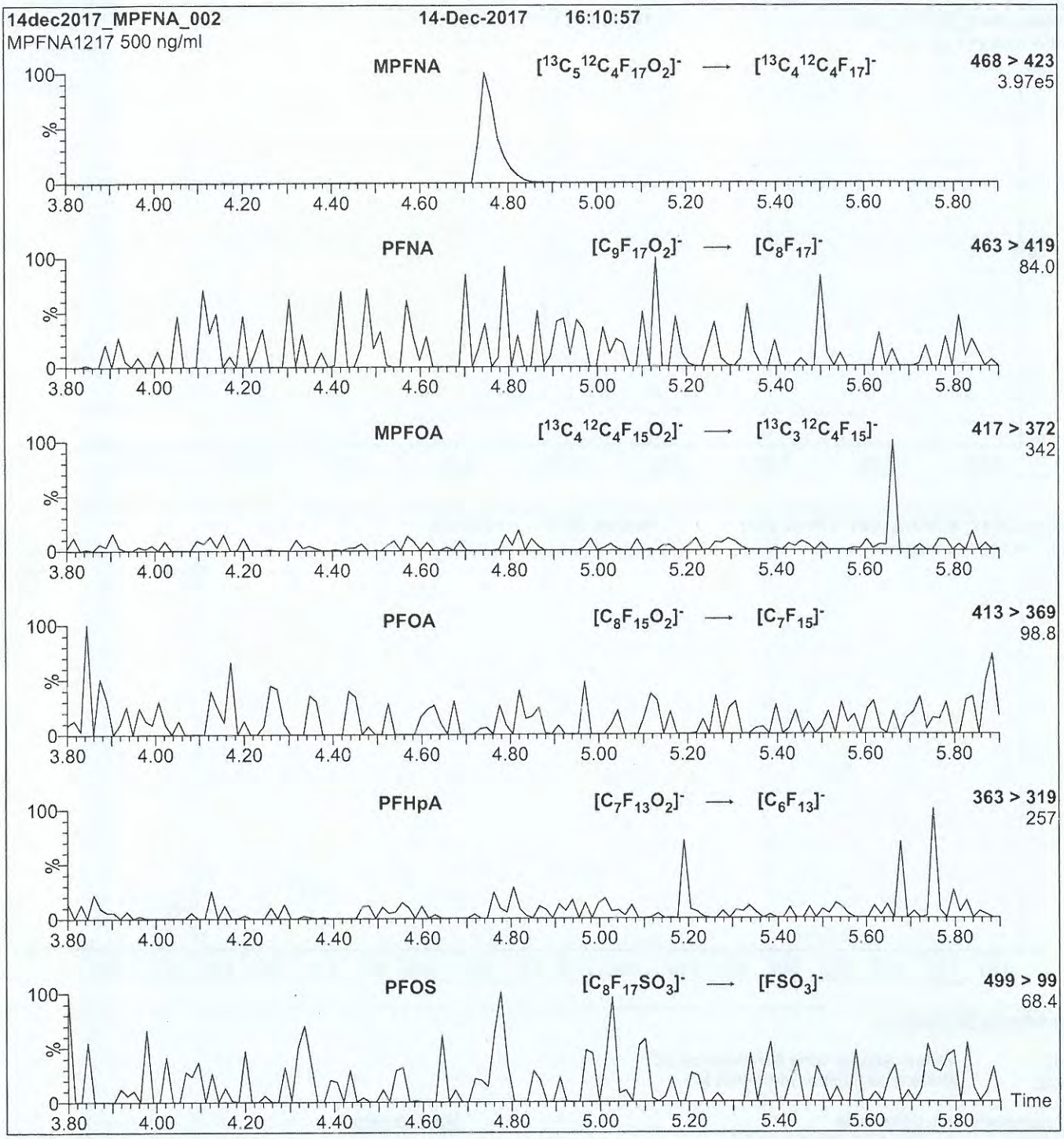
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

18L2008

Figure 2: **MPFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

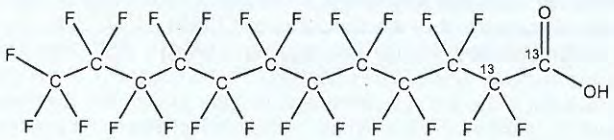
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 11

18L2009

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFDoA	**LOT NUMBER:**	MPFDoA0218
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{10}HF_{23}O_2$	**MOLECULAR WEIGHT:**	616.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/23/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2009

INTENDED USE:

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HANDLING:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

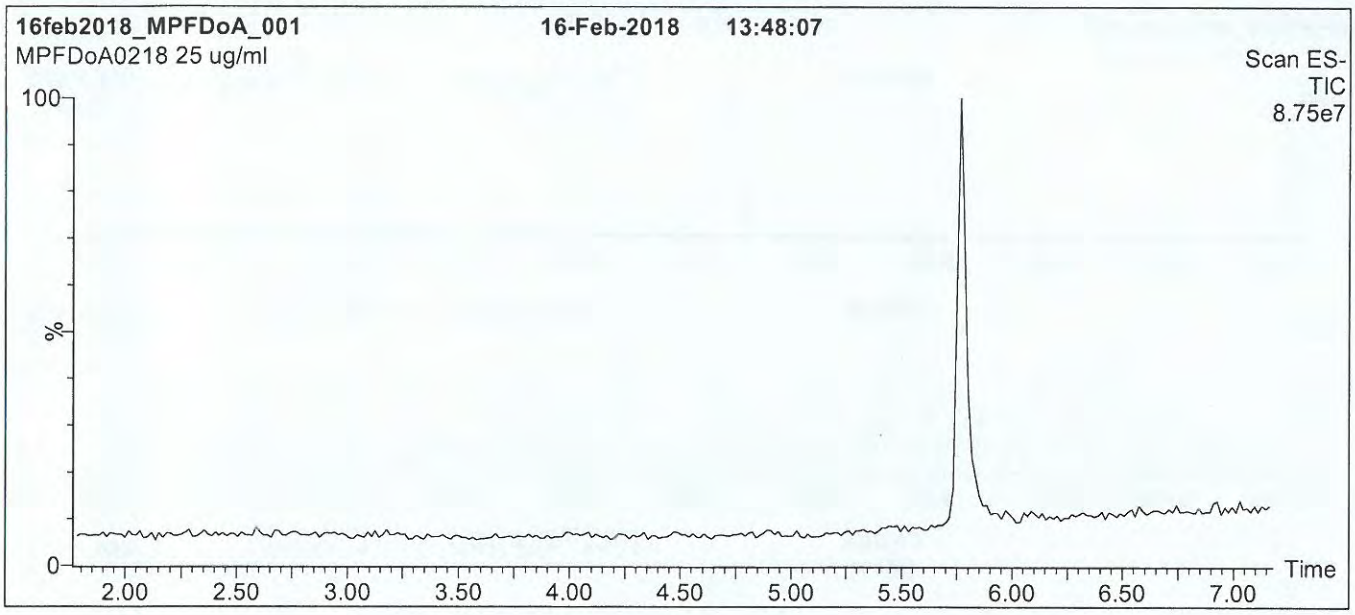
CALA Testing Accreditation No. A 1226

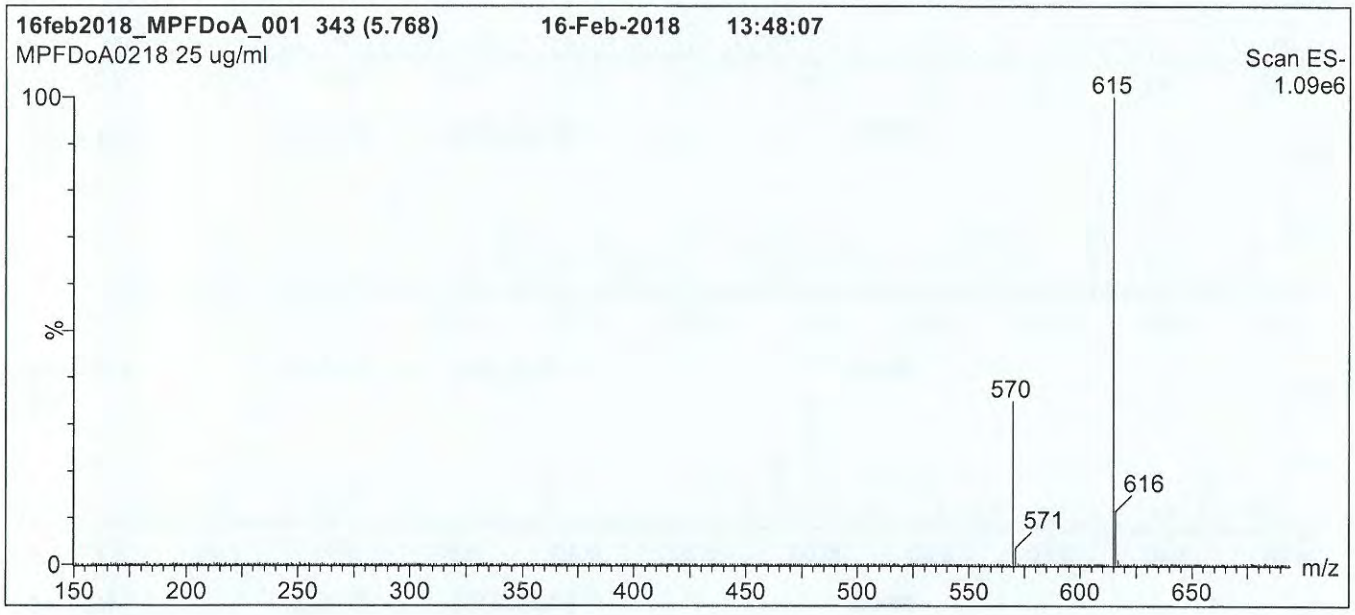
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1862009

Figure 1: **MPFDoA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

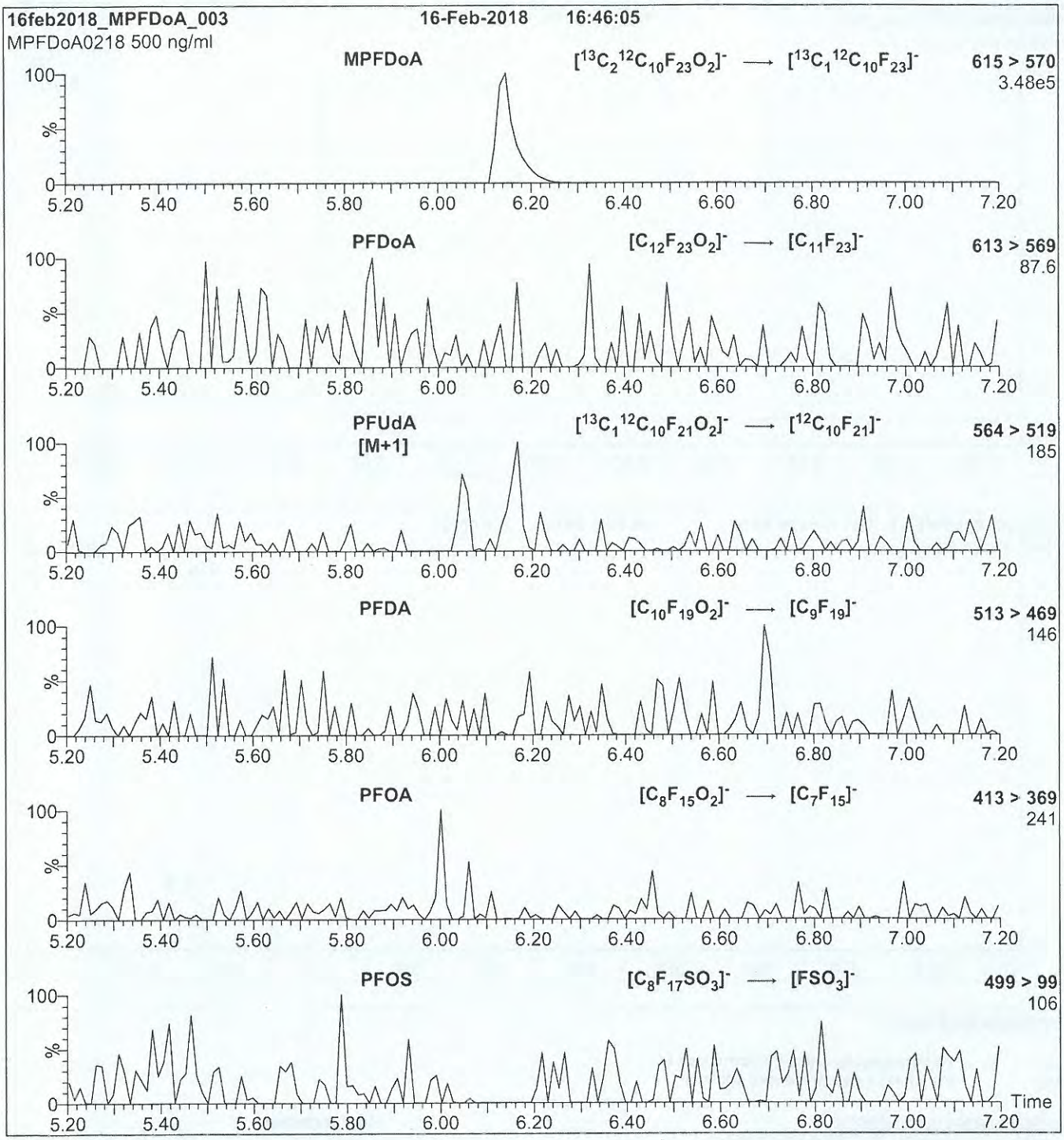
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 20.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

18L2009

Figure 2: **MPFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFDoA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

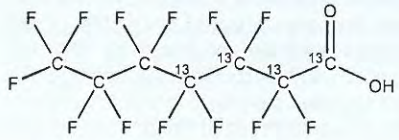
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 13

18L2010

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M4PFHpA	**LOT NUMBER:**	M4PFHpA0618
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_3HF_{13}O_2$	**MOLECULAR WEIGHT:**	368.03
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4\text{-}^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	07/06/2018		
EXPIRY DATE: (mm/dd/yyyy)	07/06/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.04% of perfluoro-n-heptanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/09/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2010

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

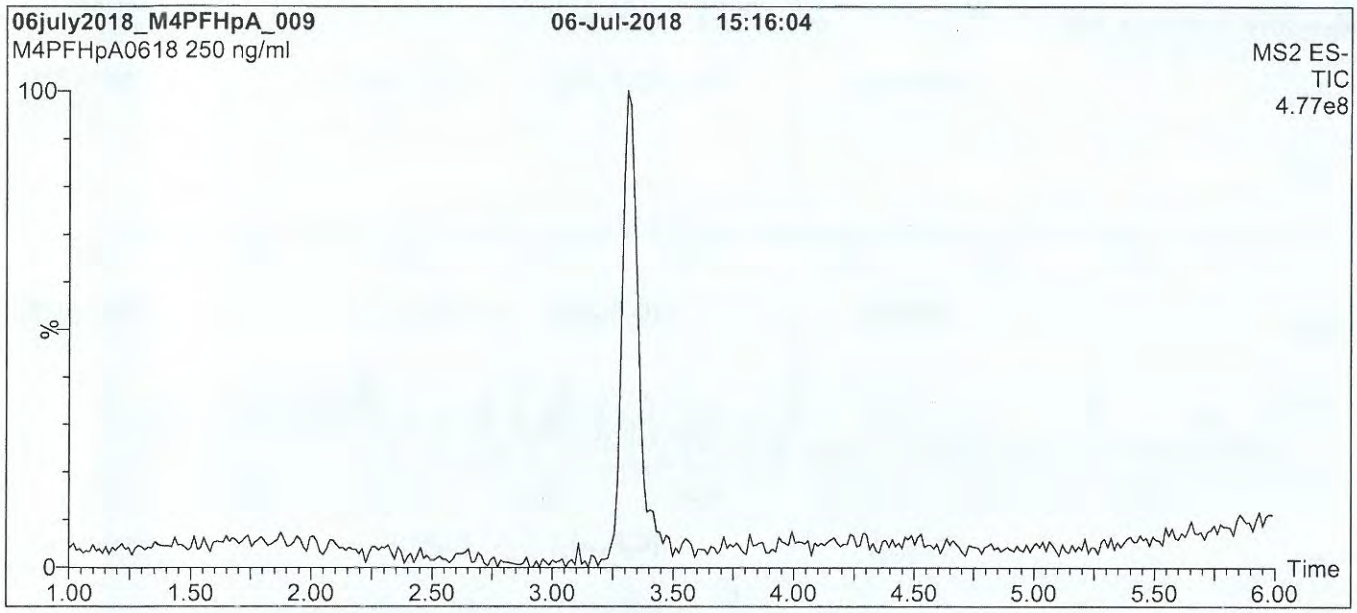
CALA Testing Accreditation No. A 1226

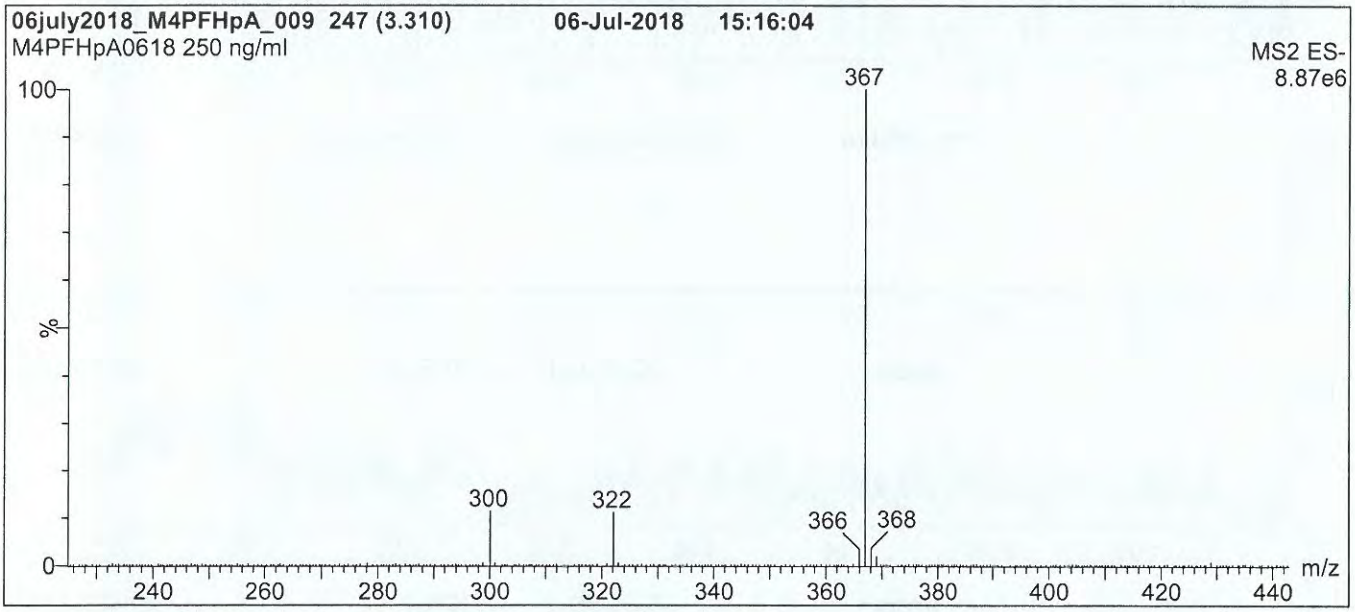
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2010

Figure 1: **M4PFHpA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

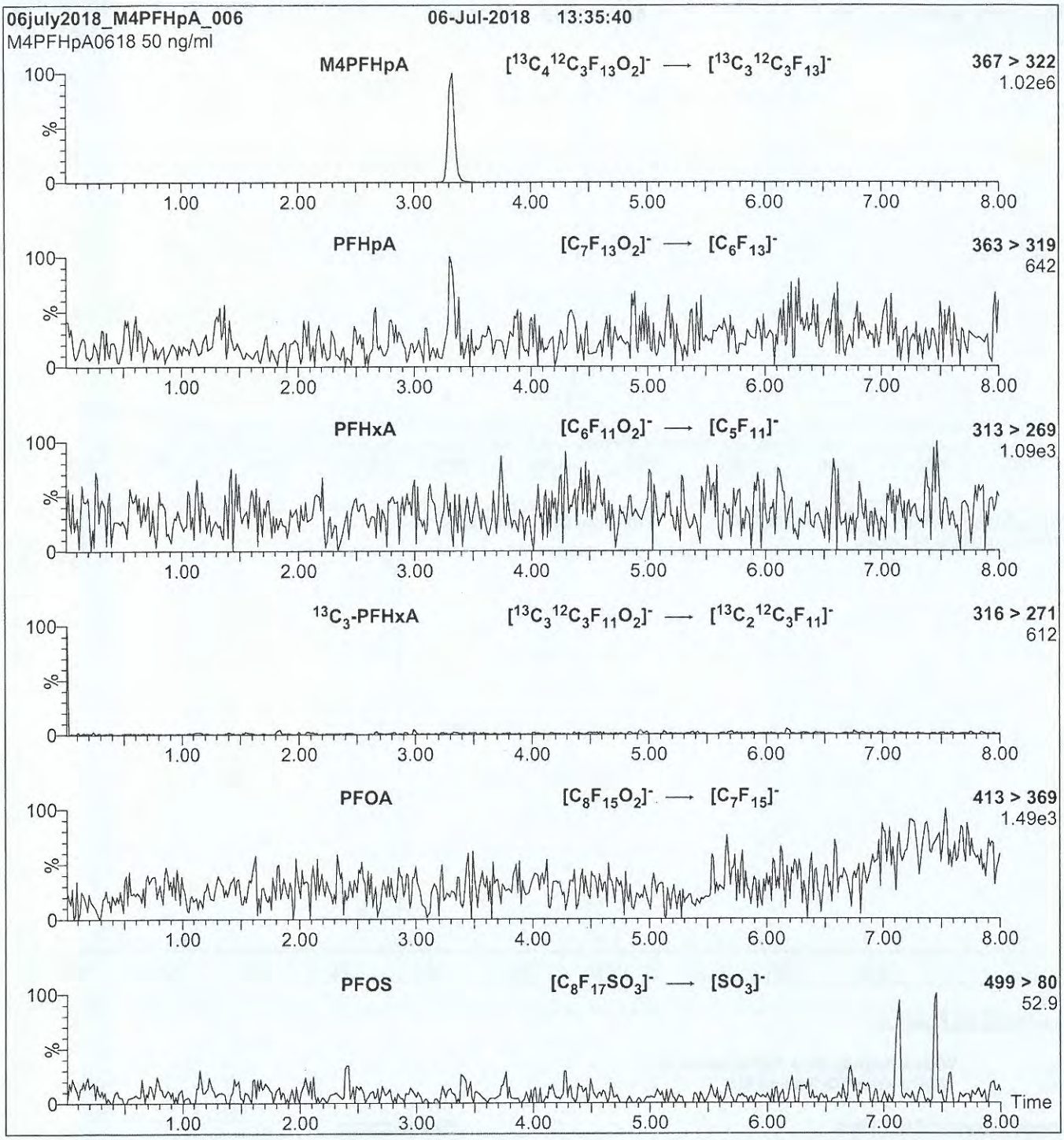
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1862010

Figure 2: **M4PFHpA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M4PFHpA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

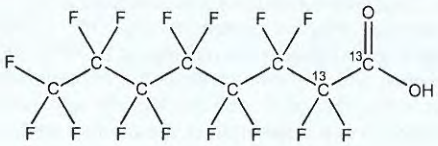
Collision Gas (mbar) = 3.89e-3
Collision Energy (eV) = 8

18L2011

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFOA	**LOT NUMBER:**	M2PFOA1018
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6HF_{15}O_2$	**MOLECULAR WEIGHT:**	416.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/10/2018		
EXPIRY DATE: (mm/dd/yyyy)	10/10/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-[$^{13}C_1$]heptanoic acid ($^{13}C_1$-PFHpA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/17/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2011

INTENDED USE:

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SYNTHESIS / CHARACTERIZATION:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

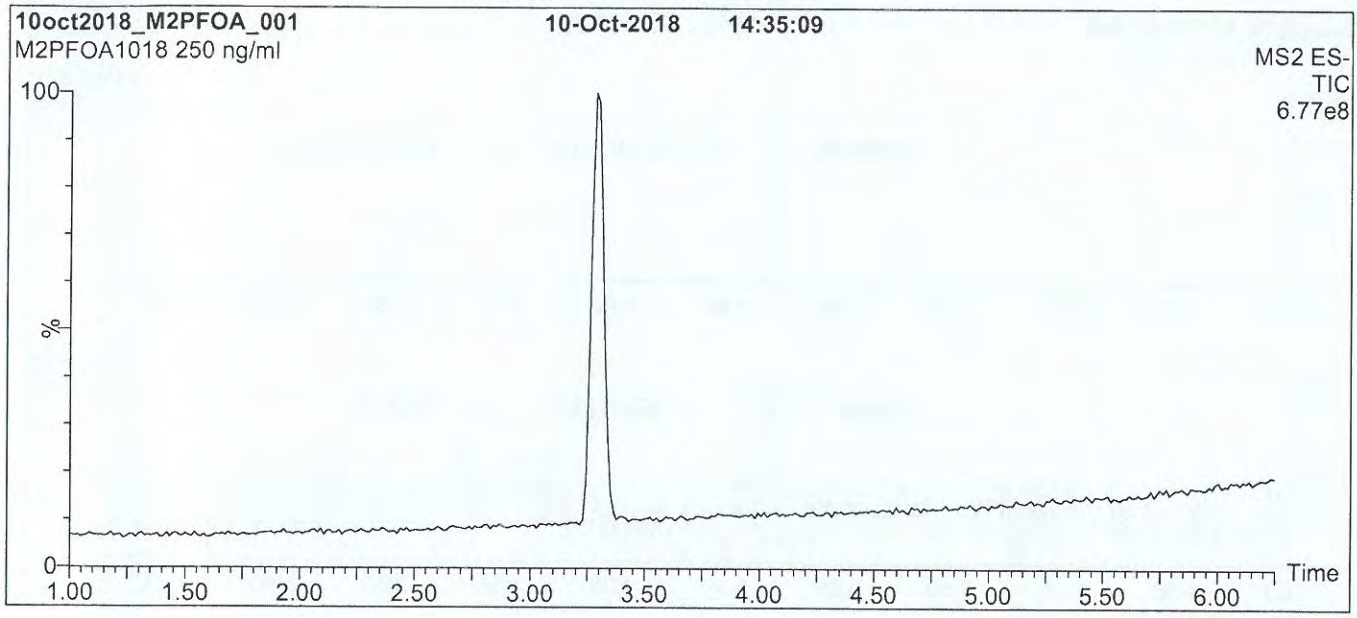
CALA Testing Accreditation No. A1226

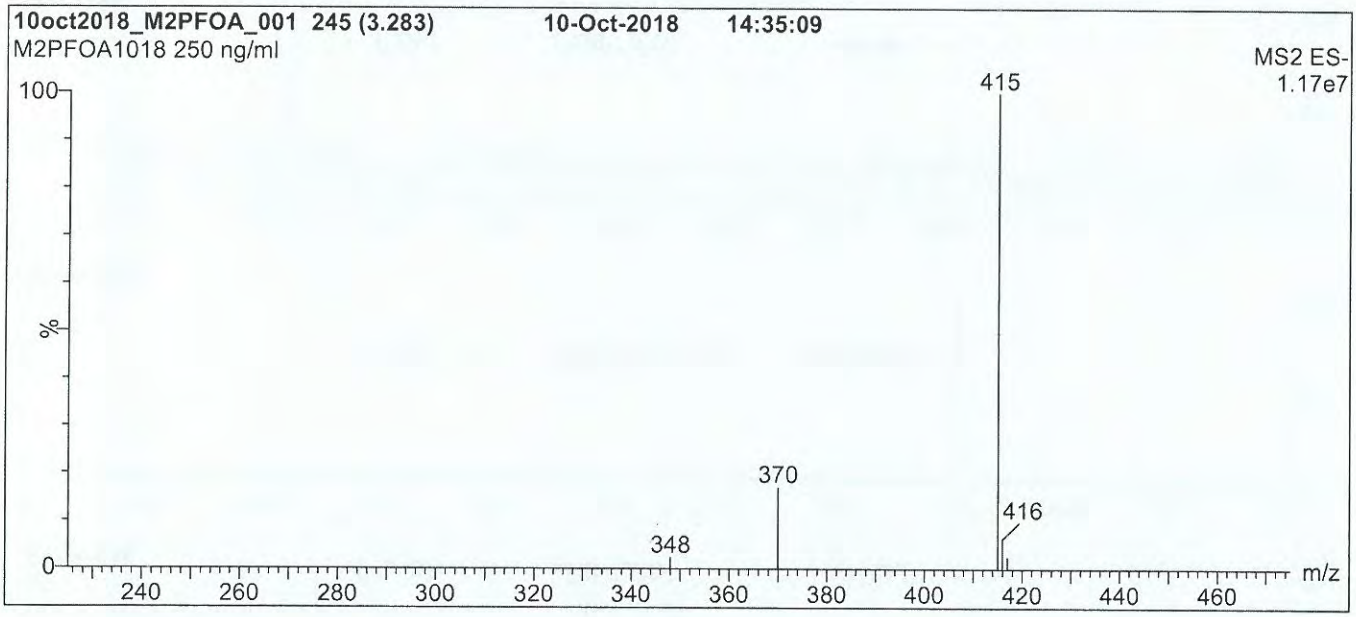
ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2011

Figure 1: **M2PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

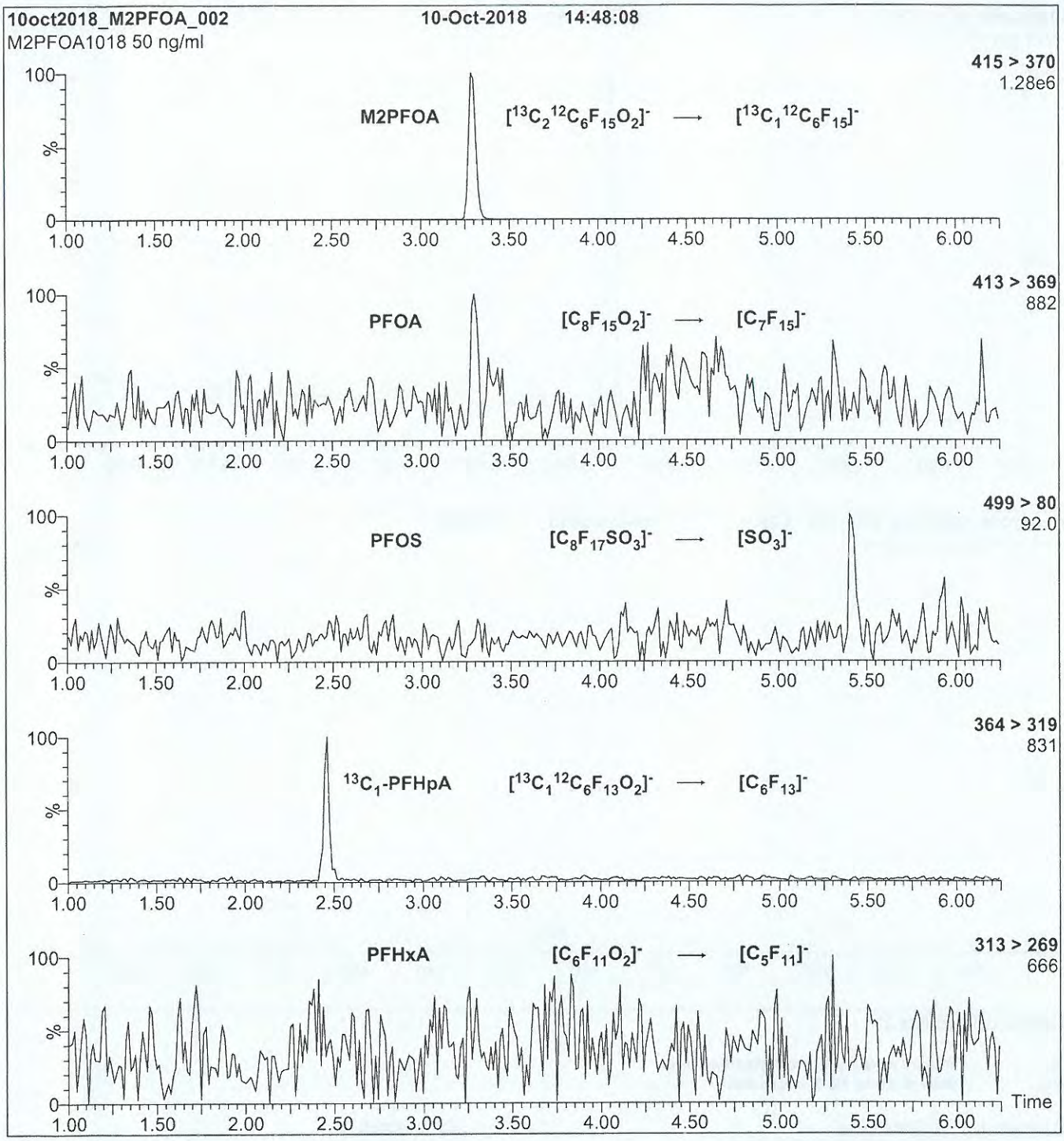
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812011

Figure 2: **M2PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFOA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

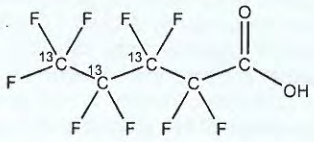
Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 8

18/2012

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFPeA	**LOT NUMBER:**	M3PFPeA0417
COMPOUND:	Perfluoro-n-[3,4,5-$^{13}C_3$]pentanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_2HF_9O_2$	**MOLECULAR WEIGHT:**	267.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($3,4,5$-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	04/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.95% of perfluoro-n-[$^{13}C_3$]butanoic acid and 0.05% of perfluoro-1-pentanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/24/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2012

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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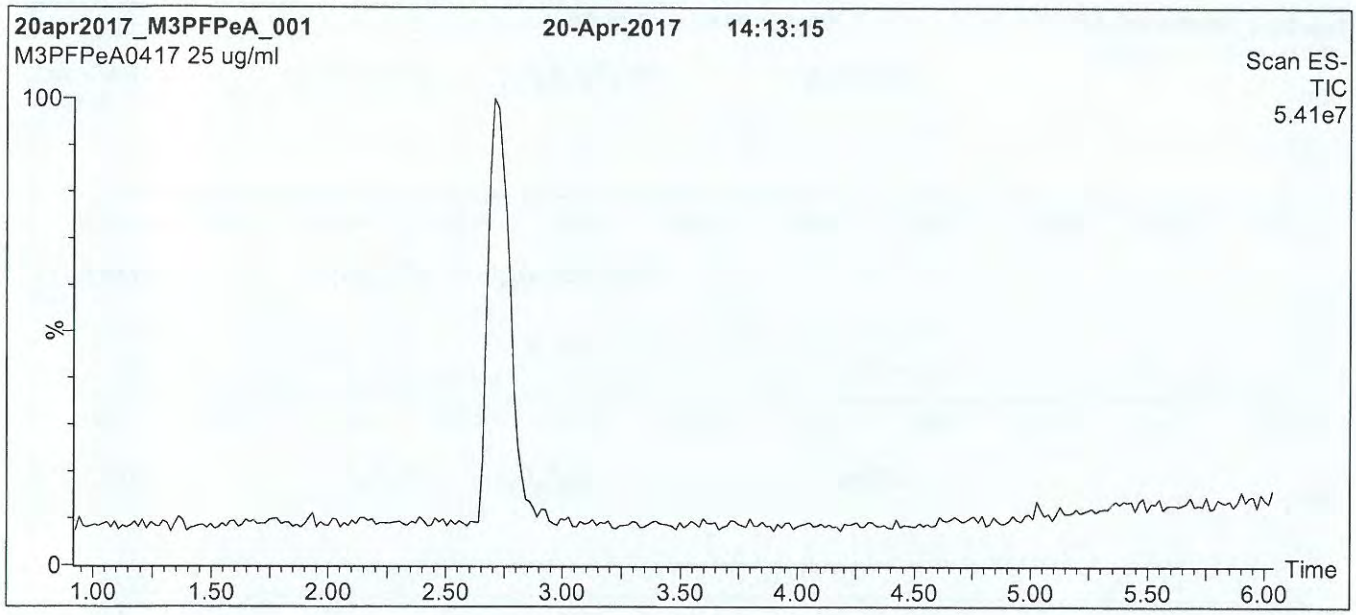
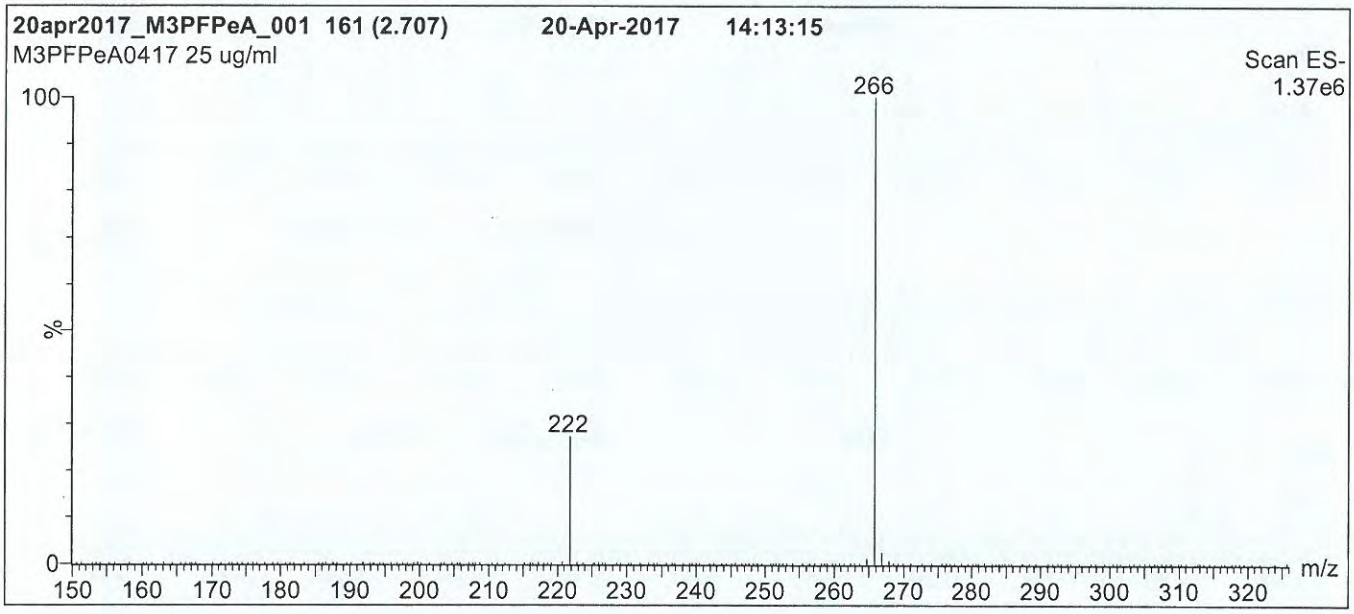
18L2012

Figure 1: **M3PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

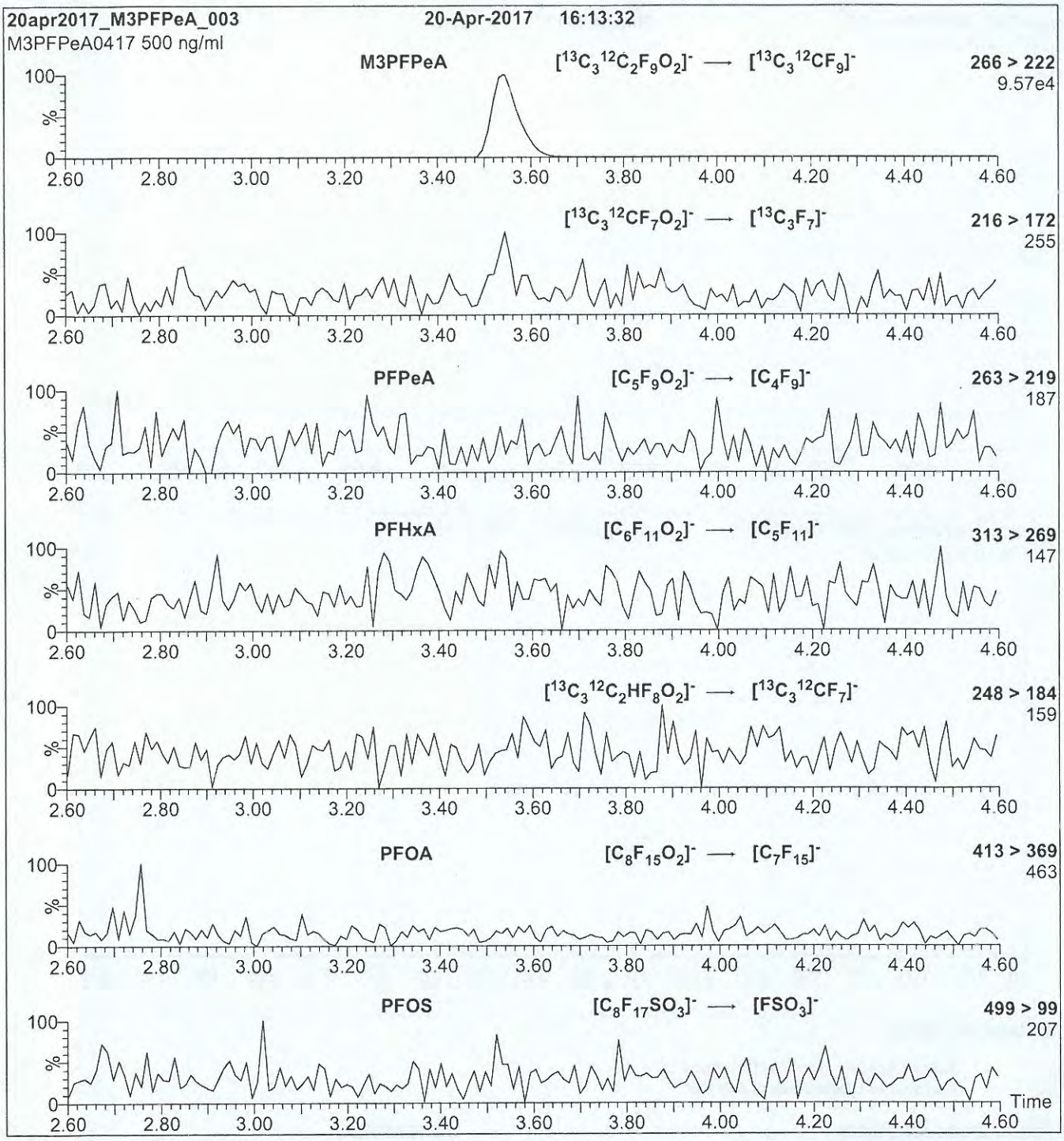
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

1812012

Figure 2: **M3PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M3PFPeA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

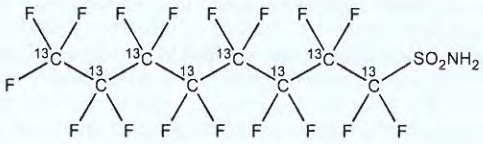
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 9

18L2013

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M8FOSA-I	**LOT NUMBER:**	M8FOSA1018I
COMPOUND:	Perfluoro-1-[$^{13}C_8$]octanesulfonamide		
STRUCTURE:		**CAS #:**	1365803-60-6



MOLECULAR FORMULA:	$^{13}C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	507.09
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	10/10/2018		
EXPIRY DATE: (mm/dd/yyyy)	10/10/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.1% of perfluoro-1-[$^{13}C_4$]octanesulfonamide, ~ 0.5% of perfluoro-n-[$^{13}C_8$]octanoic acid (M8PFOA), and ~ 0.02% of perfluoro-1-[$^{13}C_7$]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/15/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812013

INTENDED USE:

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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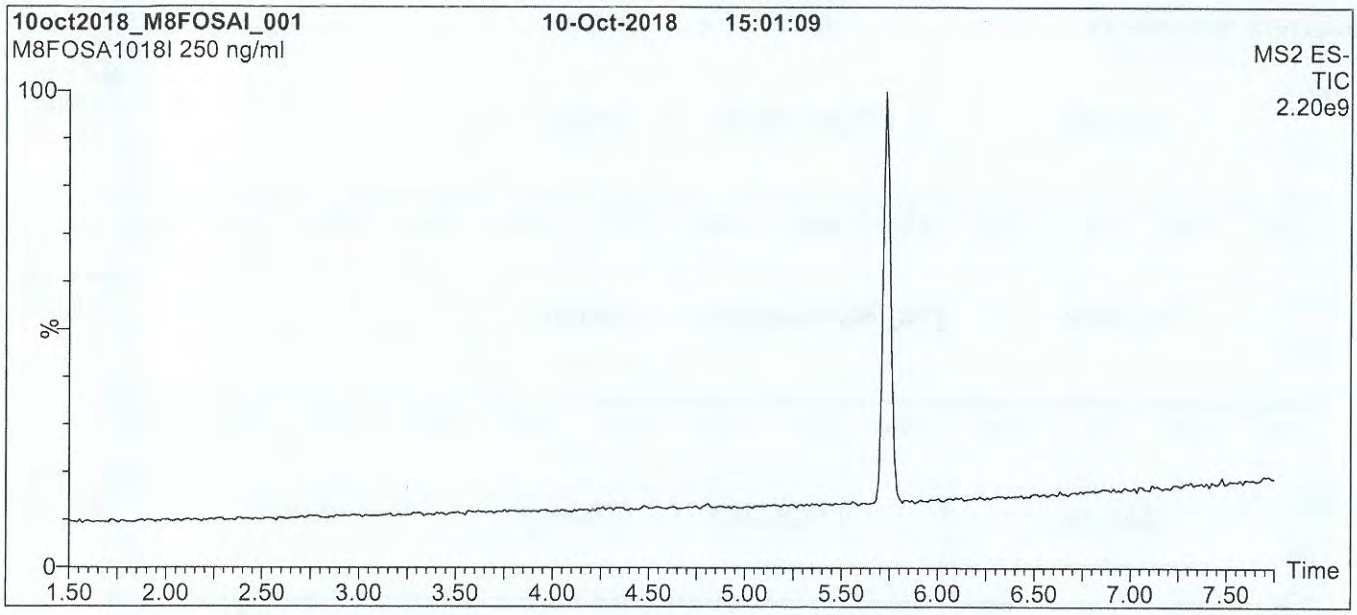
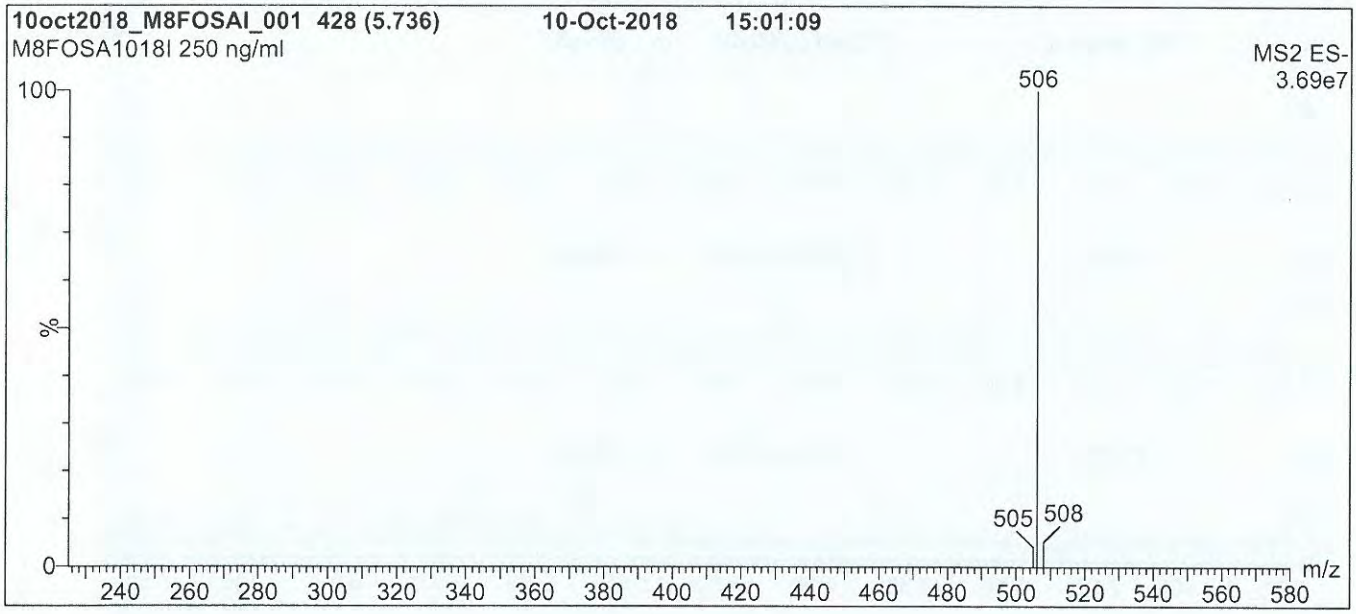
18L2013

Figure 1: **M8FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

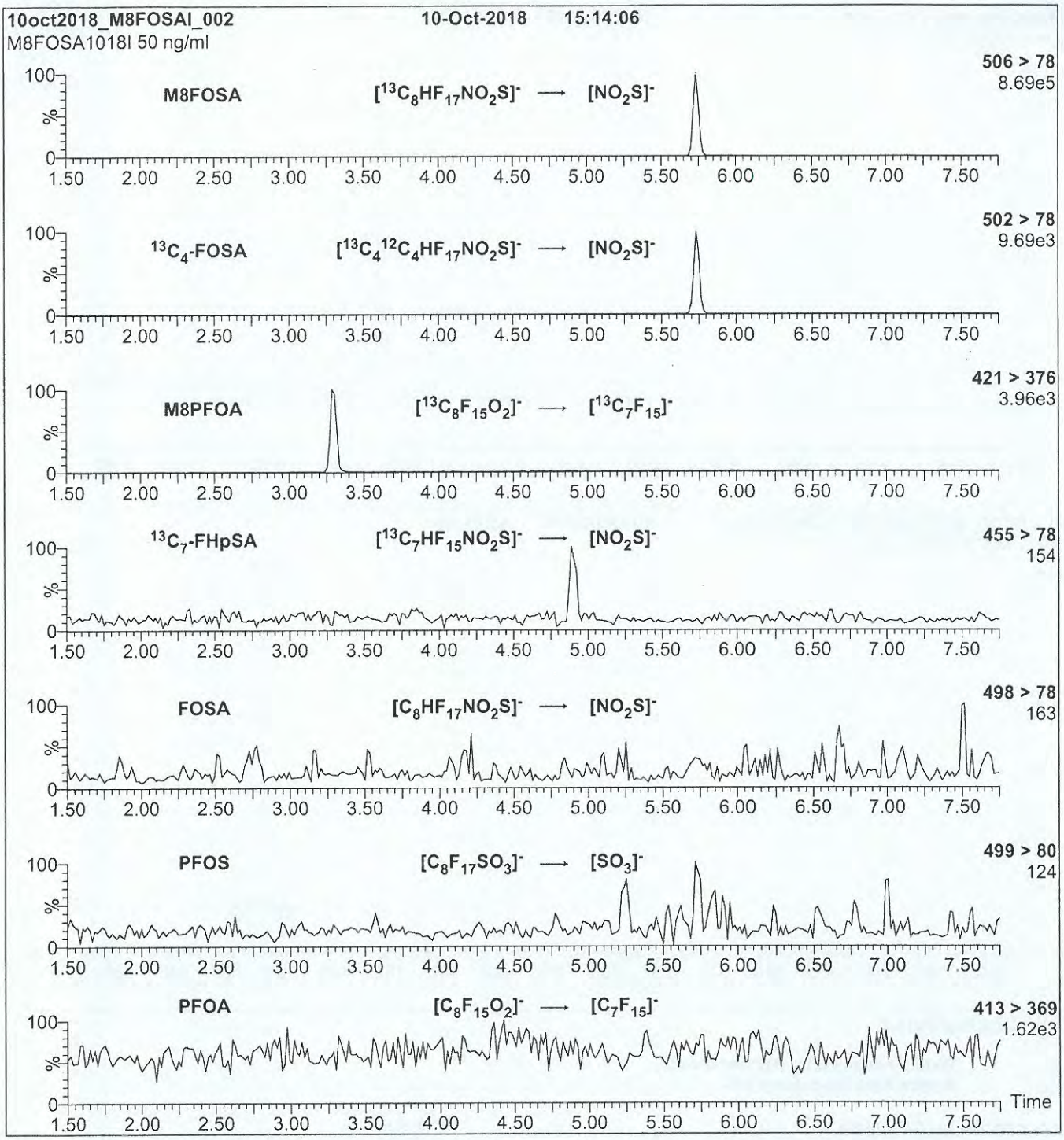
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2013

Figure 2: **M8FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M8FOSA-I)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 30

18L2014

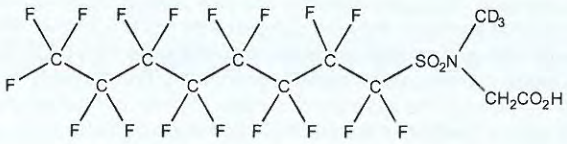
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d3-N-MeFOSAA **LOT NUMBER:** d3NMeFOSAA0818

COMPOUND: N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{11}D_3H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	574.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_3$
LAST TESTED: (mm/dd/yyyy)	08/23/2018		
EXPIRY DATE: (mm/dd/yyyy)	08/23/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/24/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2014

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

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CALA Testing Accreditation No. A 1226

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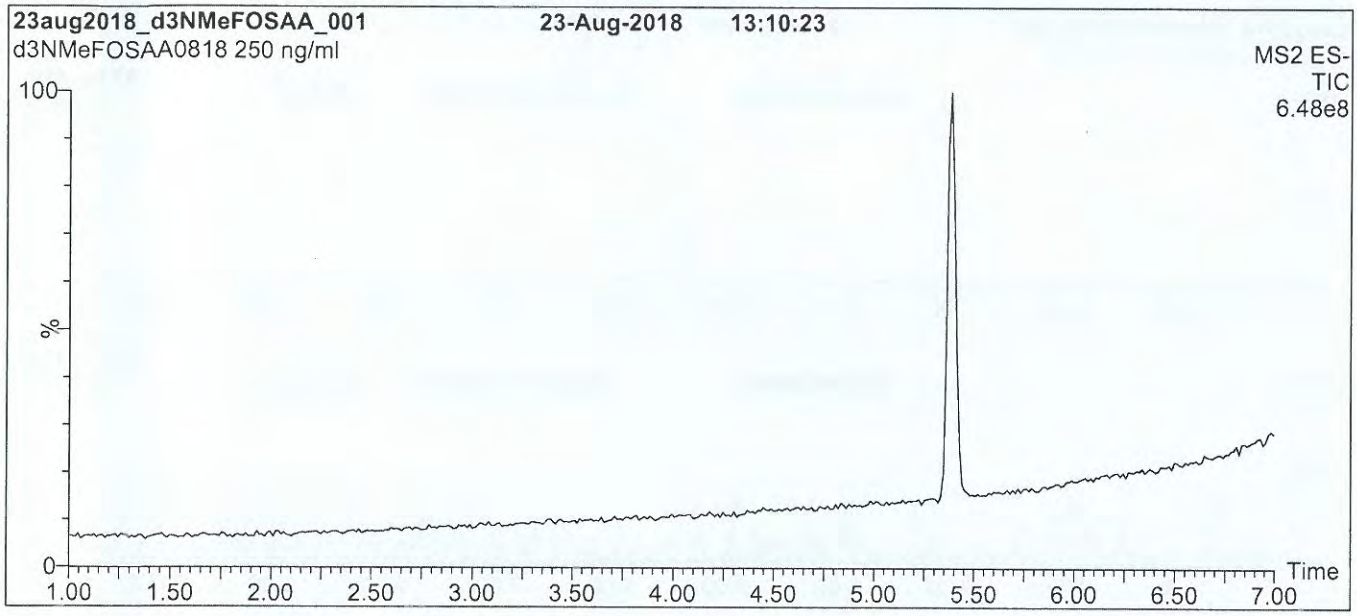
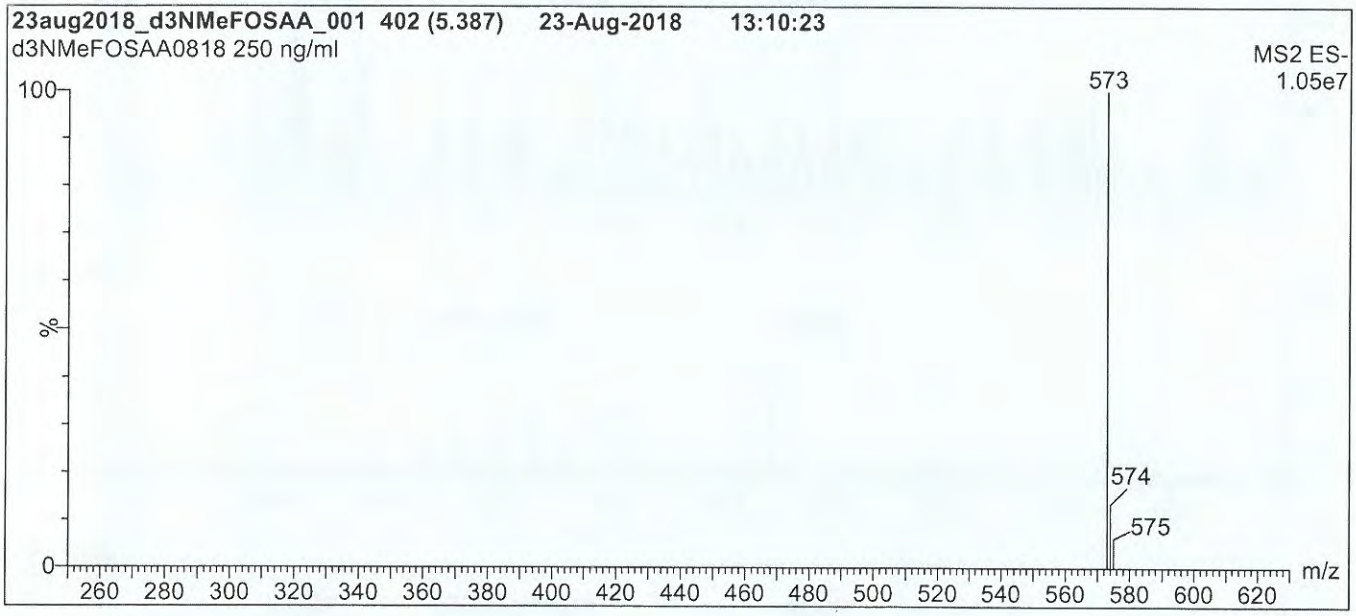
18L2014

Figure 1: **d3-N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

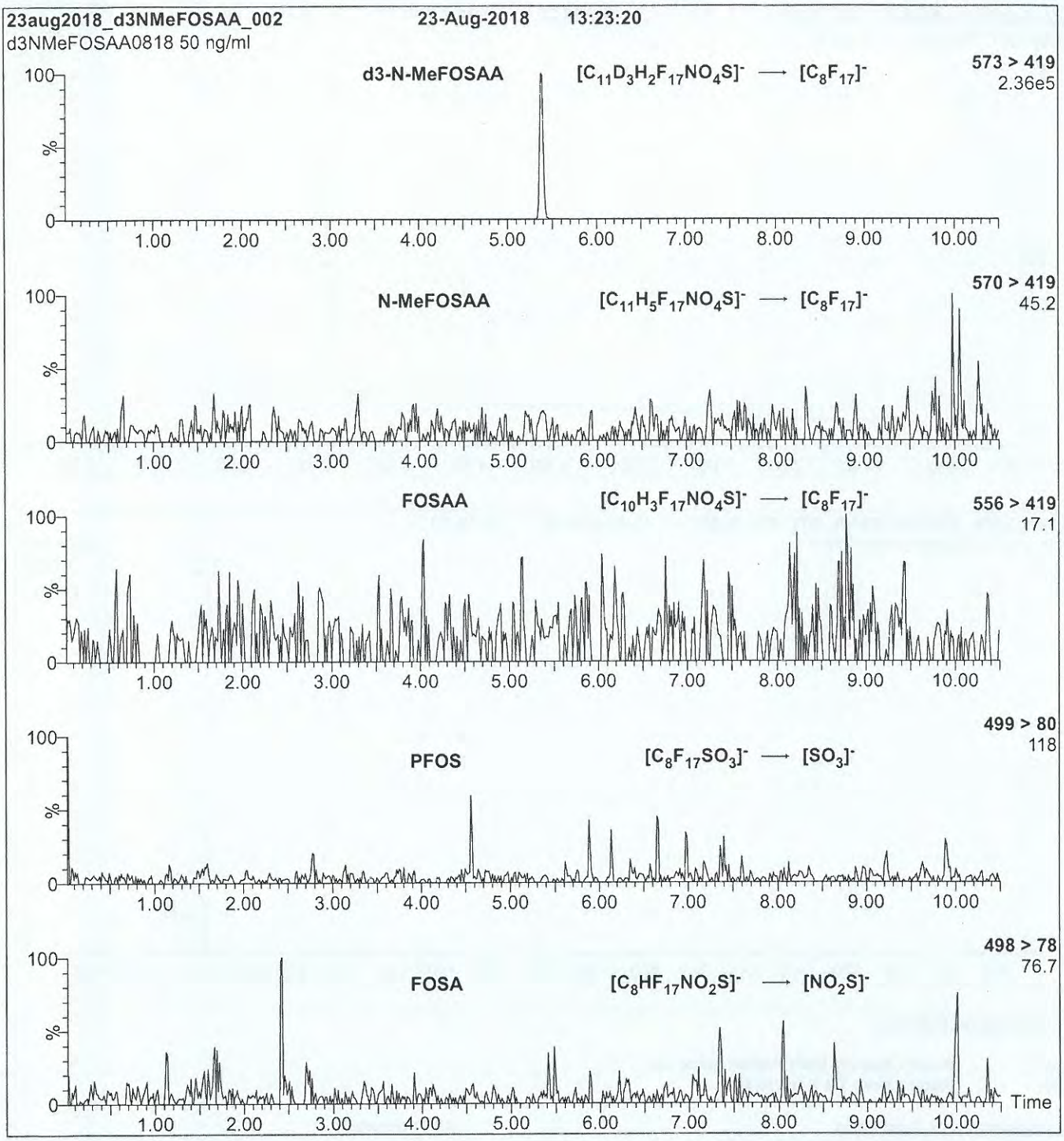
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2014

Figure 2: **d3-N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (d3-N-MeFOSAA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 18

18L2015

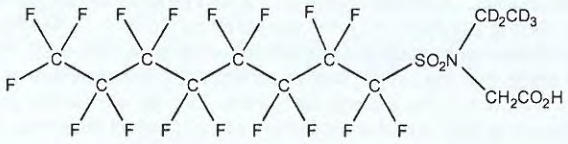
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d5-N-EtFOSAA **LOT NUMBER:** d5NEtFOSAA0818

COMPOUND: N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{12}D_5H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	590.26
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_5$
LAST TESTED: (mm/dd/yyyy)	08/23/2018		
EXPIRY DATE: (mm/dd/yyyy)	08/23/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/28/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2015

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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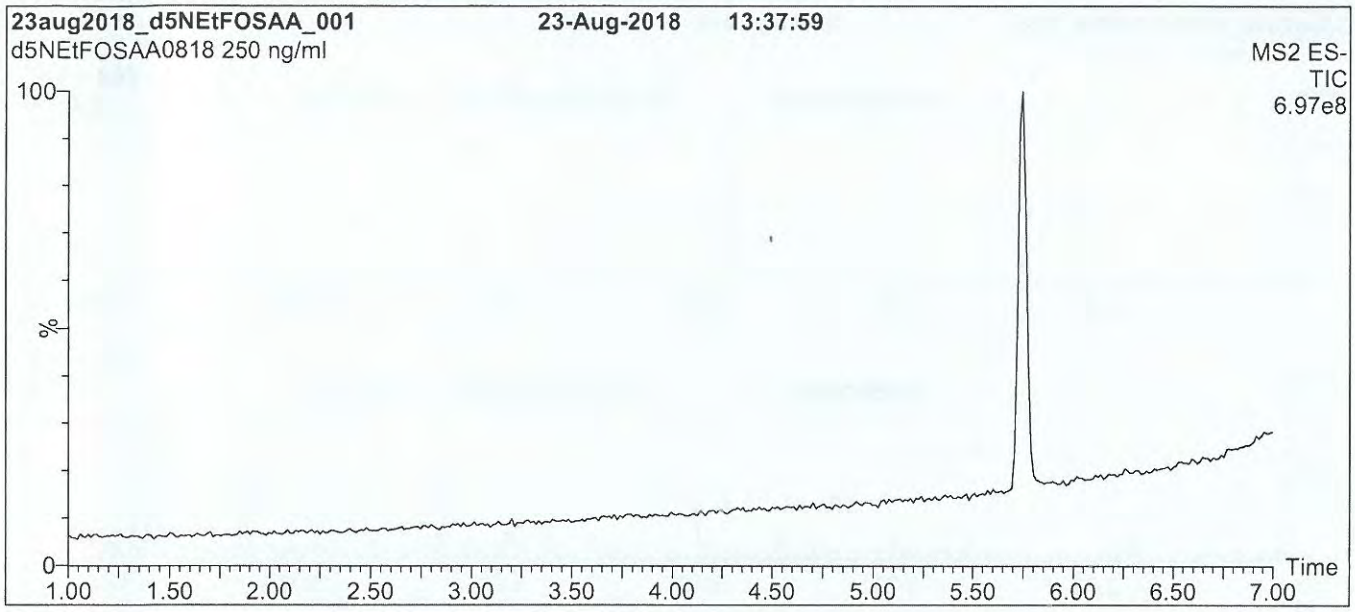
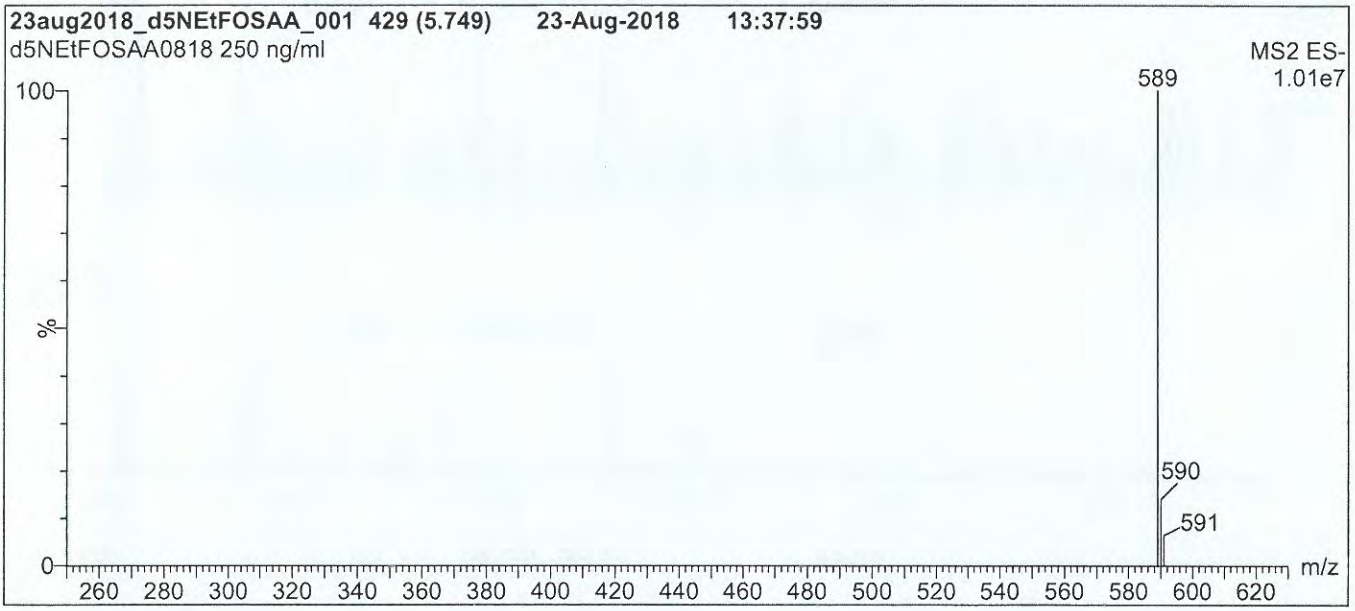
1862015

Figure 1: **d5-N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





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MS: **Waters Xevo TQ-S micro MS**

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1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

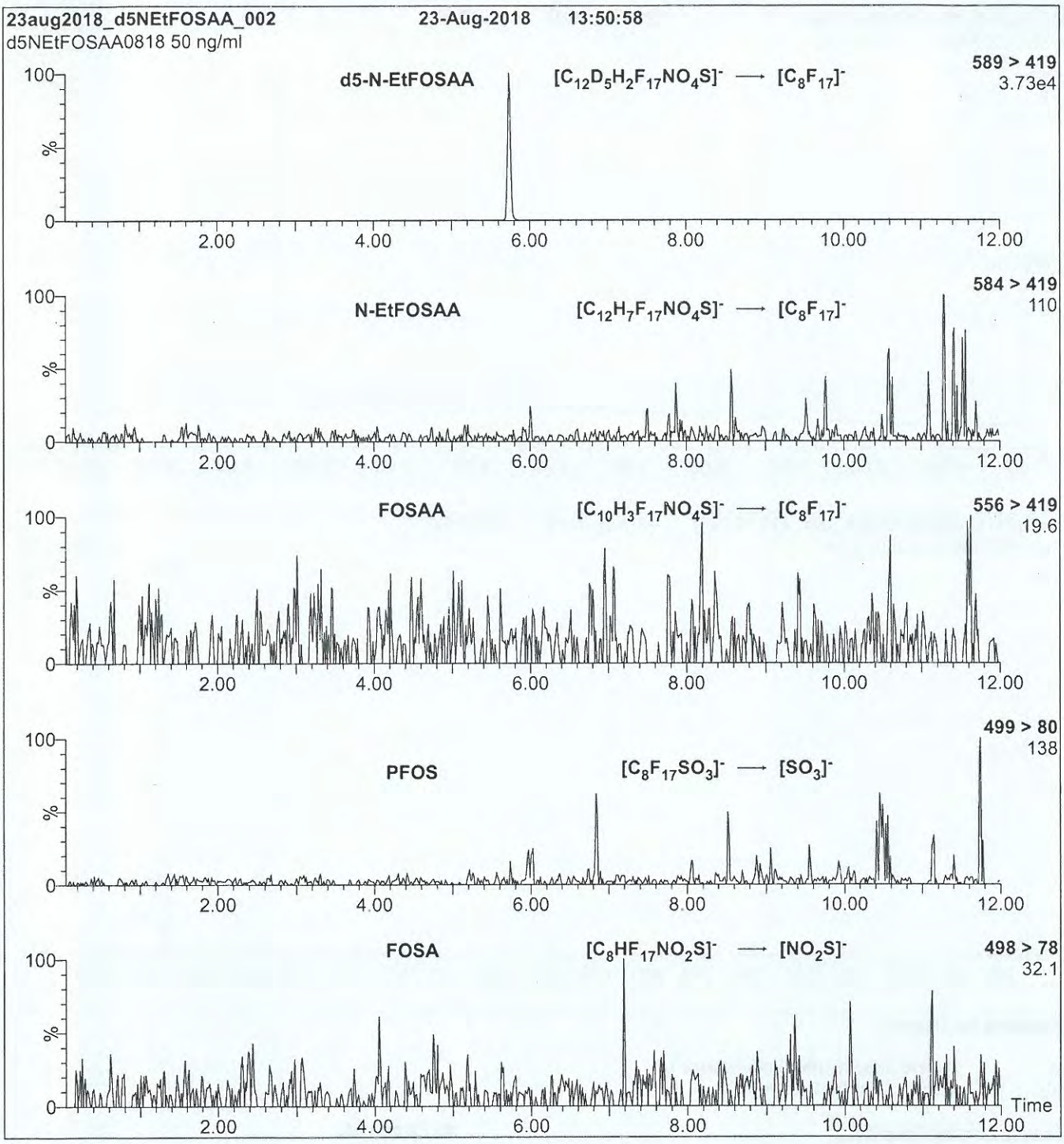
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2015

Figure 2: **d5-N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (d5-N-EtFOSAA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 18

18L2016

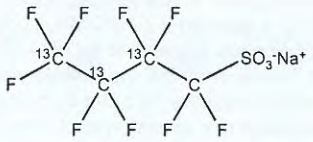
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M3PFBS **LOT NUMBER:** M3PFBS1218

COMPOUND: Sodium perfluoro-1-[2,3,4-$^{13}C_3$]butanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CF_9SO_3Na$	**MOLECULAR WEIGHT:**	325.06
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 46.5 ± 2.3 µg/ml (M3PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($2,3,4\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	12/10/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/10/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/13/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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18L2016

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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18L2016

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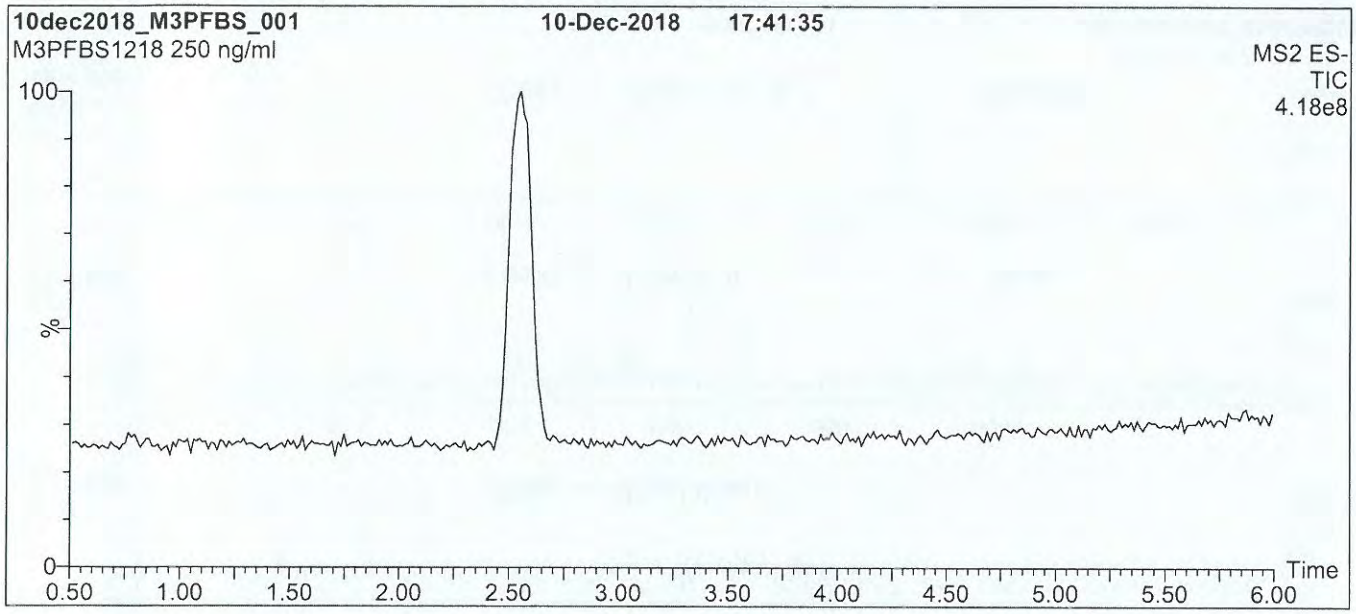
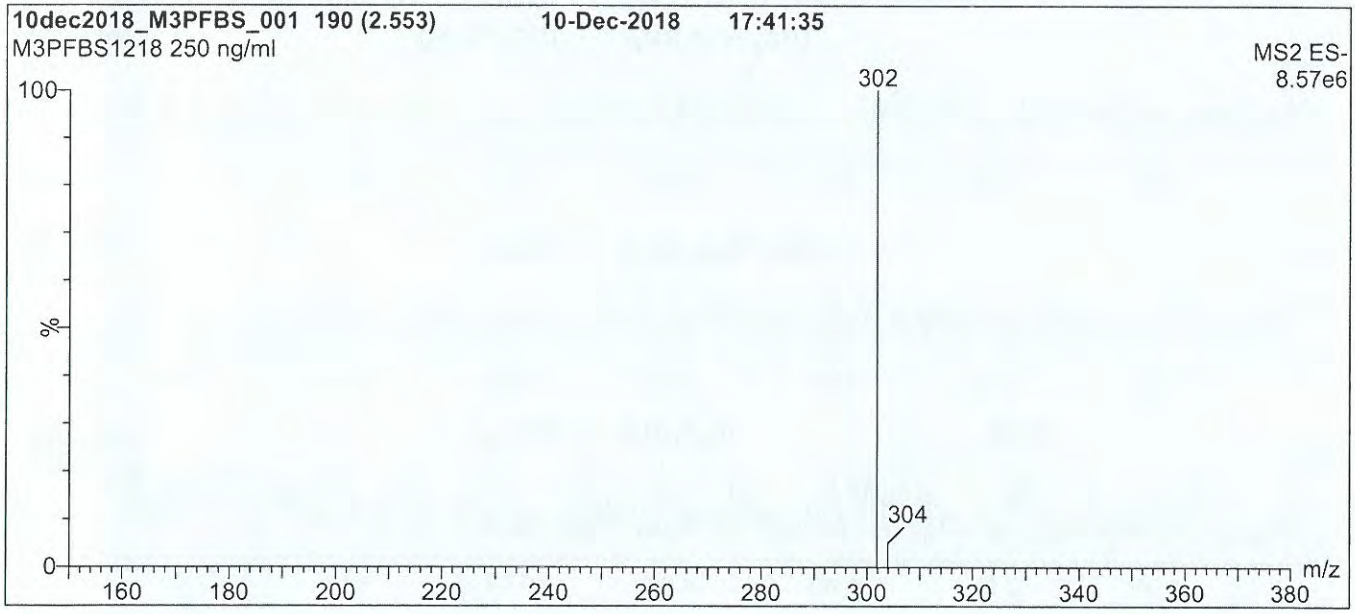




Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

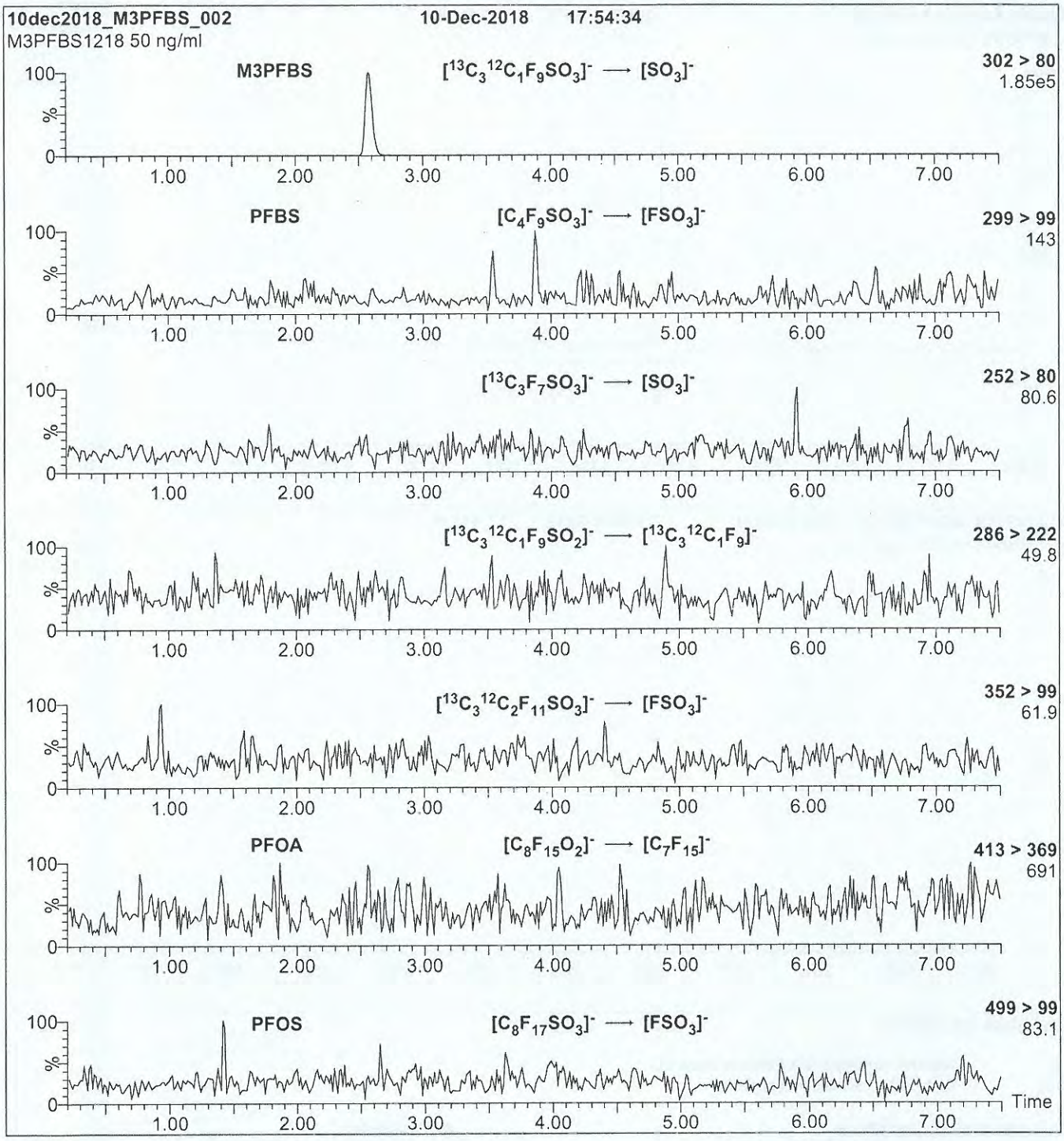
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2016

Figure 2: **M3PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFBS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

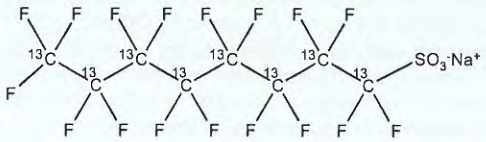
Collision Gas (mbar) = 2.90e-3
Collision Energy (eV) = 30

1812017

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M8PFOS	**LOT NUMBER:**	M8PFOS0918
COMPOUND:	Sodium perfluoro-1-[$^{13}C_8$]octanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_8F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	530.05
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (M8PFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	09/20/2018		
EXPIRY DATE: (mm/dd/yyyy)	09/20/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of sodium perfluoro-1-[$^{13}C_7$]heptanesulfonate ($^{13}C_7$-PFHpS) and ~ 1.0% of sodium perfluoro-1-[$^{13}C_4$]octanesulfonate (MPFOS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/24/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2017

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

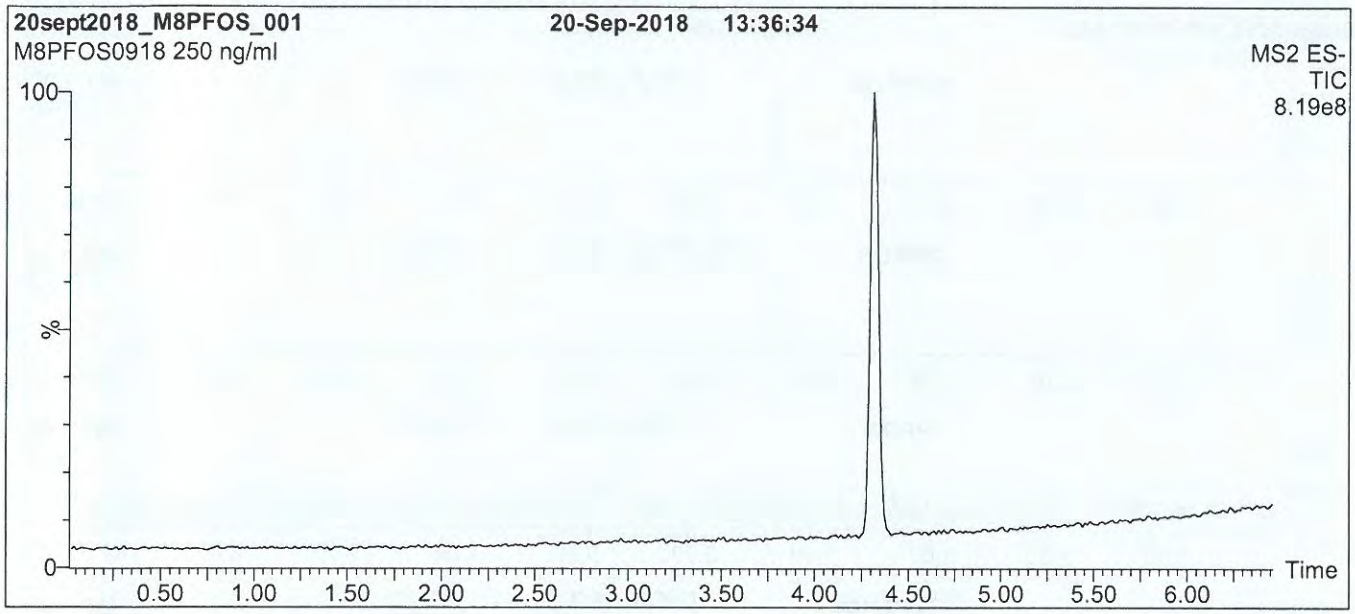
CALA Testing Accreditation No. A 1226

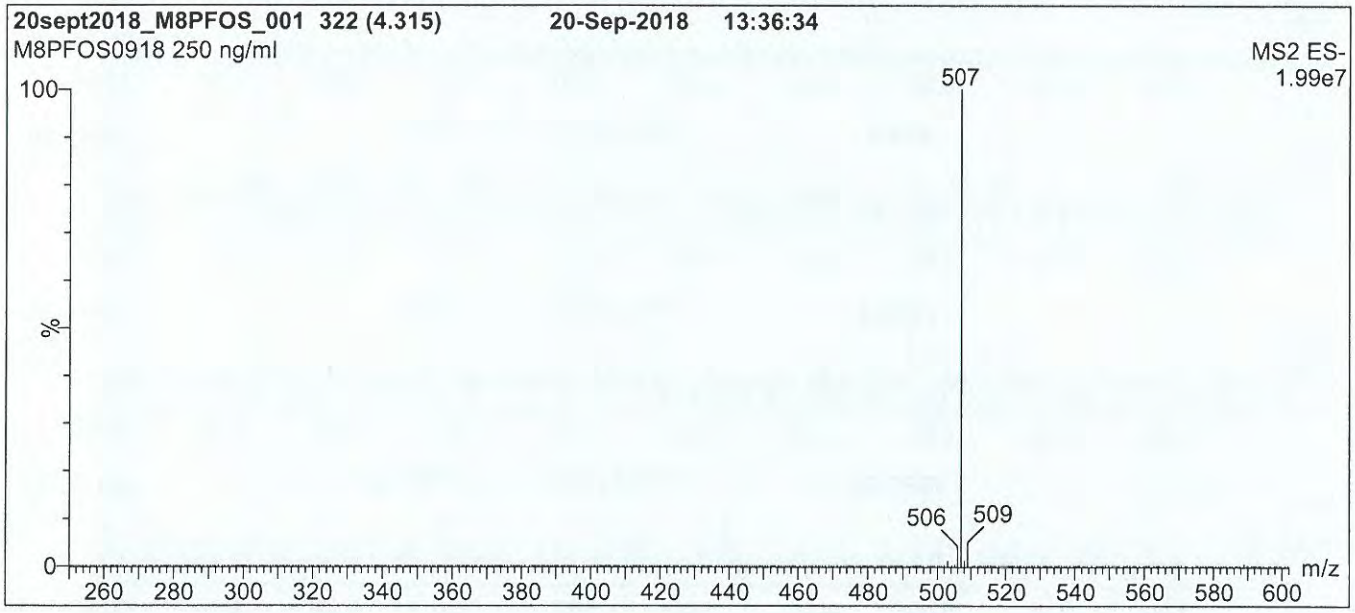
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812017

Figure 1: **M8PFOS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

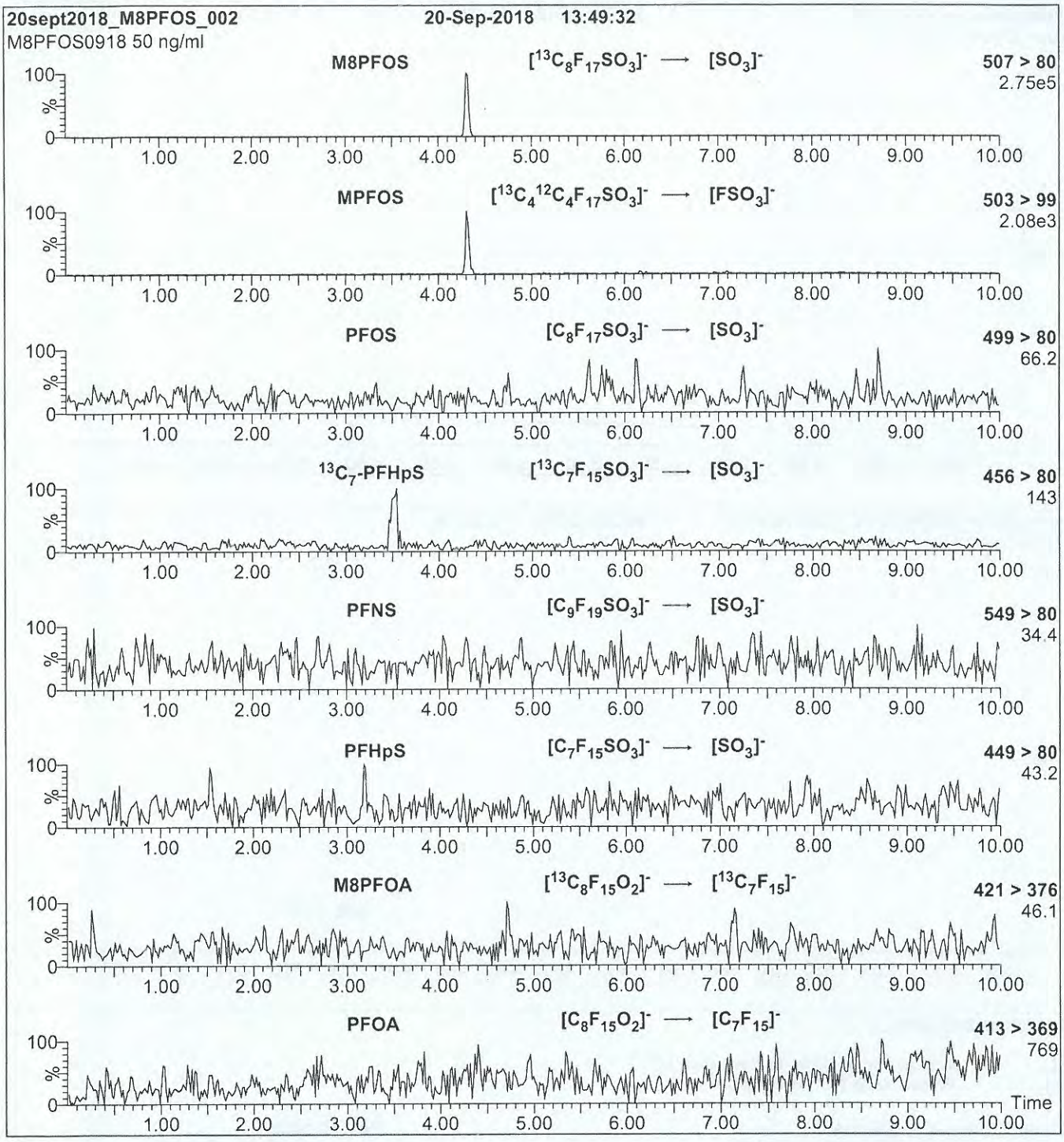
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2017

Figure 2: **M8PFOS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M8PFOS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

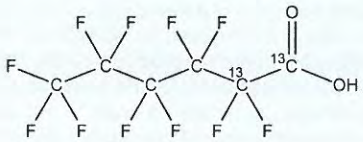
Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 42

18L2019

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFHxA	**LOT NUMBER:**	MPFHxA0518
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	05/22/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/22/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-hexanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/30/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812019

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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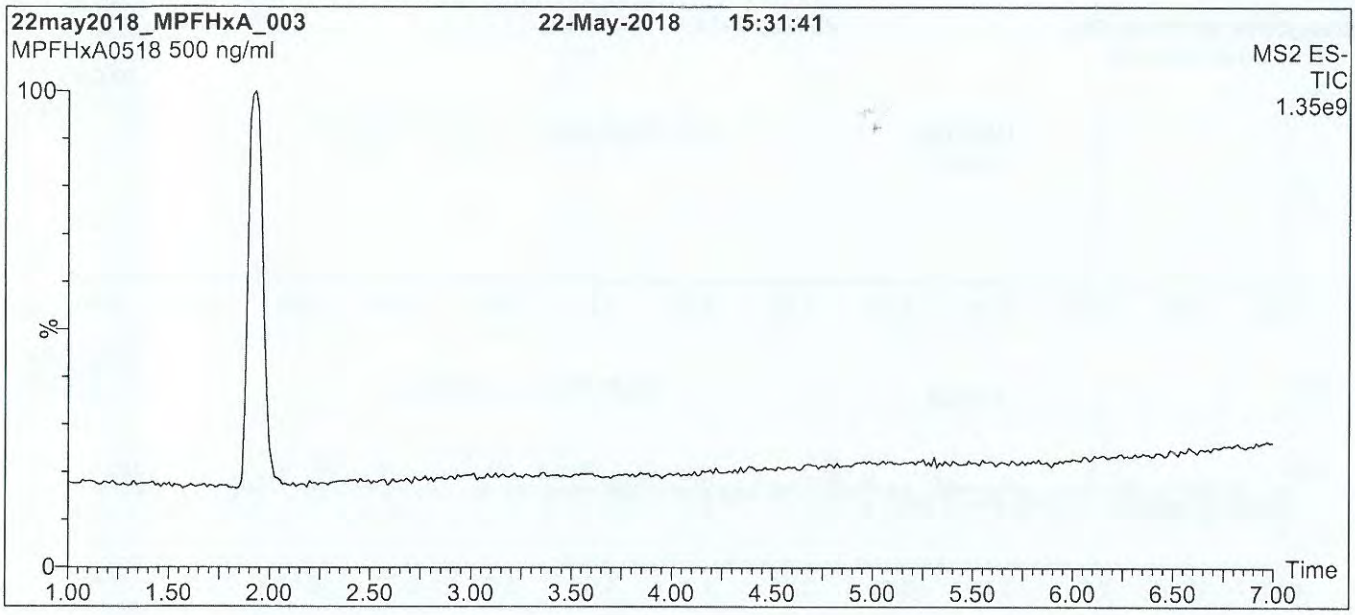
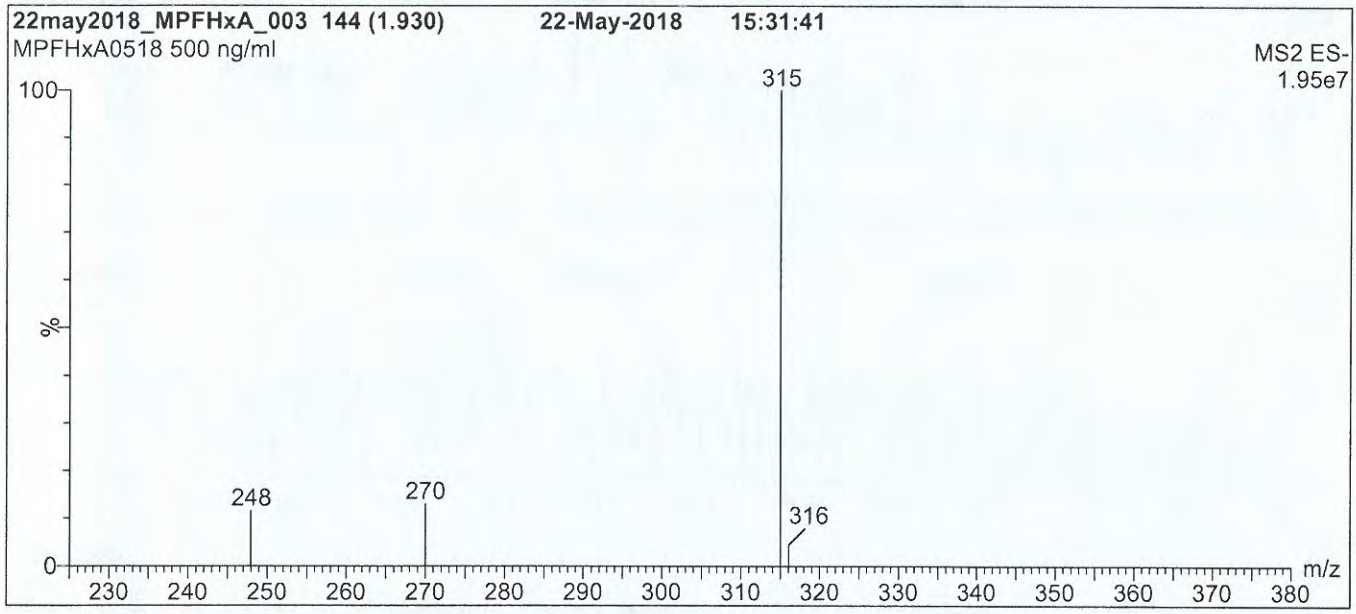
18L2019

Figure 1: **MPFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

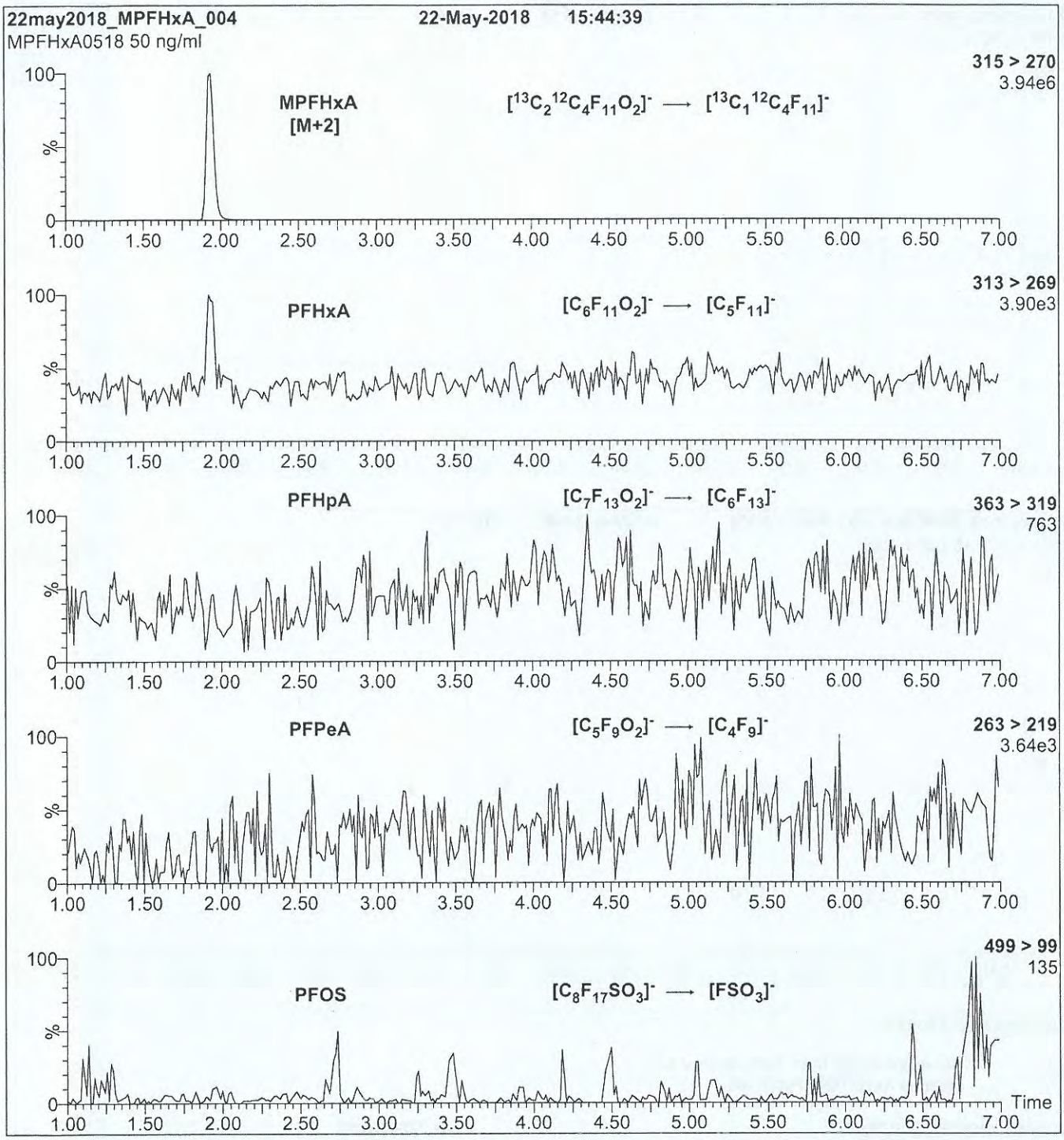
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

18L2019

Figure 2: **MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

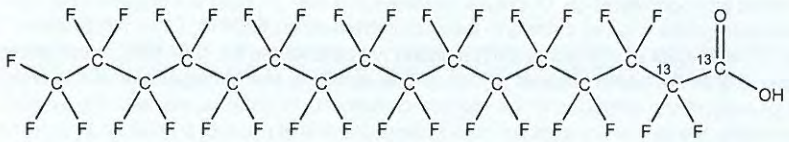
Collision Gas (mbar) = 3.55e-3
Collision Energy (eV) = 8

1812020

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFHxDA	**LOT NUMBER:**	M2PFHxDA1018
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexadecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{14}HF_{31}O_2$	**MOLECULAR WEIGHT:**	816.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of native perfluoro-n-hexadecanoic acid and ~ 0.2% of perfluoro-n-[$^{13}C_1$]pentadecanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/19/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1BL2020

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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UNCERTAINTY:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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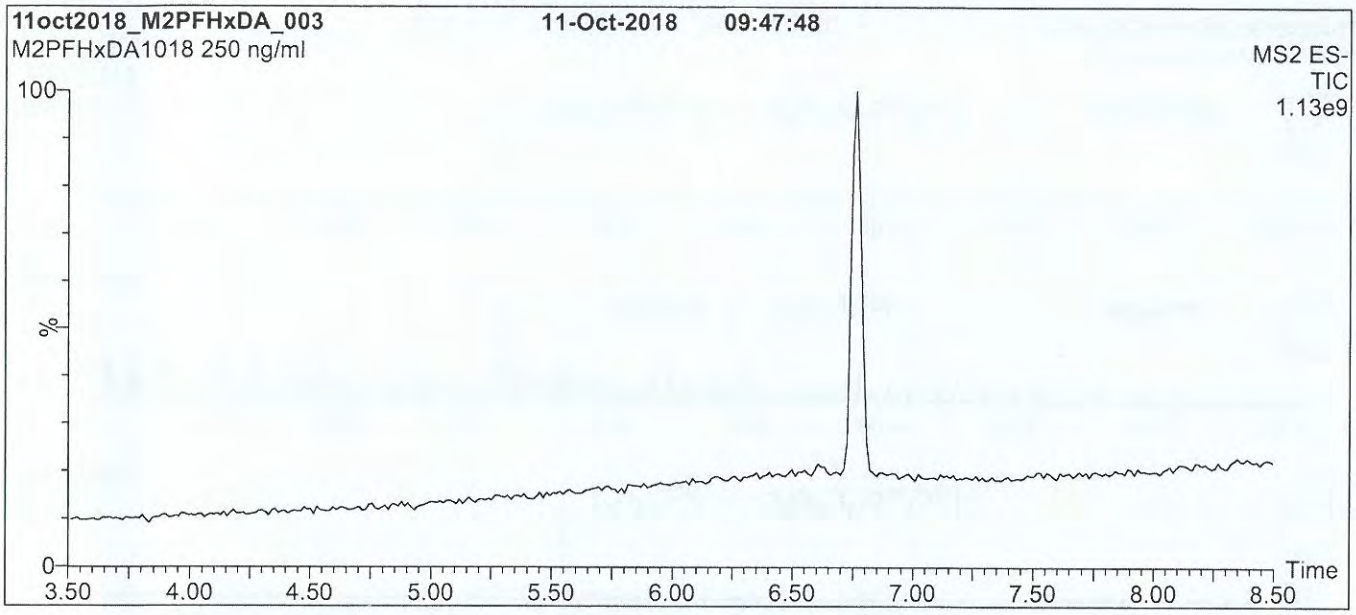
CALA Testing Accreditation No. A1226

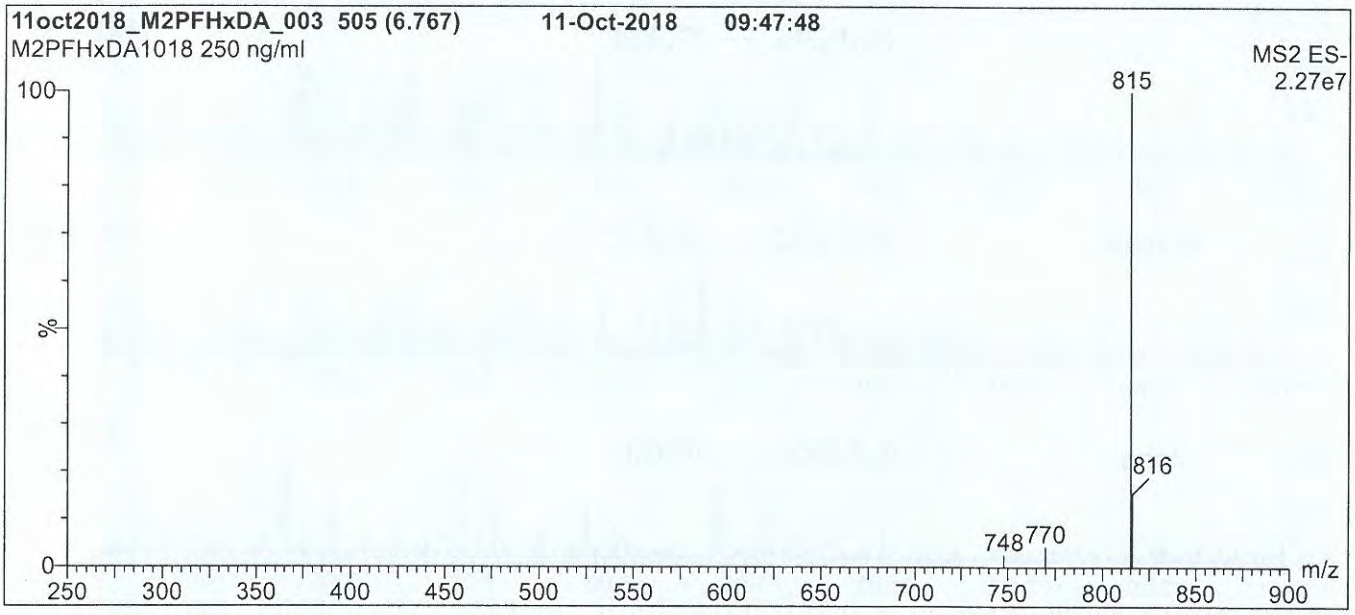
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2020

Figure 1: **M2PFHxDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

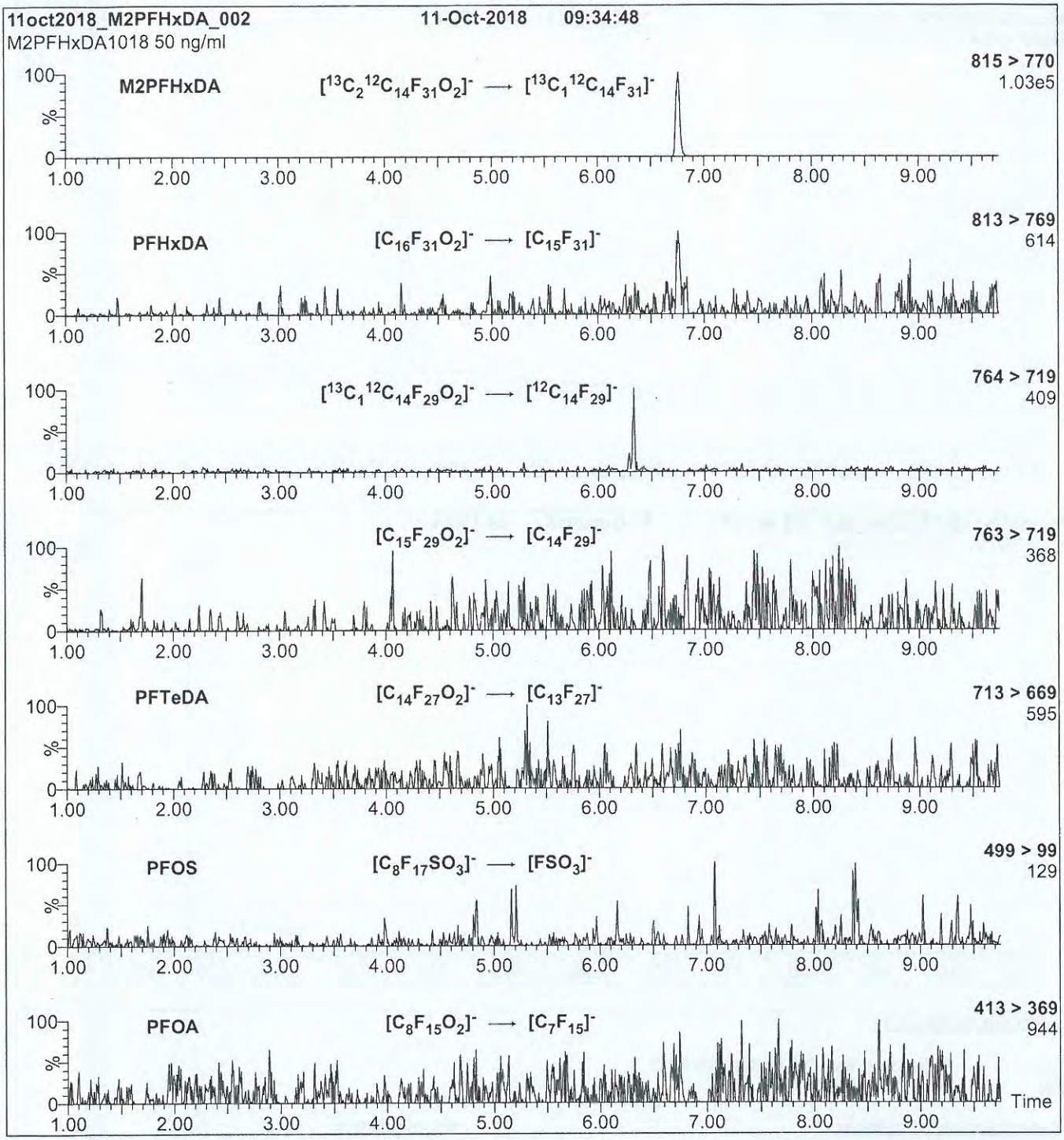
MS Parameters

Experiment: Full Scan (250 - 1200 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2020

Figure 2: **M2PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFHxDA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

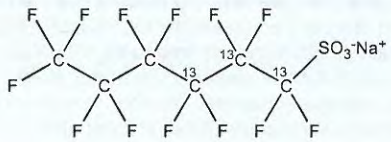
Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 15

1812027

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFHxS	**LOT NUMBER:**	M3PFHxS0618
COMPOUND:	Sodium perfluoro-1-[1,2,3-$^{13}C_3$]hexanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_3F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	425.07
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (M3PFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	06/20/2018		
EXPIRY DATE: (mm/dd/yyyy)	06/20/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.1% perfluoro-1-[1,2-$^{13}C_2$]pentanesulfonate, ~ 0.1% perfluoro-1-octanesulfonate, and ~ 0.05% of perfluoro-1-hexanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/29/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812027

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

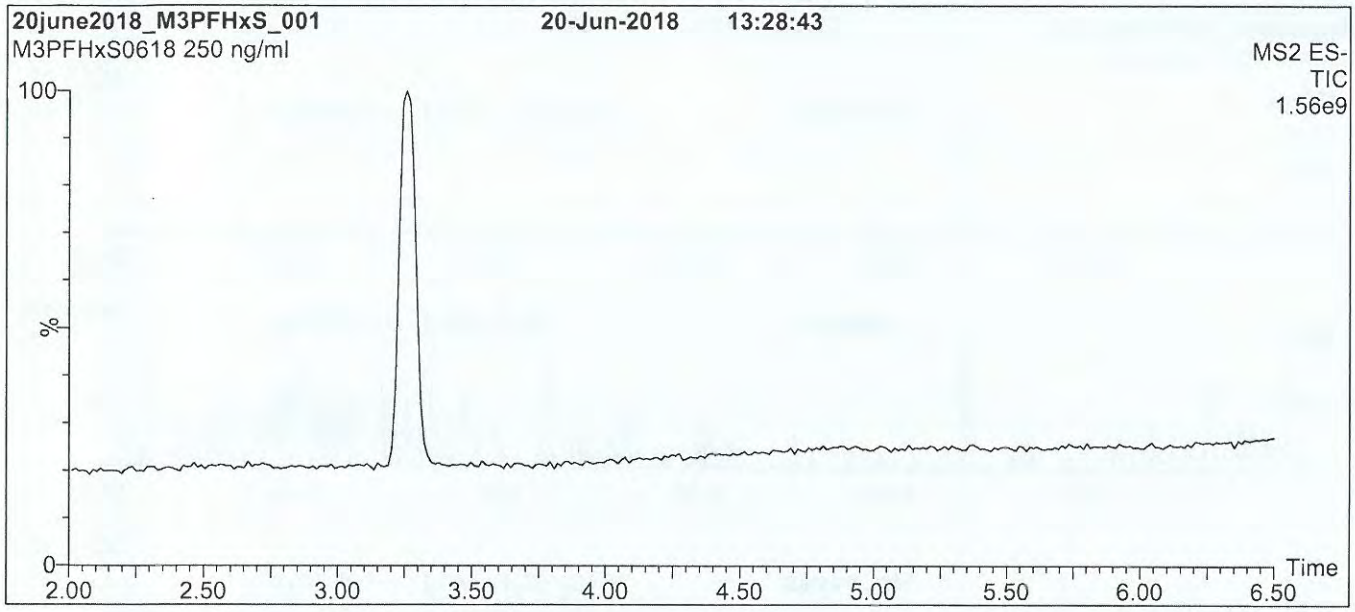
CALA Testing Accreditation No. A 1226

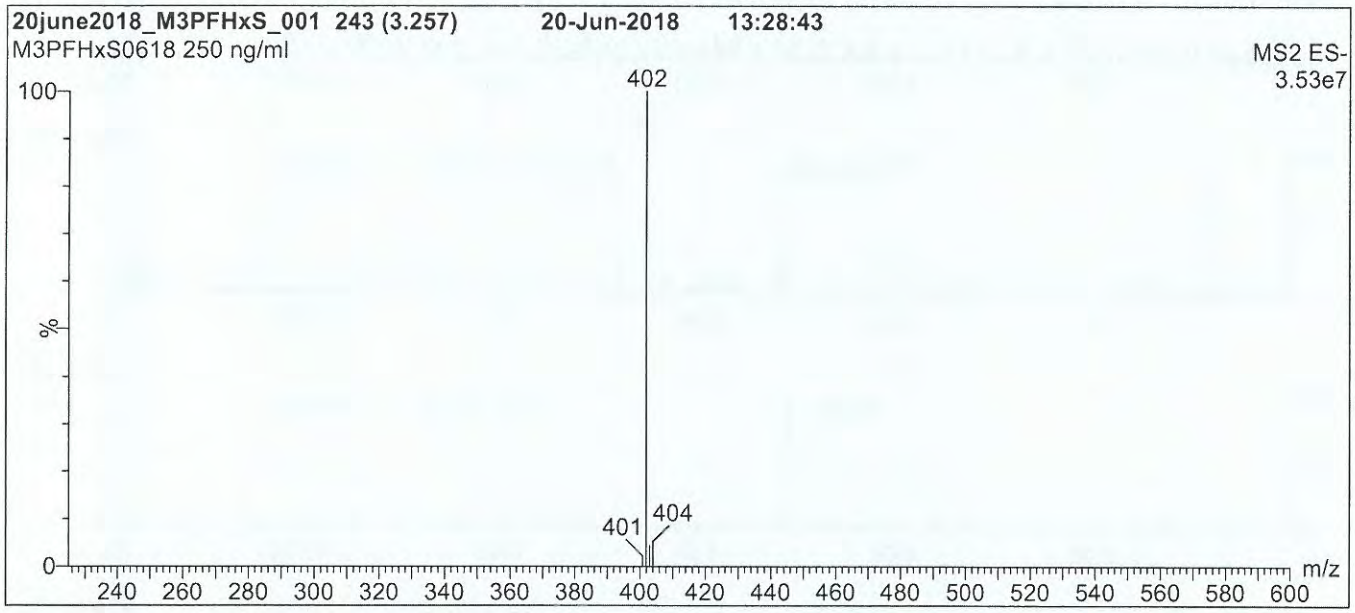
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812027

Figure 1: **M3PFHxS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

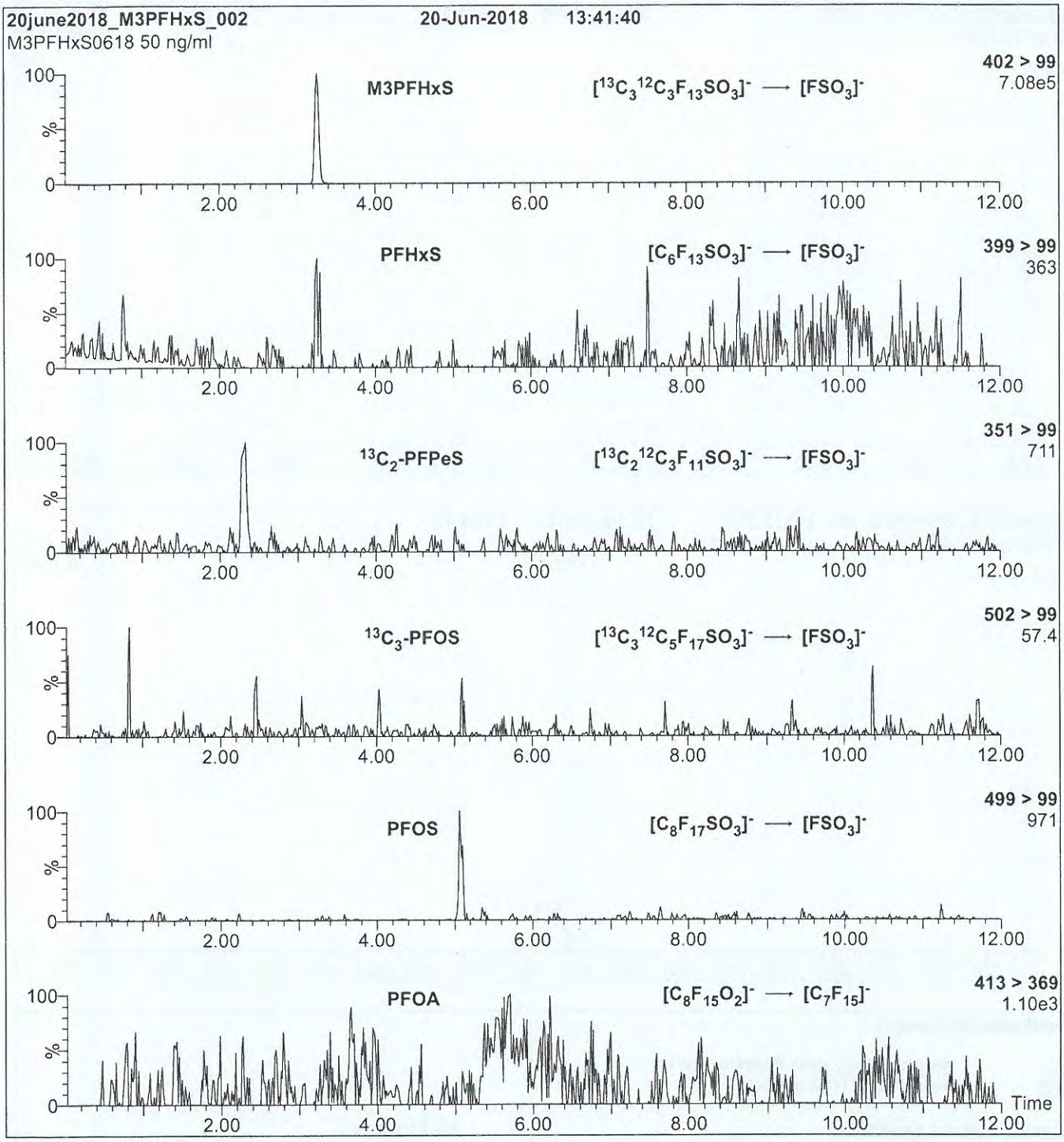
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

18L2027

Figure 2: **M3PFHxS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFHxS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 36

1812077

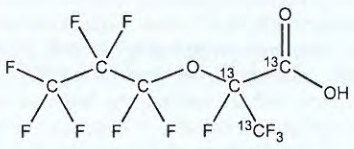
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M3HFPO-DA **LOT NUMBER:** M3HFPODA1018

COMPOUND: 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-$^{13}C_3$-propanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_3HF_{11}O_3$	**MOLECULAR WEIGHT:**	333.03
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	10/24/2018		
EXPIRY DATE: (mm/dd/yyyy)	10/24/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.9% of the linear M3HFPO-DA isomer.
- Product is commercially known as GenX.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/31/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2077

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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18L2077

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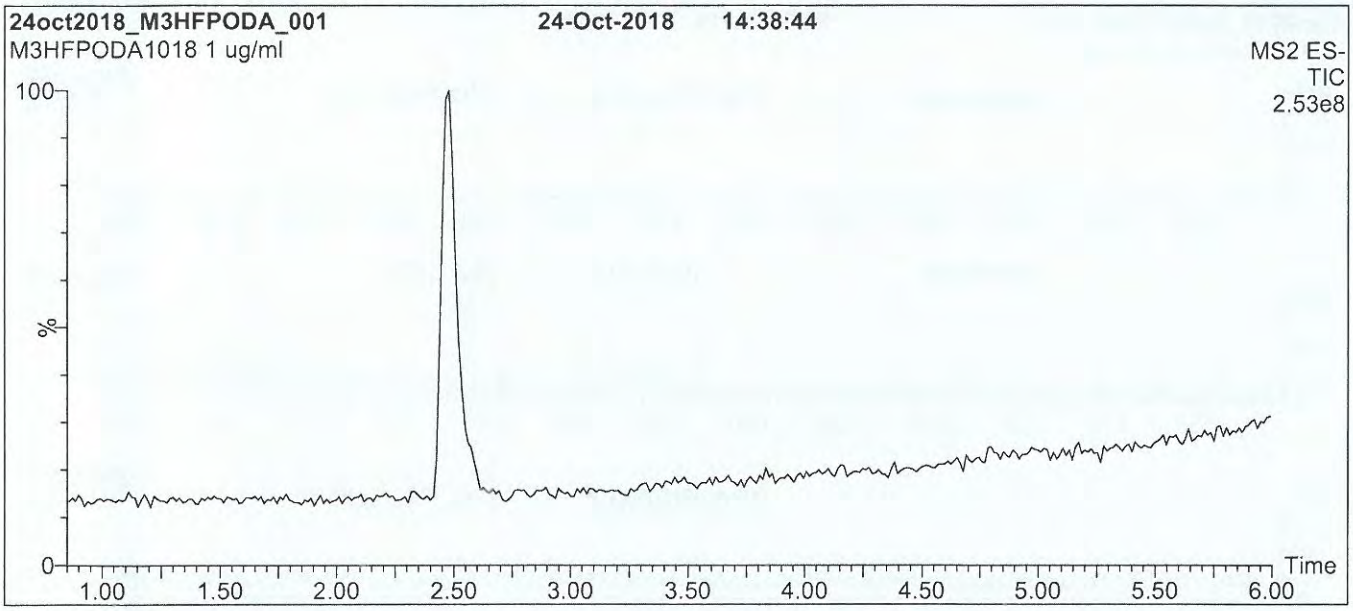

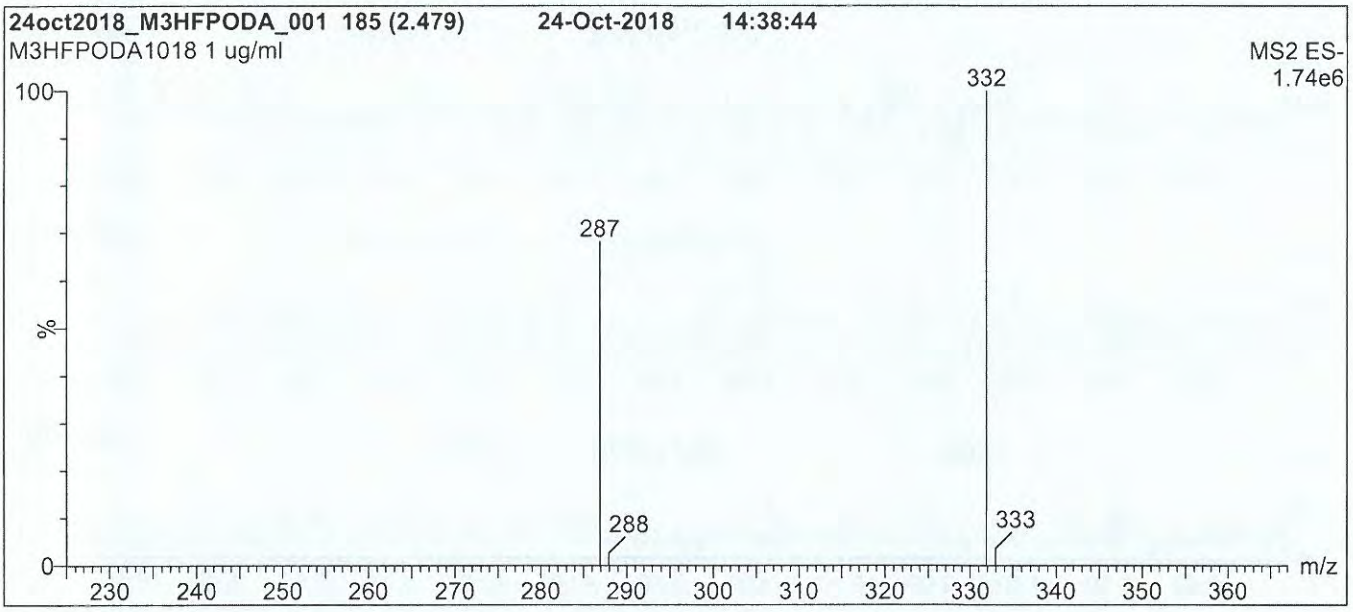

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MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

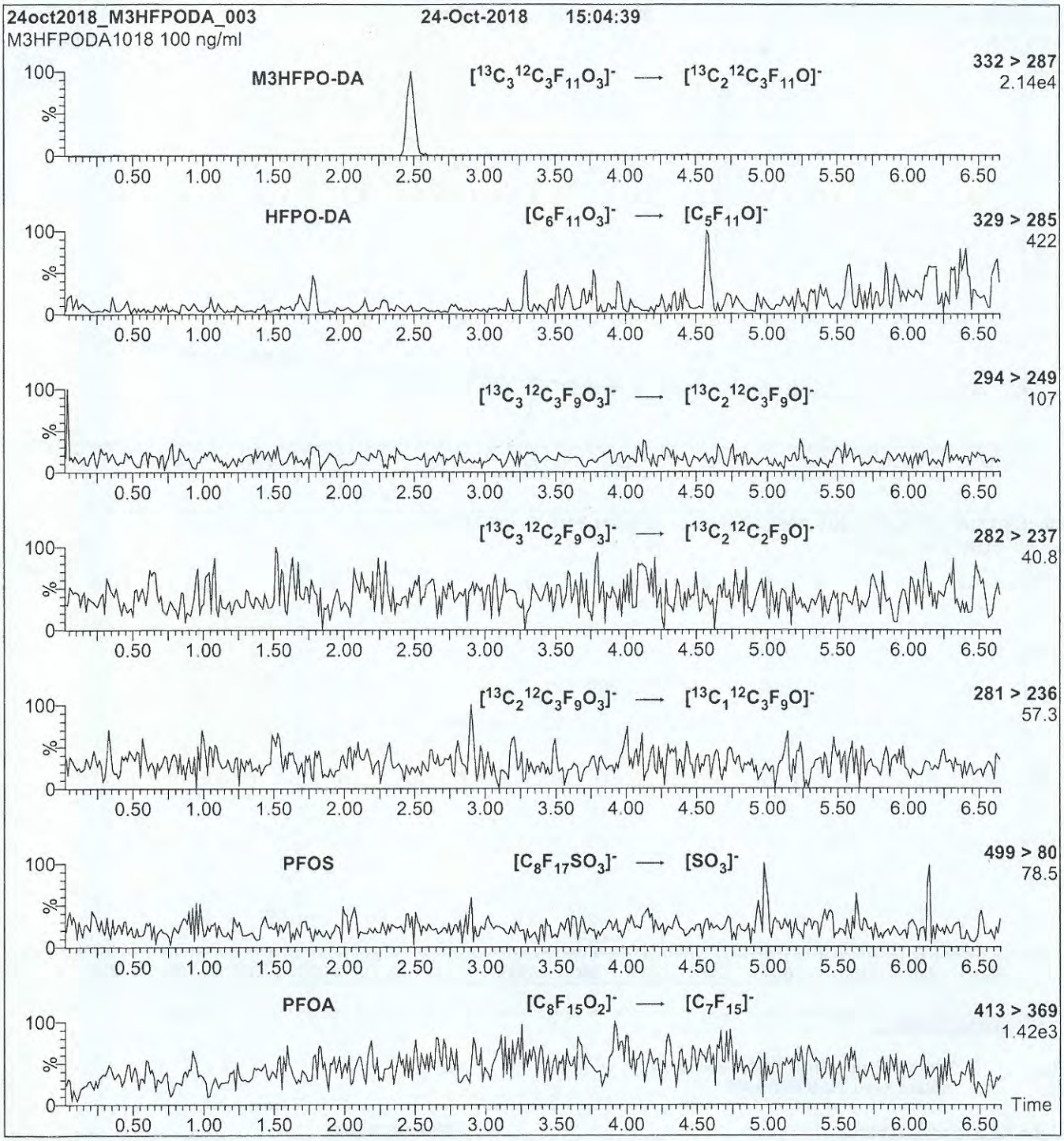
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (l/hr) = 1000

1812077

Figure 2: **M3HFPO-DA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3HFPO-DA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.02e-3
Collision Energy (eV) = 6

Analytical Standard Record

Vista Analytical Laboratory

19E2204

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	(mls)
18C0911	PFECHS	09-Mar-18	** Vendor **	20-Feb-22	0.435
18L2034	PFDoA	20-Dec-18	** Vendor **	18-Apr-23	0.4
18L2035	PFBA	20-Dec-18	** Vendor **	28-Nov-23	0.4
18L2036	PFPeA	20-Dec-18	** Vendor **	16-Feb-23	0.4
18L2037	PFHxA	20-Dec-18	** Vendor **	18-May-23	0.4
18L2038	PFDA	20-Dec-18	** Vendor **	12-Nov-23	0.4
18L2039	PFUdA	20-Dec-18	** Vendor **	23-Aug-23	0.4
18L2040	PFTrDA	20-Dec-18	** Vendor **	16-Feb-23	0.4
18L2041	PFHpA	20-Dec-18	** Vendor **	12-Jul-23	0.4
18L2042	PFOA	20-Dec-18	** Vendor **	23-Aug-23	0.4
18L2043	PFNA	20-Dec-18	** Vendor **	16-Feb-23	0.4
18L2044	PFTeDA	20-Dec-18	** Vendor **	23-Aug-23	0.4
18L2045	PFHxDA	20-Dec-18	** Vendor **	13-Jul-22	0.4
18L2046	PFODA	20-Dec-18	** Vendor **	13-Jul-22	0.4
18L2047	L-PFBS	20-Dec-18	** Vendor **	04-May-23	0.454
18L2048	L-PFPeS	20-Dec-18	** Vendor **	12-Jul-23	0.428
18L2049	L-PFHpS	20-Dec-18	** Vendor **	04-May-23	0.42
18L2050	L-PFNS	20-Dec-18	** Vendor **	13-Jul-23	0.418
18L2051	L-PFDS	20-Dec-18	** Vendor **	05-Oct-23	0.415
18L2052	br-PFHxSK	20-Dec-18	** Vendor **	02-Oct-23	0.44
18L2053	br-PFOSK anion	20-Dec-18	** Vendor **	18-Apr-23	0.431
18L2054	4:2 FTS	20-Dec-18	** Vendor **	03-Jul-23	0.43
18L2055	6:2FTS	20-Dec-18	** Vendor **	03-Apr-23	0.422
18L2056	8:2FTS	20-Dec-18	** Vendor **	28-Nov-23	0.418
18L2057	FOSA-I	20-Dec-18	** Vendor **	20-Jun-23	0.4
18L2058	br-NMeFOSAA	20-Dec-18	** Vendor **	17-Jan-23	0.4
18L2059	br-NEtFOSAA	20-Dec-18	** Vendor **	26-Jul-23	0.4
18L2060	N-MeFOSA-M	20-Dec-18	** Vendor **	31-May-23	2
18L2061	N-EtFOSA-M	20-Dec-18	** Vendor **	31-May-23	2
18L2062	N-MeFOSE-M	20-Dec-18	** Vendor **	17-May-23	2
18L2063	N-EtFOSE-M	20-Dec-18	** Vendor **	04-Jun-23	2
18L2071	HFPO-DA	20-Dec-18	** Vendor **	24-Oct-21	0.4
18L2072	11Cl-PF3OUdS	20-Dec-18	** Vendor **	23-Nov-23	0.425
18L2073	9Cl-PF3ONS	20-Dec-18	** Vendor **	22-Nov-23	0.43
18L2074	NaDONA	20-Dec-18	** Vendor **	26-Mar-23	0.4
18L2076	L-PFPrS	20-Dec-18	** Vendor **	14-Dec-22	0.438
18L2078	10:2FTS	20-Dec-18	** Vendor **	13-Jul-21	0.415
19B0712	L-PFDoS	07-Feb-19	** Vendor **	30-Sep-21	0.415

Analytical Standard Record

Vista Analytical Laboratory

19E2204

Description:	PFC NS Stock	Expires:	29-May-21
Standard Type:	Analyte Spike	Prepared:	29-May-19
Solvent:	MeOH	Prepared By:	Giana R. Bilotta
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	28-May-19 09:03 by GRB

Analyte	CAS Number	Concentration	Units
L-PFHpA		1	ug/mL
10:2 FTS	120226-60-0	1	ug/mL
L-MeFOSA	31506-32-8	5	ug/mL
L-MeFOSAA	2355-31-9	0.76	ug/mL
L-MeFOSE	24448-09-7	5	ug/mL
L-PFBA		1	ug/mL
L-PFBS		1	ug/mL
L-PFDA		1	ug/mL
L-PFDoA		1	ug/mL
L-EtFOSAA	2991-50-6	0.776	ug/mL
L-PFDS		1	ug/mL
L-EtFOSA	4151-50-2	5	ug/mL
L-PFHpS		1	ug/mL
L-PFHxA		1	ug/mL
L-PFHxDA		1	ug/mL
L-PFHxS		0.812	ug/mL
L-PFNA		1	ug/mL
L-PFNS	68259-12-1	1	ug/mL
L-PFOA		1	ug/mL
L-PFODA		1	ug/mL
L-PFDoS		1	ug/mL
EtFOSAA	2991-50-6	1	ug/mL
4:2 FTS	757124-72-4	1	ug/mL
6:2 FTS	27619-97-2	1	ug/mL
8:2 FTS	39108-34-4	1	ug/mL
ADONA	919005-14-4	1	ug/mL
Br-EtFOSAA		0.224	ug/mL
Br-MeFOSAA		0.24	ug/mL
Br-PFHxS	3871-99-6	0.189	ug/mL
Br-PFOS	2795-39-3	0.211	ug/mL
L-EtFOSE	1691-99-2	5	ug/mL
EtFOSA	4151-50-2	5	ug/mL
L-PFPeA		1	ug/mL
EtFOSE	1691-99-2	5	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

19E2204

Description:	PFC NS Stock	Expires:	29-May-21
Standard Type:	Analyte Spike	Prepared:	29-May-19
Solvent:	MeOH	Prepared By:	Giana R. Bilotta
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	28-May-19 09:03 by GRB

Analyte	CAS Number	Concentration	Units
F-53B Major (9Cl-PF3ONS)	756426-58-1	1	ug/mL
F-53B Minor (11Cl-PF3OUdS)	763051-92-9	1	ug/mL
F-53B Total		2	ug/mL
HFPO-DA (GenX)	13252-13-6	1	ug/mL
L-4:2 FTS	75124-72-4	1	ug/mL
L-6:2 FTS		1	ug/mL
L-8:2FTS		1	ug/mL
cis-PFECHS		0.668	ug/mL
Total 6:2 FTS		1	ug/mL
PFOA	335-67-1	1	ug/mL
PFODA	16517-11-6	1	ug/mL
PFOS	1763-23-1	1	ug/mL
PFOSA	754-91-6	1	ug/mL
PFPeA	2706-90-3	1	ug/mL
PFPeS	2706-91-4	1	ug/mL
PFPrS	423-41-6	1	ug/mL
PFTeDA	376-06-7	1	ug/mL
L-PFOS		0.789	ug/mL
PFUnA	2058-94-8	1	ug/mL
PFHxS	355-46-4	1	ug/mL
Total EtFOSAA		1	ug/mL
Total MeFOSAA		1	ug/mL
Total PFDS		1	ug/mL
Total PFHpS		1	ug/mL
Total PFHxS		1	ug/mL
Total PFOA		1	ug/mL
Total PFOS		1	ug/mL
Total PFUnA		1	ug/mL
PFTrDA	72629-94-8	1	ug/mL
PFDA	335-76-2	1	ug/mL
trans-PFECHS		0.335	ug/mL
L-PFPeS	2706-91-4	1	ug/mL
L-PFTeDA		1	ug/mL
L-PFTrDA		1	ug/mL

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Vista Analytical Laboratory

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MeFOSE	24448-09-7	5	ug/mL
PFNS	68259-12-1	1	ug/mL
PFBS	375-73-5	1	ug/mL
PFNA	375-95-1	1	ug/mL
PFDoA	307-55-1	1	ug/mL
PFDoS	79780-39-5	1	ug/mL
PFDS	335-77-3	1	ug/mL
PFecHS	646-83-3	1	ug/mL
PFHpA	375-85-9	1	ug/mL
PFHpS	375-92-8	1	ug/mL
PFHxA	307-24-4	1	ug/mL
PFHxDA	67905-19-5	1	ug/mL
L-PFOSA		1	ug/mL
PFBA	375-22-4	1	ug/mL

18C0911

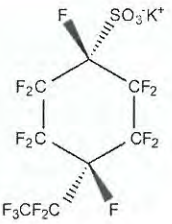
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

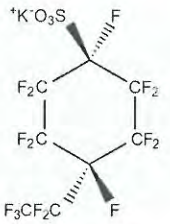
PRODUCT CODE: PFECHS **LOT NUMBER:** PFECHS0217

COMPOUND: Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

STRUCTURE:



cis-isomer



trans-isomer

CAS #: 67584-42-3

MOLECULAR FORMULA:	$C_8F_{15}SO_3K$	**MOLECULAR WEIGHT:**	500.22
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt)	**SOLVENT(S):**	Methanol
	46.1 ± 2.3 µg/ml (PFECHS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/20/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains a mixture of the *cis*/*trans* isomers of PFECHS at a ratio of 2:3 (*cis*:*trans*).
- Contains ~ 1.5% of other isomeric impurities.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/15/2017 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18C0911

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

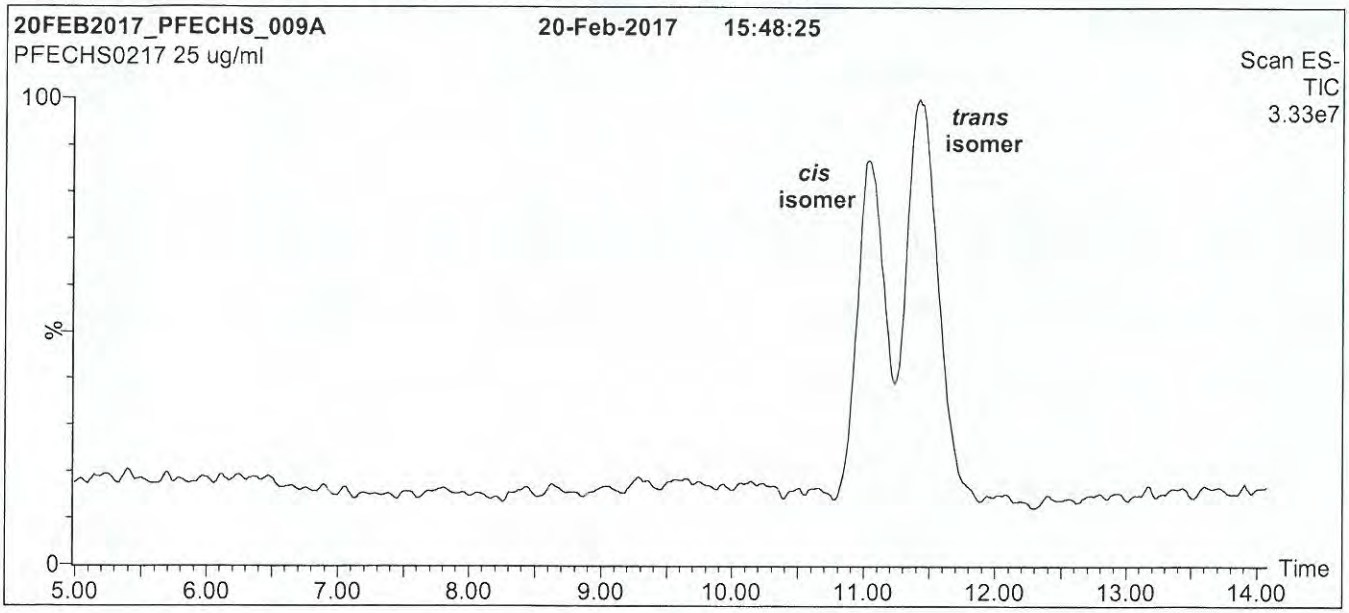
CALA

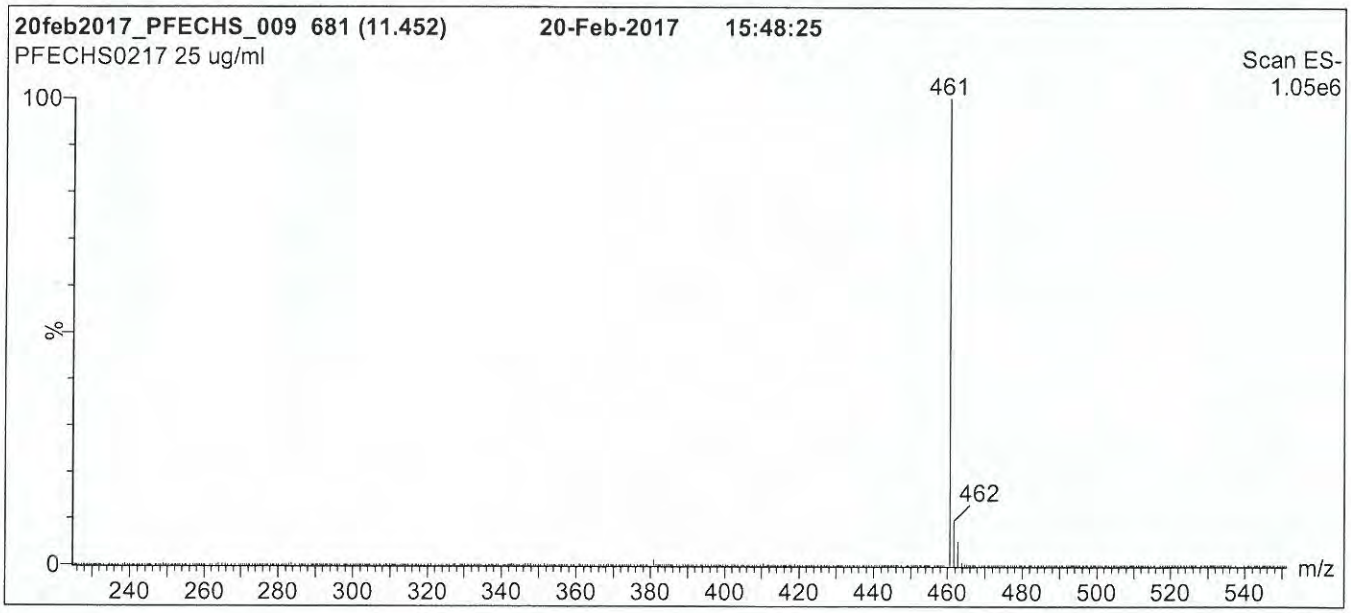
ANAB ACCREDITED

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1801911

Figure 1: **PFECHS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity CSH Fluoro-Phenyl
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 35% (80:20 MeOH:ACN) / 65% H_2O
(both with 10 mM NH_4OAc buffer)
Hold for 13 min. Ramp to 50% organic over 1.5 min and hold for 2.5 min. Ramp to 80% organic over 1 min and hold for 1 min before returning to initial conditions in 0.5 min.
Time: 20 min

Flow: 300 µl/min

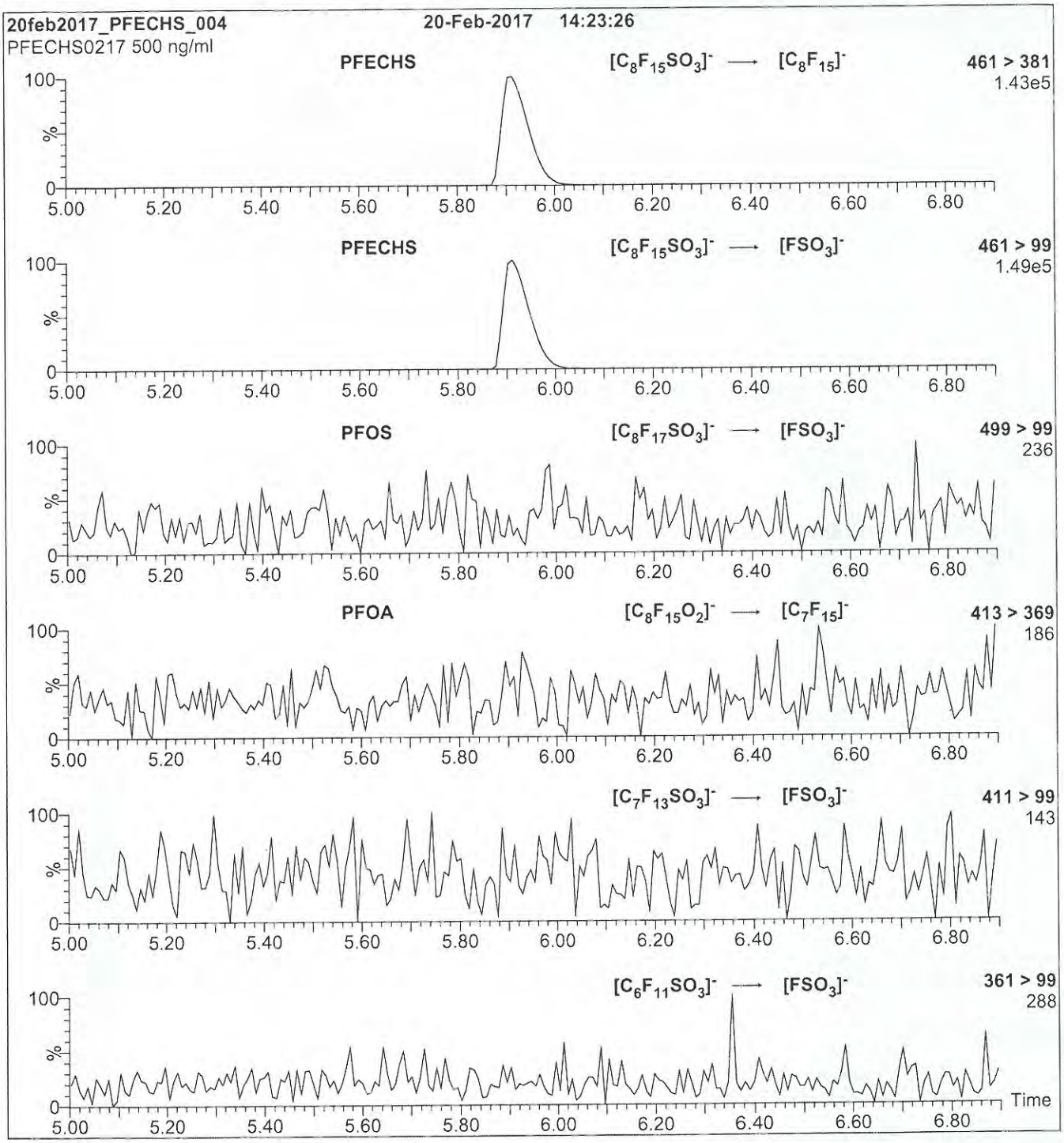
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.50
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

18C0911

Figure 2: **PFECHS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFECHS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.50e-3
Collision Energy (eV) = 25

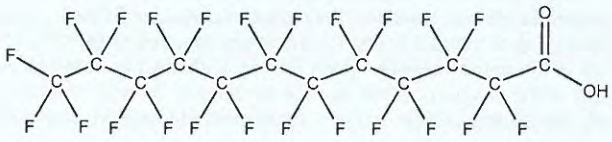
18L2034

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDoA
COMPOUND: Perfluoro-n-dodecanoic acid
LOT NUMBER: PFDoA0418

STRUCTURE:
CAS #: 307-55-1



MOLECULAR FORMULA: $C_{12}HF_{23}O_2$
MOLECULAR WEIGHT: 614.10
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 04/18/2018
EXPIRY DATE: (mm/dd/yyyy) 04/18/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS Data (Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/24/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812034

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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18L2034

Figure 1: **PFDoA; LC/MS Data (SIR)**

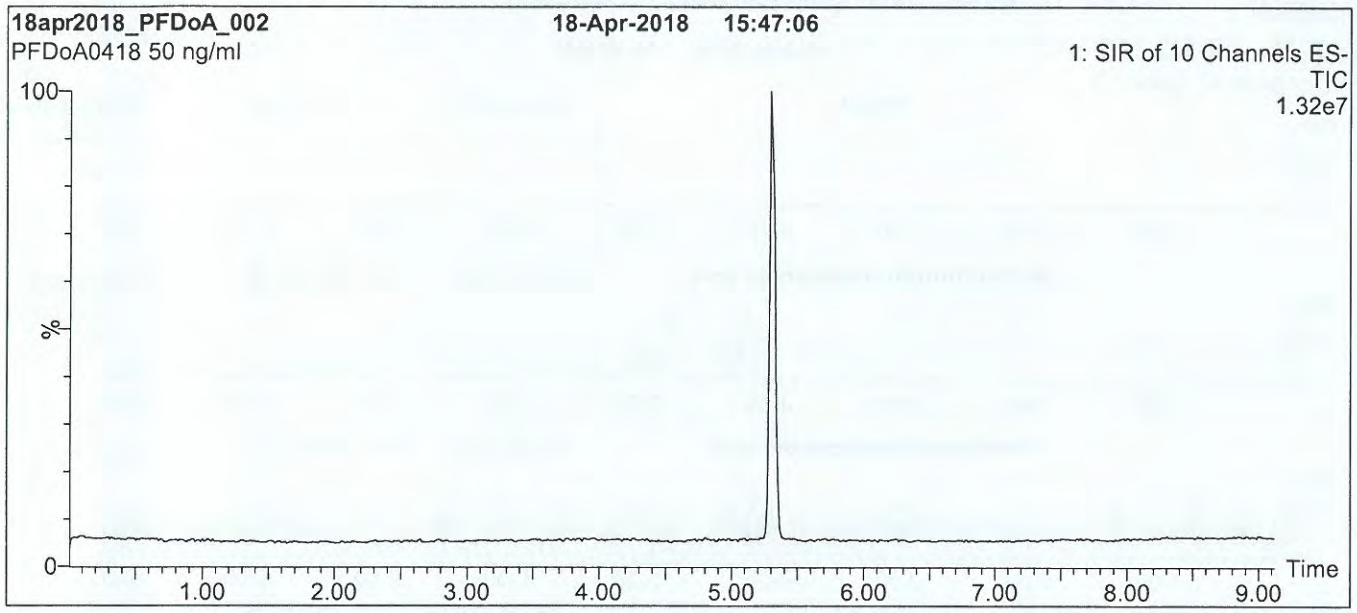
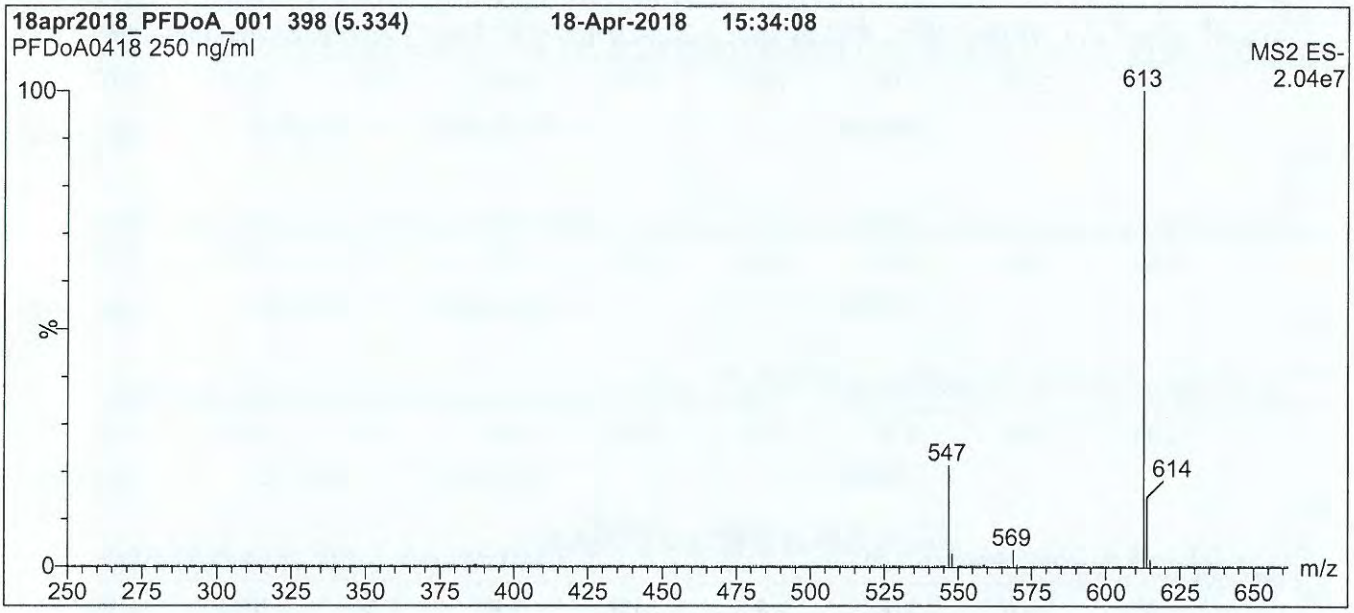


Figure 2: **PFDoA; LC/MS Data (Mass Spectrum)**



Conditions for Figures 1 & 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 85% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

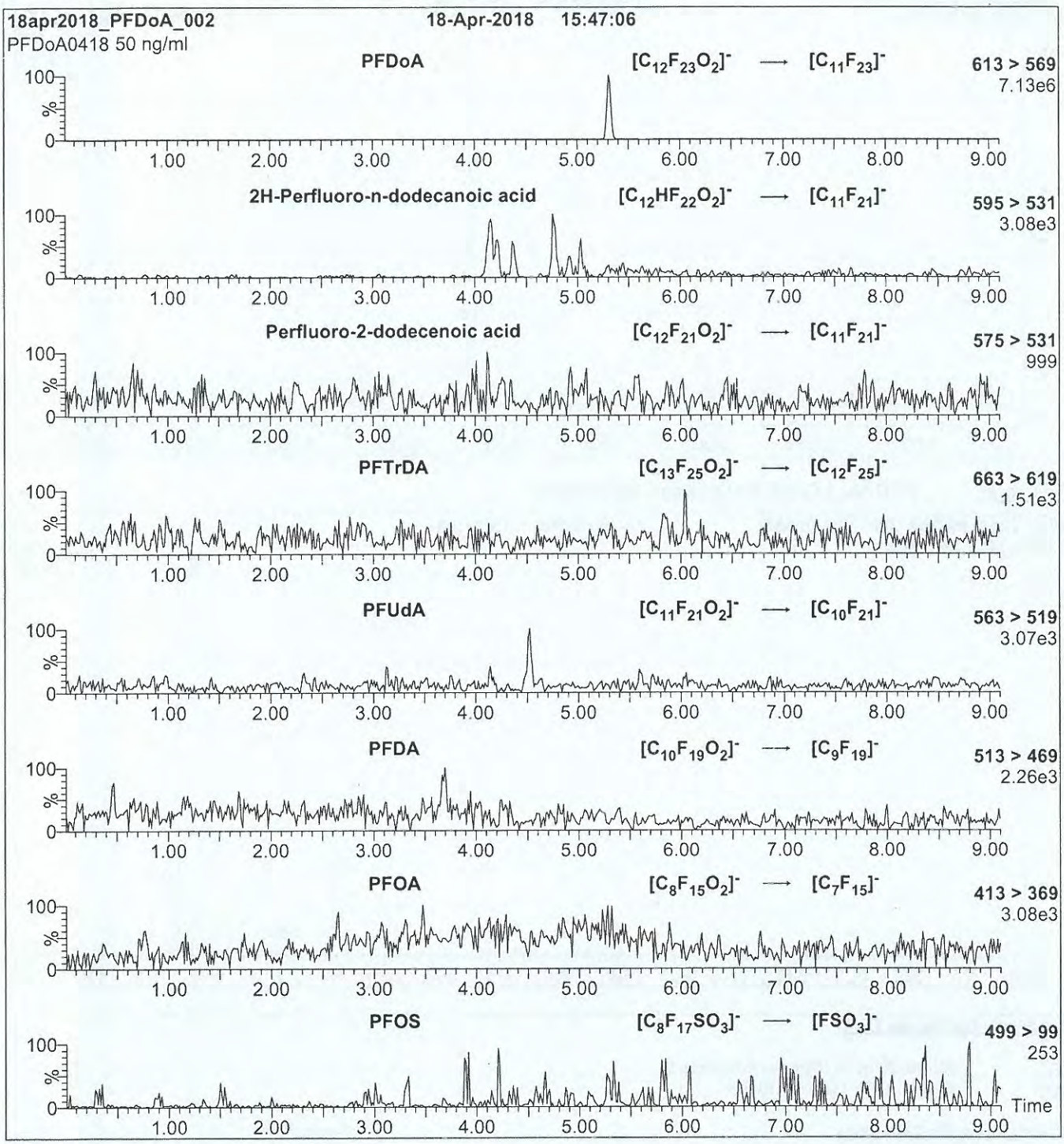
Flow: 300 µl/min

MS Parameters

Experiments: SIR of 10 channels
Full Scan (250 - 850 amu)
Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5 (variable for SIR (2-12))
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812034

Figure 3: **PFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (PFDoA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.47e-3

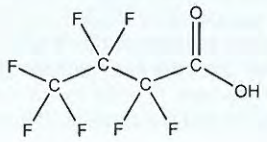
Collision Energy (eV) = 12

1812035

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFBA	**LOT NUMBER:**	PFBA1118
COMPOUND:	Perfluoro-n-butanoic acid		
STRUCTURE:		**CAS #:**	375-22-4



MOLECULAR FORMULA:	$C_4HF_7O_2$	**MOLECULAR WEIGHT:**	214.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/28/2018		
EXPIRY DATE: (mm/dd/yyyy)	11/28/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/29/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1802035

INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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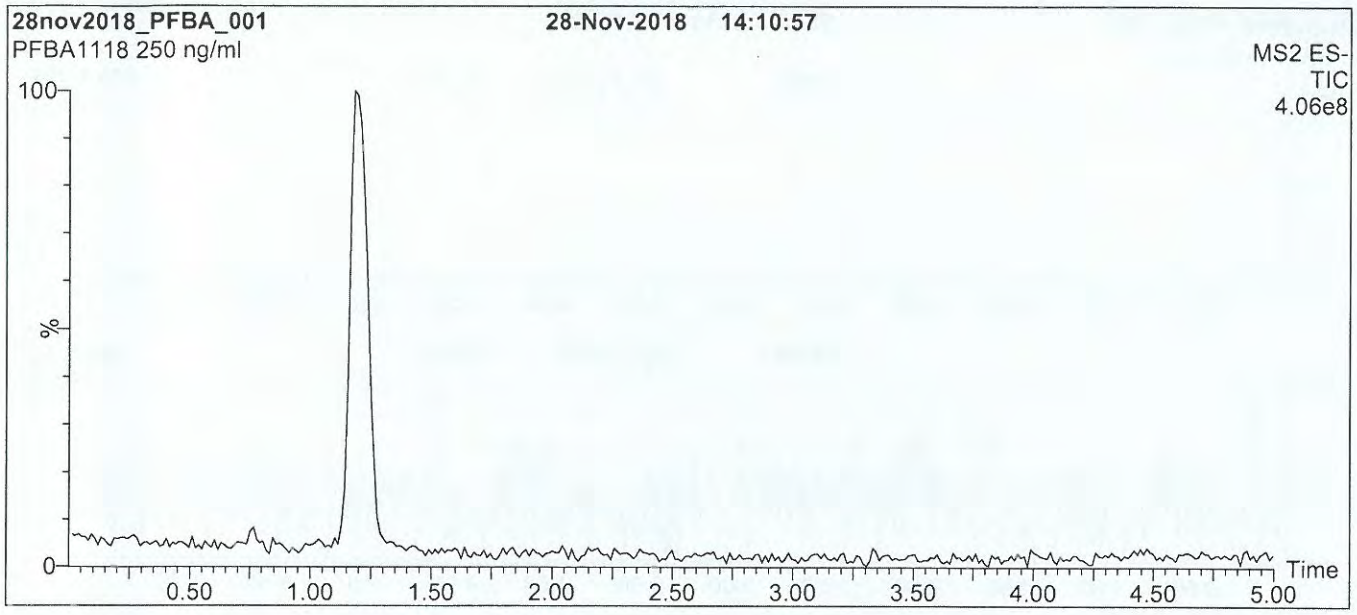
CALA Testing Accreditation No. A 1226

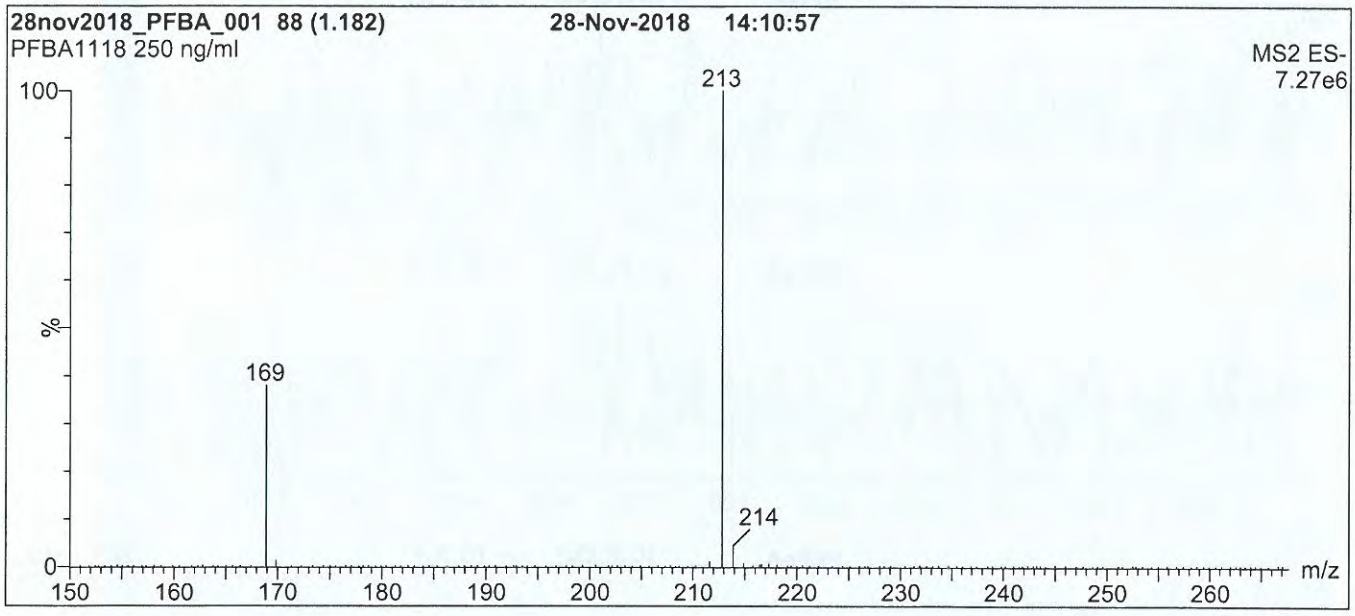
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812035

Figure 1: **PFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

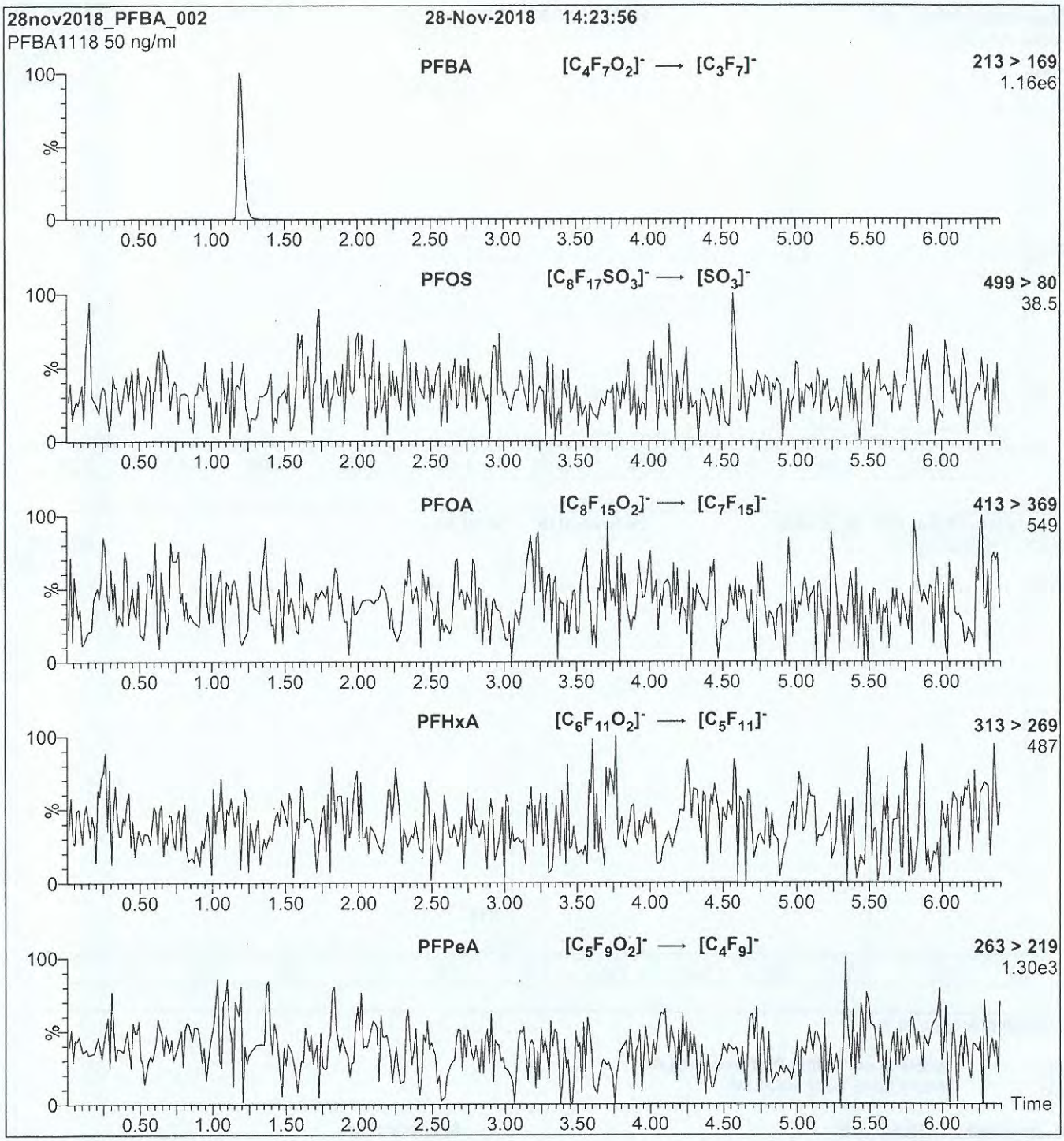
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812035

Figure 2: **PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFBA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.79e-3
Collision Energy (eV) = 8

1812036

WELLINGTON LABORATORIES

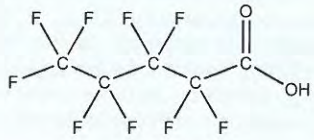
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFPeA
COMPOUND: Perfluoro-n-pentanoic acid

LOT NUMBER: PFPeA0218

STRUCTURE:

CAS #: 2706-90-3



MOLECULAR FORMULA: $C_5HF_9O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 264.05
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/16/2018
EXPIRY DATE: (mm/dd/yyyy) 02/16/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of Perfluoro-n-heptanoic acid (PFHpA) and ~ 0.2% of $C_5H_2F_8O_2$ (hydrido - derivative) as measured by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812036

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

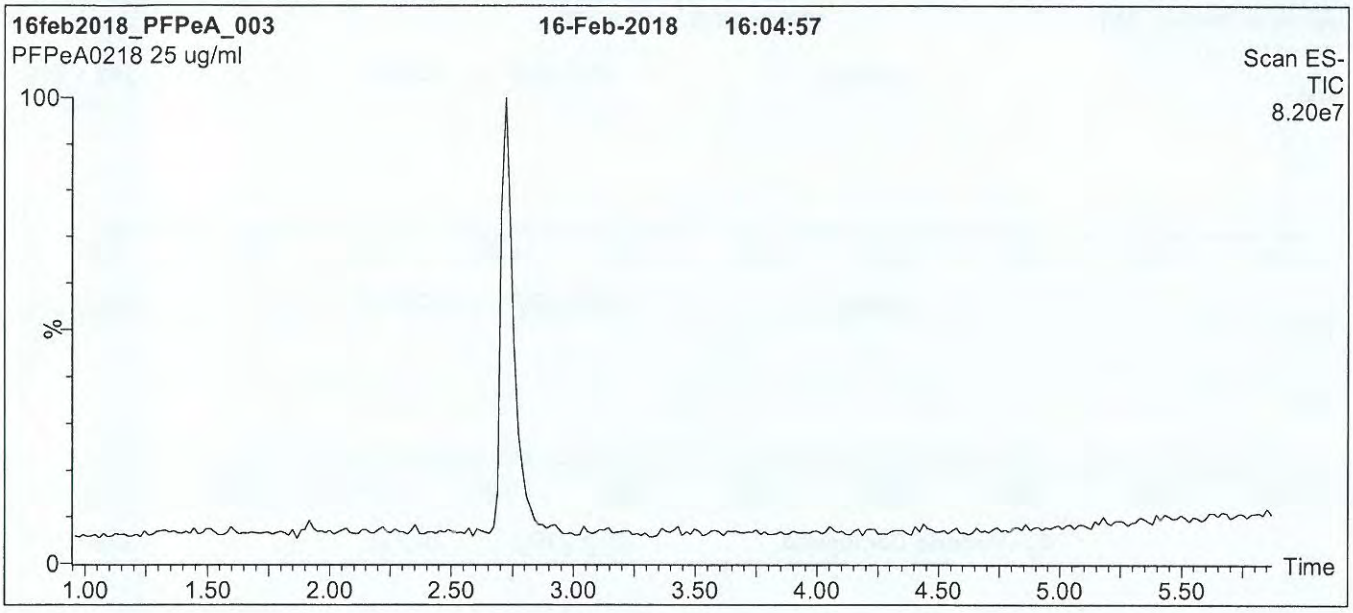
CALA Testing Accreditation No. A 1226

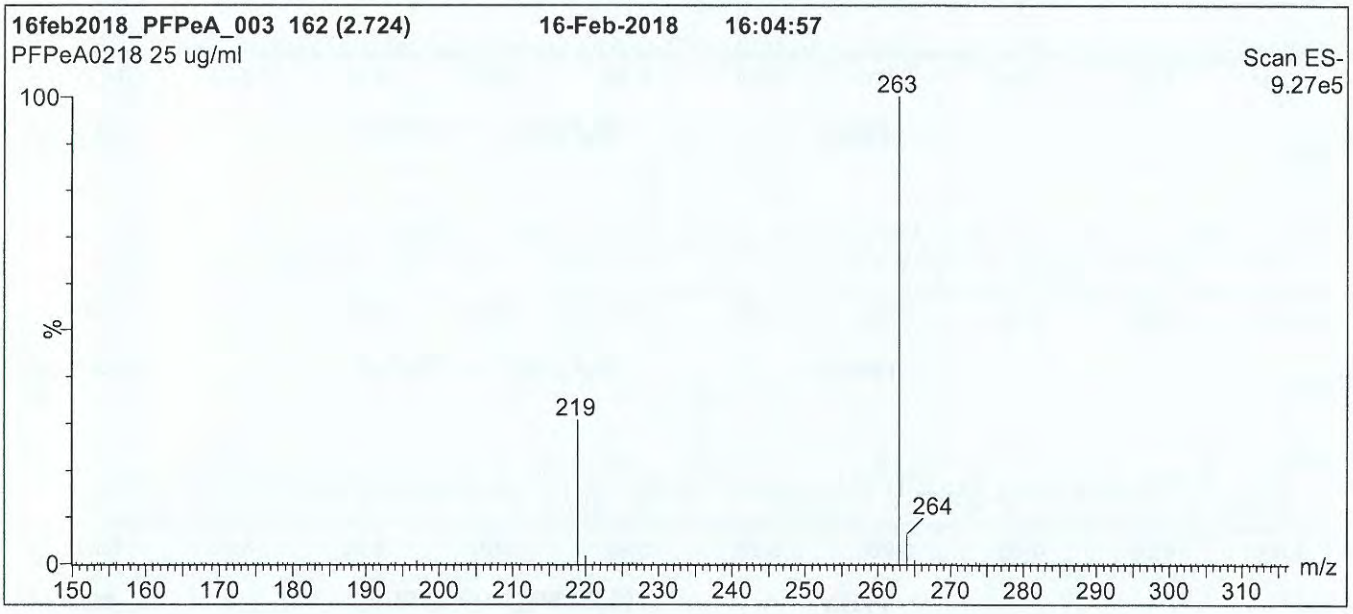
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2036

Figure 1: **PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

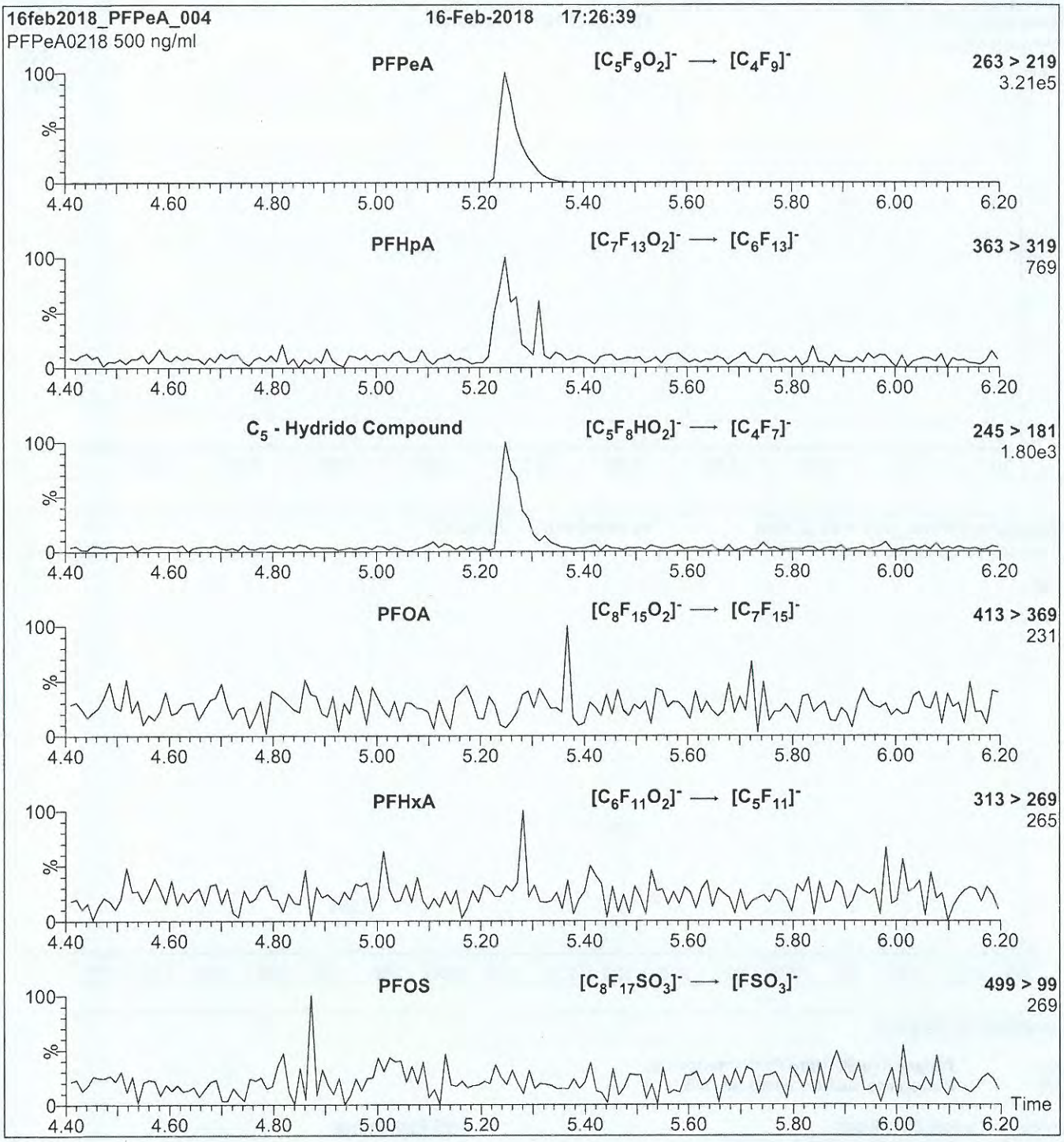
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

1812036

Figure 2: **PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFPeA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

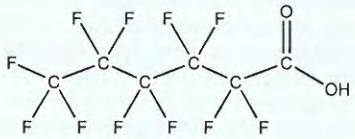
Collision Gas (mbar) = 3.28e-3
Collision Energy (eV) = 9

18L2037

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFHxA	**LOT NUMBER:**	PFHxA0518
COMPOUND:	Perfluoro-n-hexanoic acid		
STRUCTURE:		**CAS #:**	307-24-4



MOLECULAR FORMULA:	$C_6HF_{11}O_2$	**MOLECULAR WEIGHT:**	314.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/18/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/18/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 1.0% of branched isomers.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/30/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812037

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HOMOGENEITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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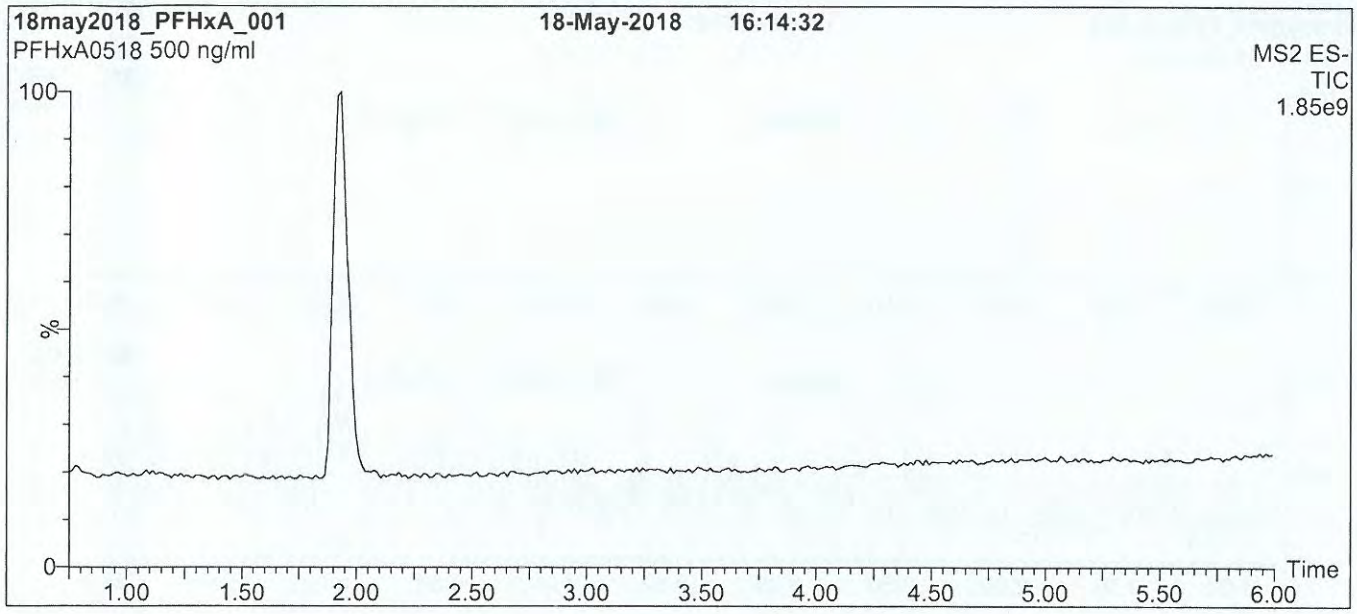
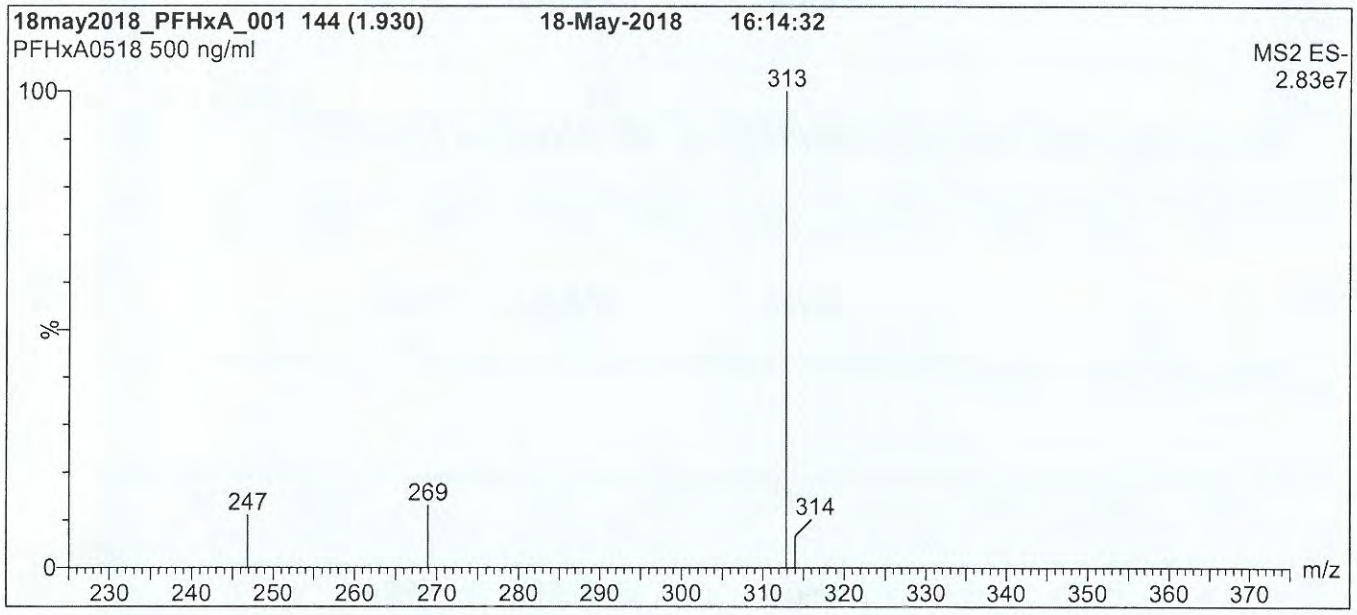
1812037

Figure 1: **PFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

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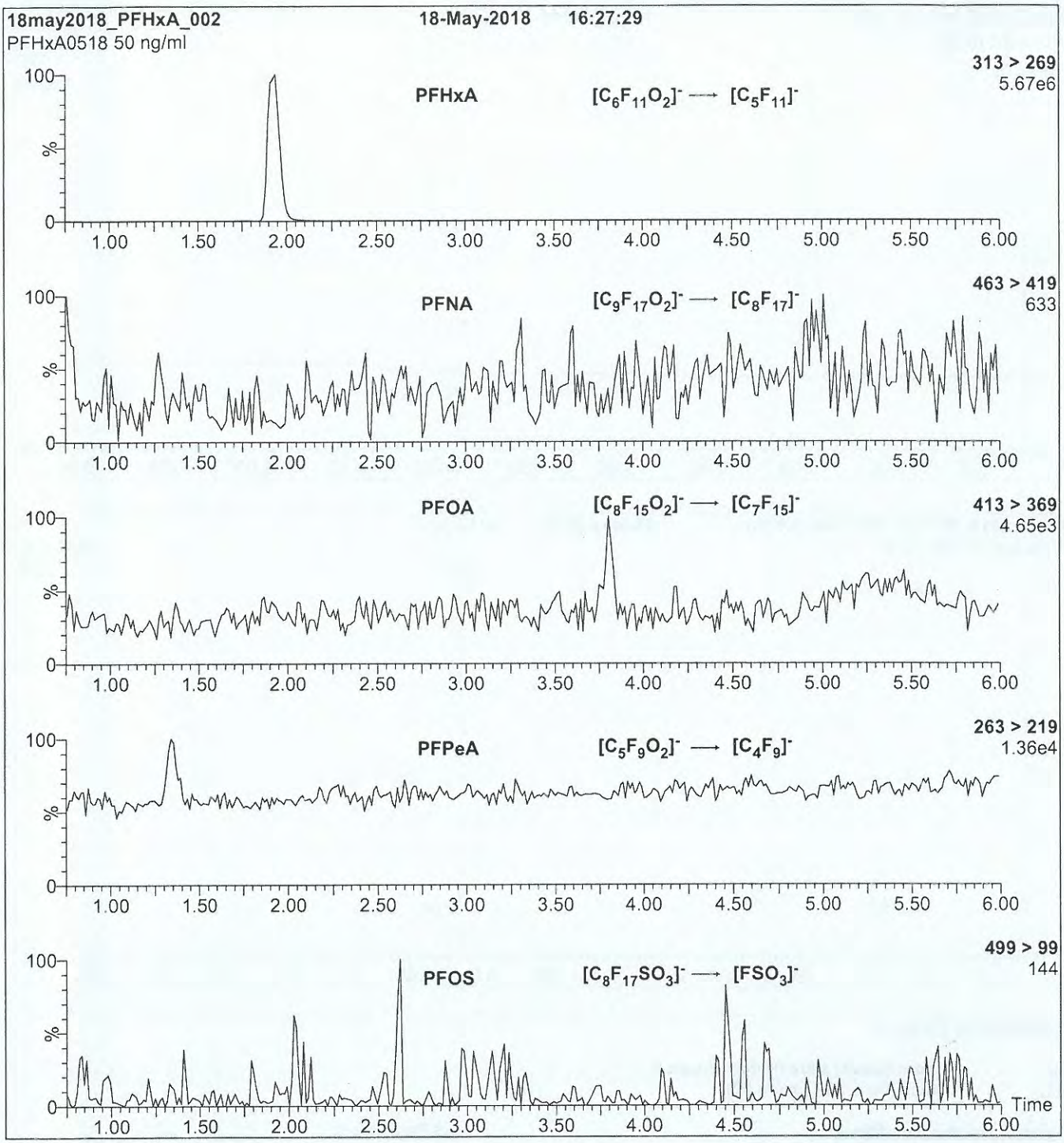
Figure 2: **PFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHxA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.50e-3
Collision Energy (eV) = 8

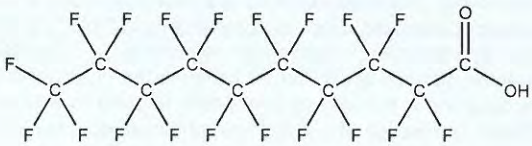
1812038

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDA
LOT NUMBER: PFDA1118
COMPOUND: Perfluoro-n-decanoic acid

STRUCTURE:
CAS #: 335-76-2



MOLECULAR FORMULA: $C_{10}HF_{19}O_2$
MOLECULAR WEIGHT: 514.08
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/12/2018
EXPIRY DATE: (mm/dd/yyyy) 11/12/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-nonanoic acid (PFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/15/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2038

INTENDED USE:

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The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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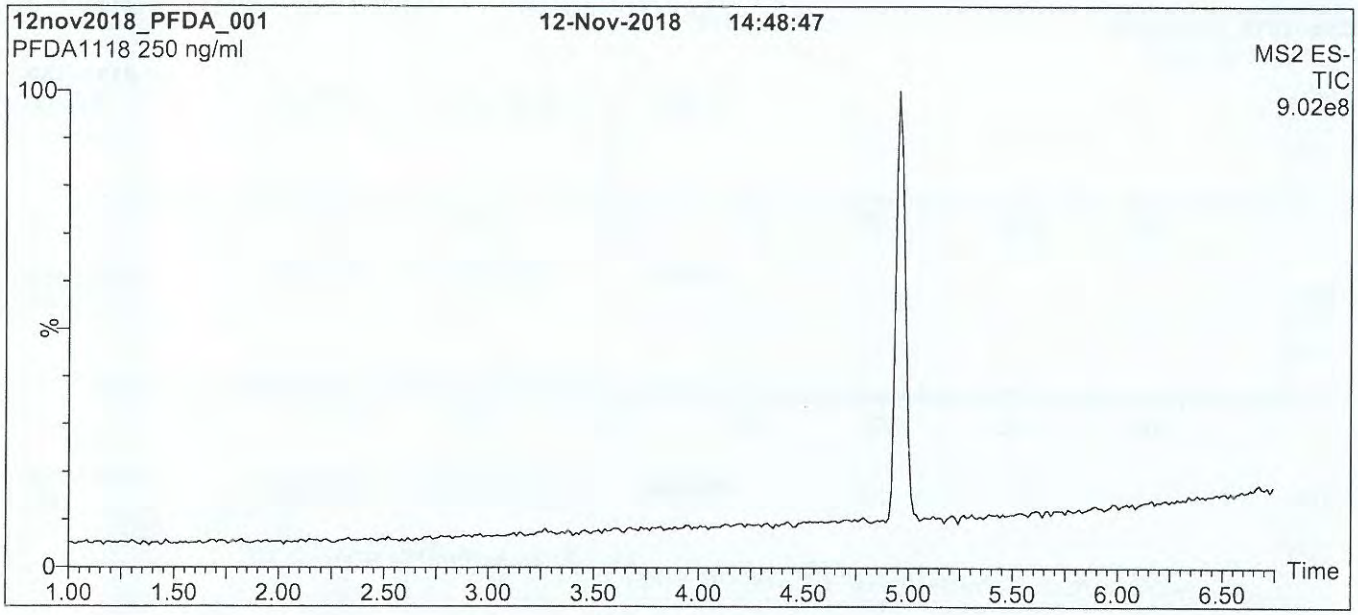
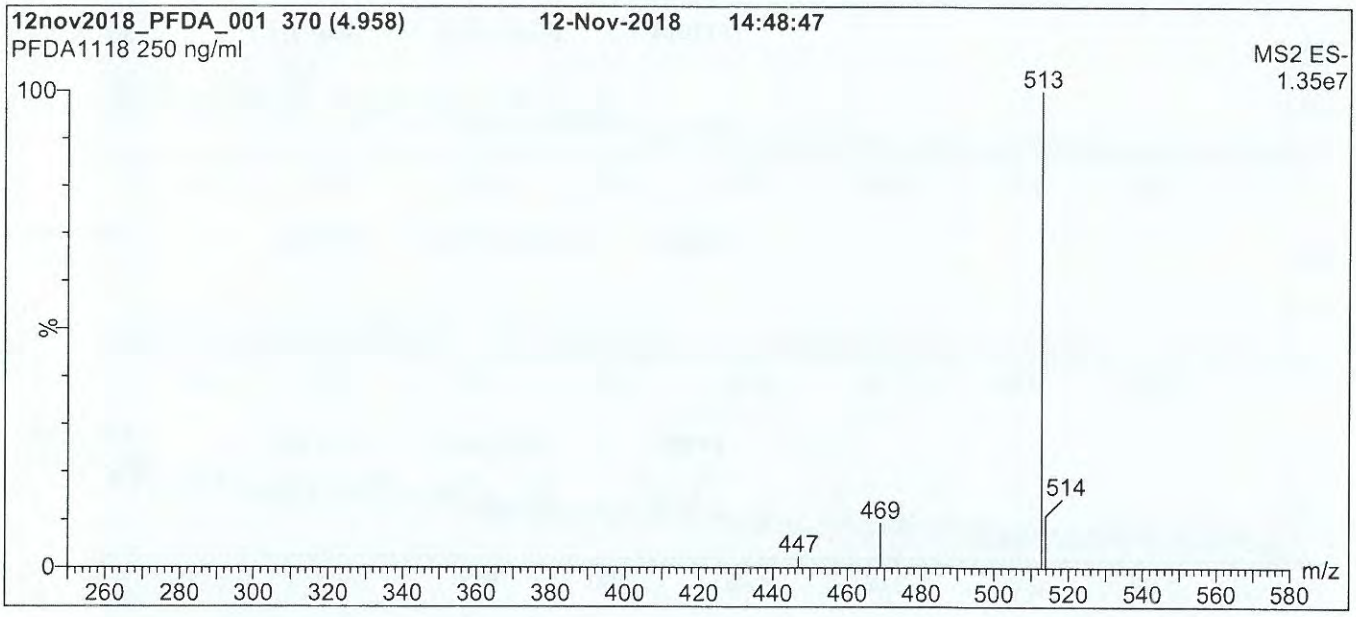
1812038

Figure 1: **PFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

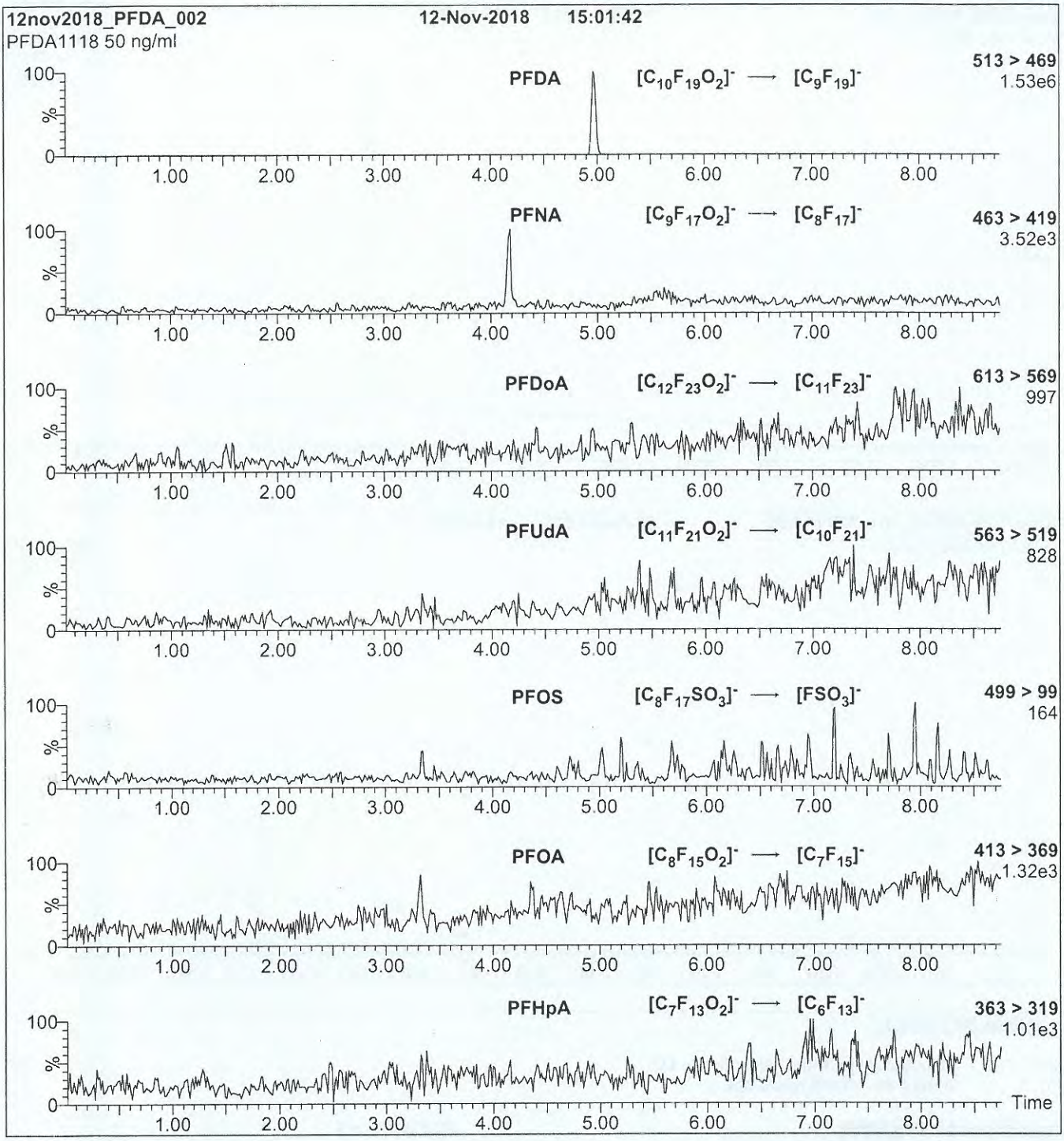
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812038

Figure 2: **PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFDA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.04e-3
Collision Energy (eV) = 10

1812039

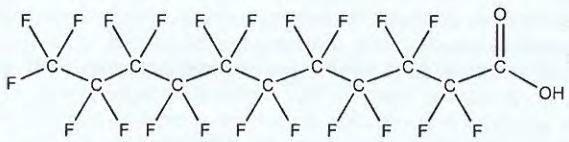
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFUdA
COMPOUND: Perfluoro-n-undecanoic acid
LOT NUMBER: PFUdA0818

STRUCTURE:

CAS #: 2058-94-8



MOLECULAR FORMULA: $C_{11}HF_{21}O_2$
MOLECULAR WEIGHT: 564.09
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/23/2018
EXPIRY DATE: (mm/dd/yyyy) 08/23/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/24/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812039

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TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

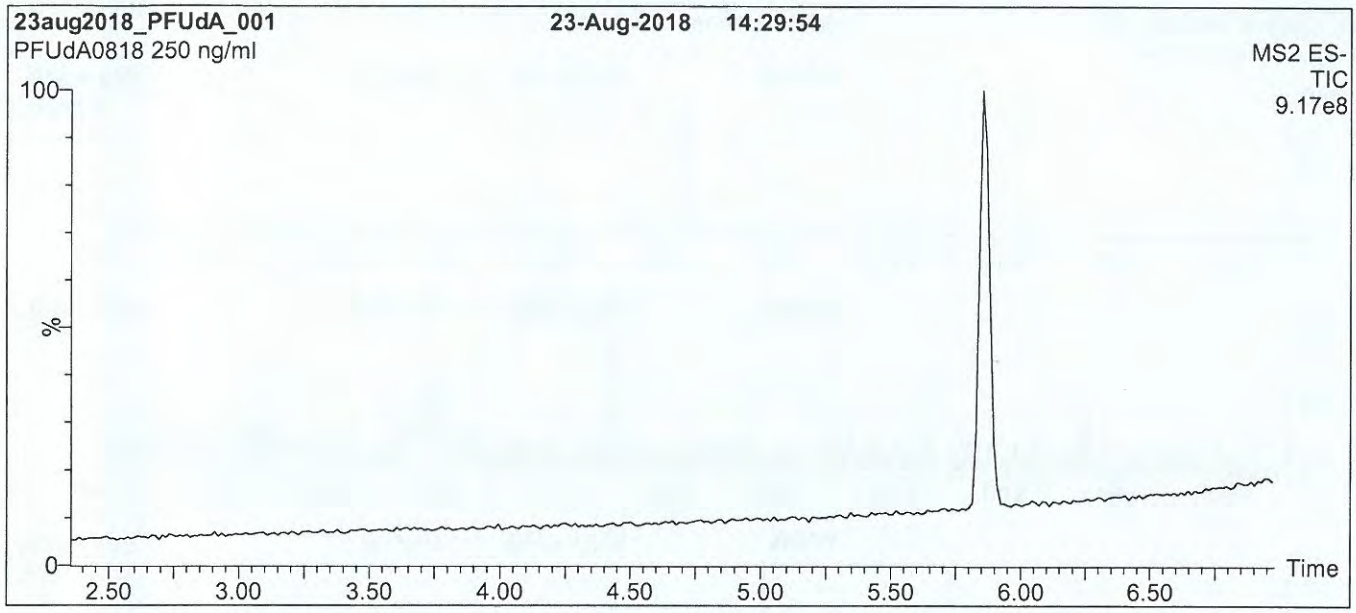
CALA Testing Accreditation No. A 1226

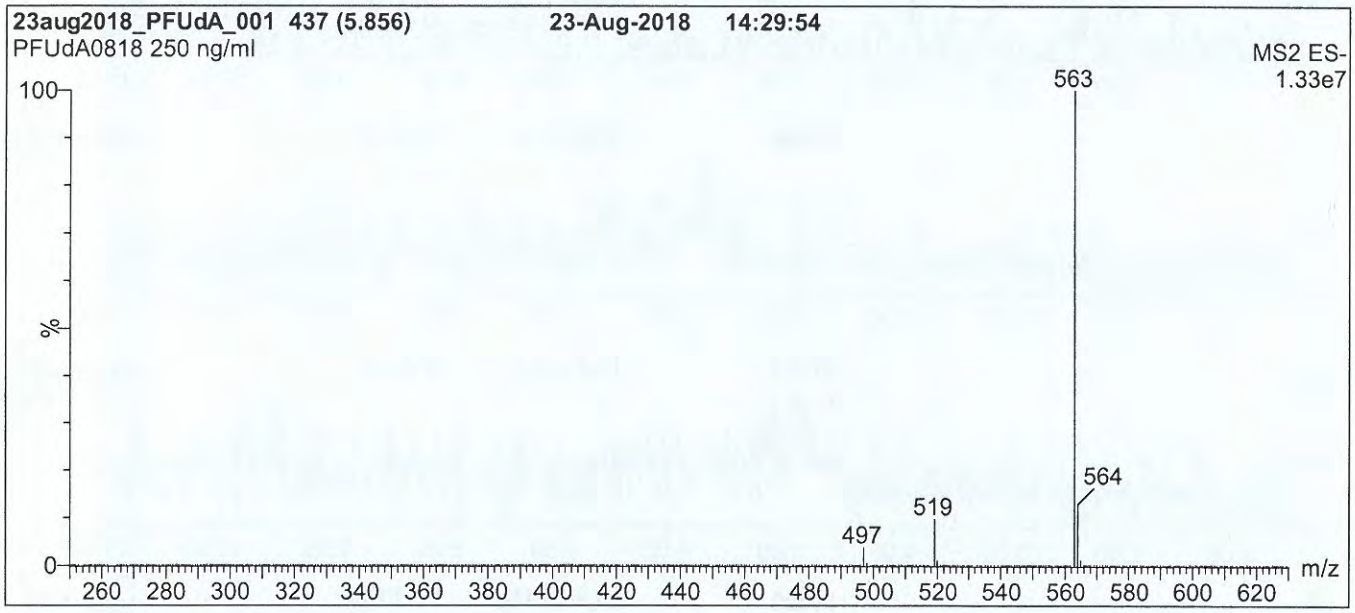
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2039

Figure 1: **PFUdA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

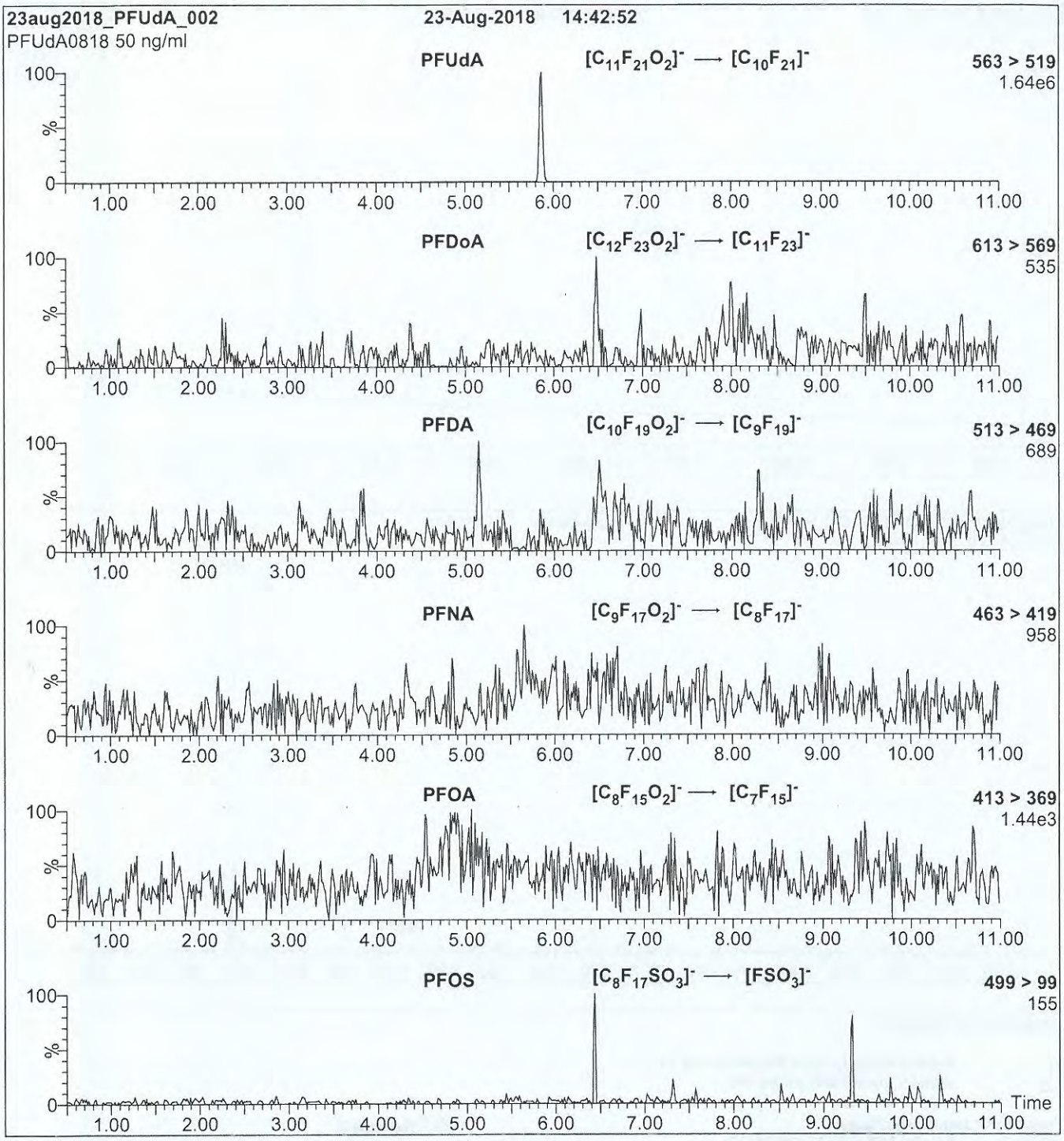
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812039

Figure 2: **PFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFUdA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

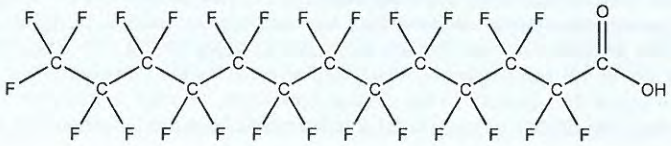
Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 12

18L2040

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFTrDA	**LOT NUMBER:**	PFTrDA0218
COMPOUND:	Perfluoro-n-tridecanoic acid		
STRUCTURE:		**CAS #:**	72629-94-8



MOLECULAR FORMULA:	$C_{13}HF_{25}O_2$	**MOLECULAR WEIGHT:**	664.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of PFUdA ($C_{11}HF_{21}O_2$), ~ 0.4% of PFDoA ($C_{12}HF_{23}O_2$), and ~ 0.1% of PFTeDA ($C_{14}HF_{27}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812040

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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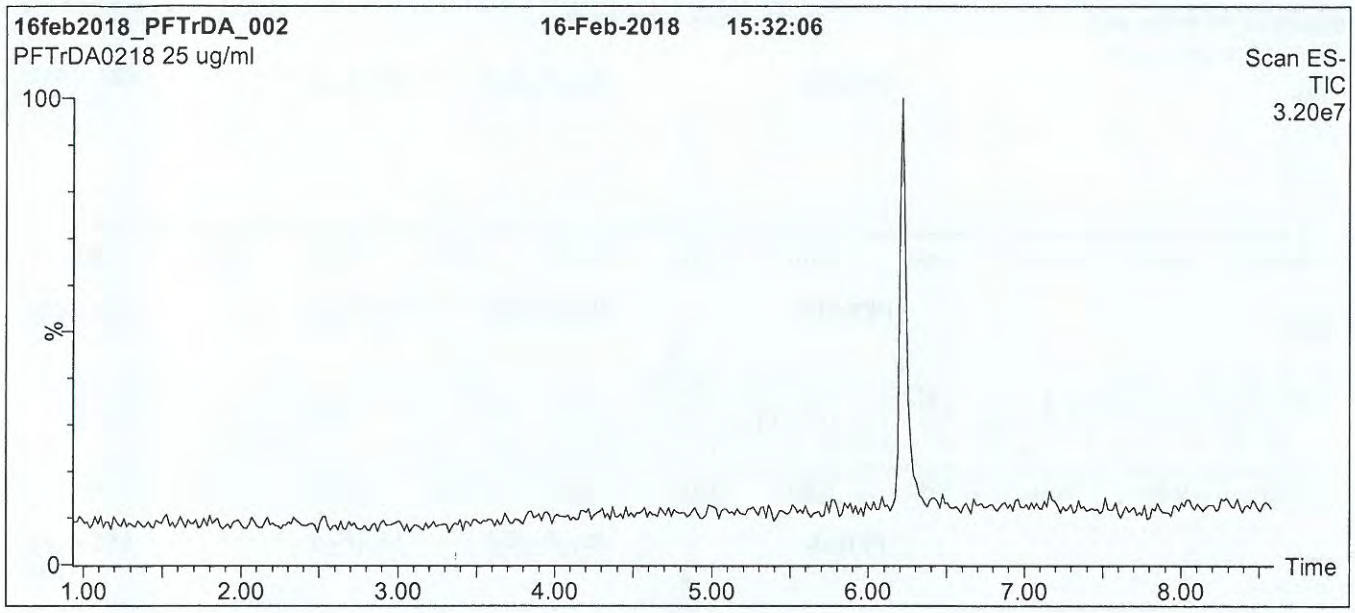
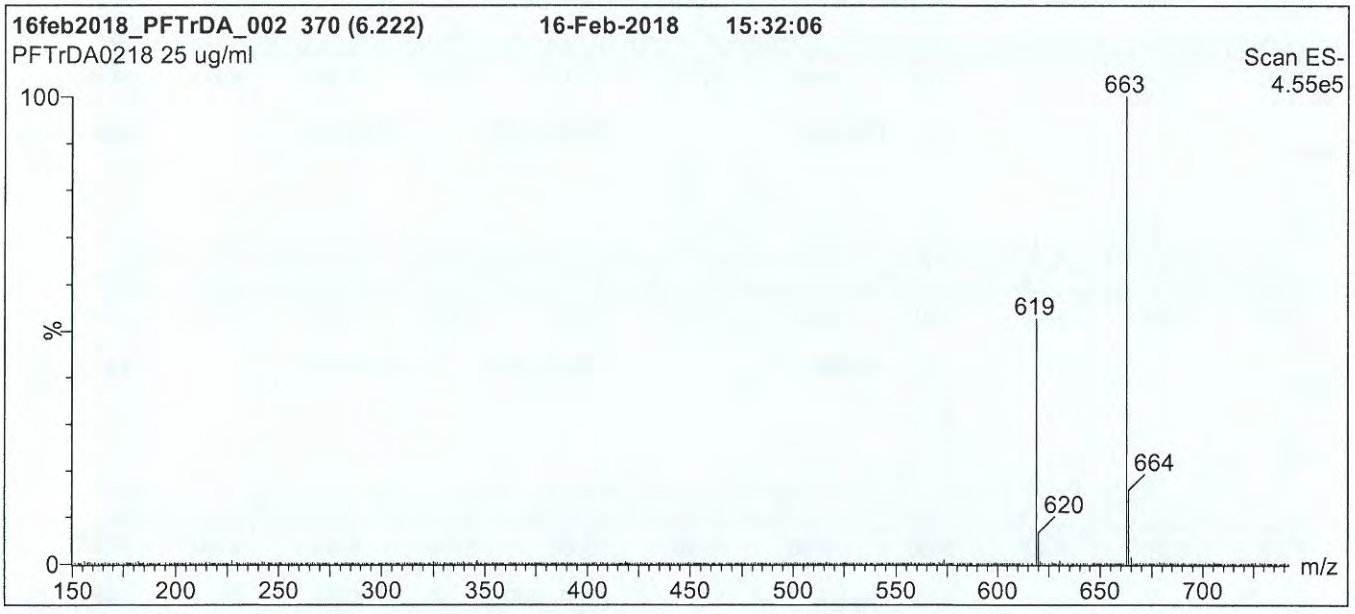
18L2040

Figure 1: **PFTrDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

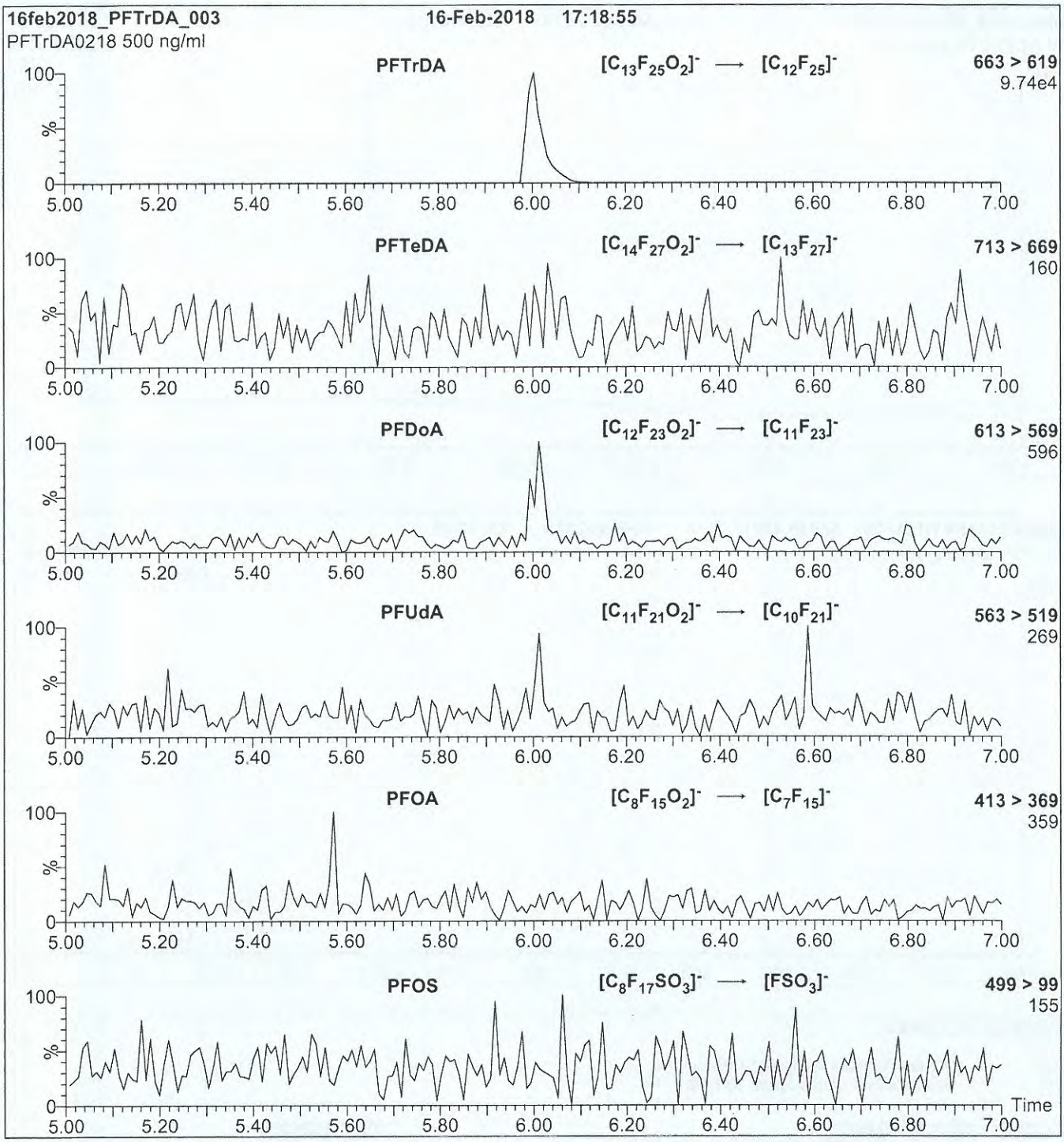
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 22.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 650

1862040

Figure 2: **PFTrDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFTrDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

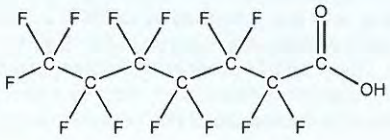
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 15

1812041

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFHpA	**LOT NUMBER:**	PFHpA0718
COMPOUND:	Perfluoro-n-heptanoic acid		
STRUCTURE:		**CAS #:**	375-85-9



MOLECULAR FORMULA:	$C_7HF_{13}O_2$	**MOLECULAR WEIGHT:**	364.06
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/12/2018		
EXPIRY DATE: (mm/dd/yyyy)	07/12/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/18/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812041

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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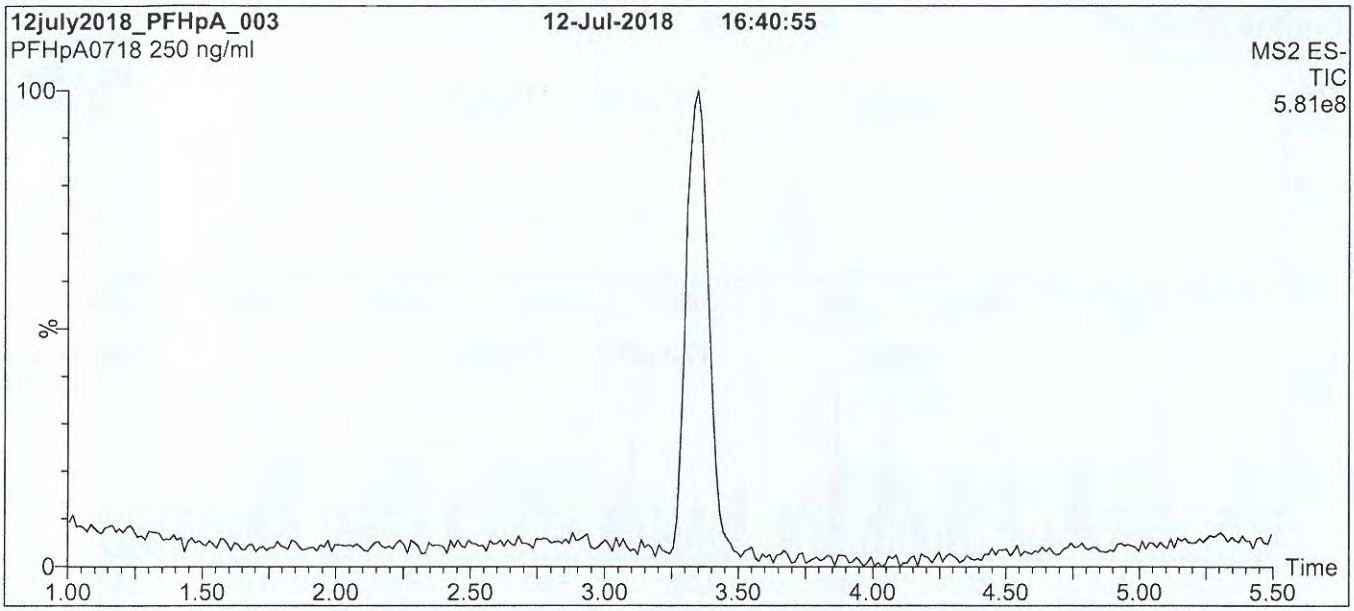
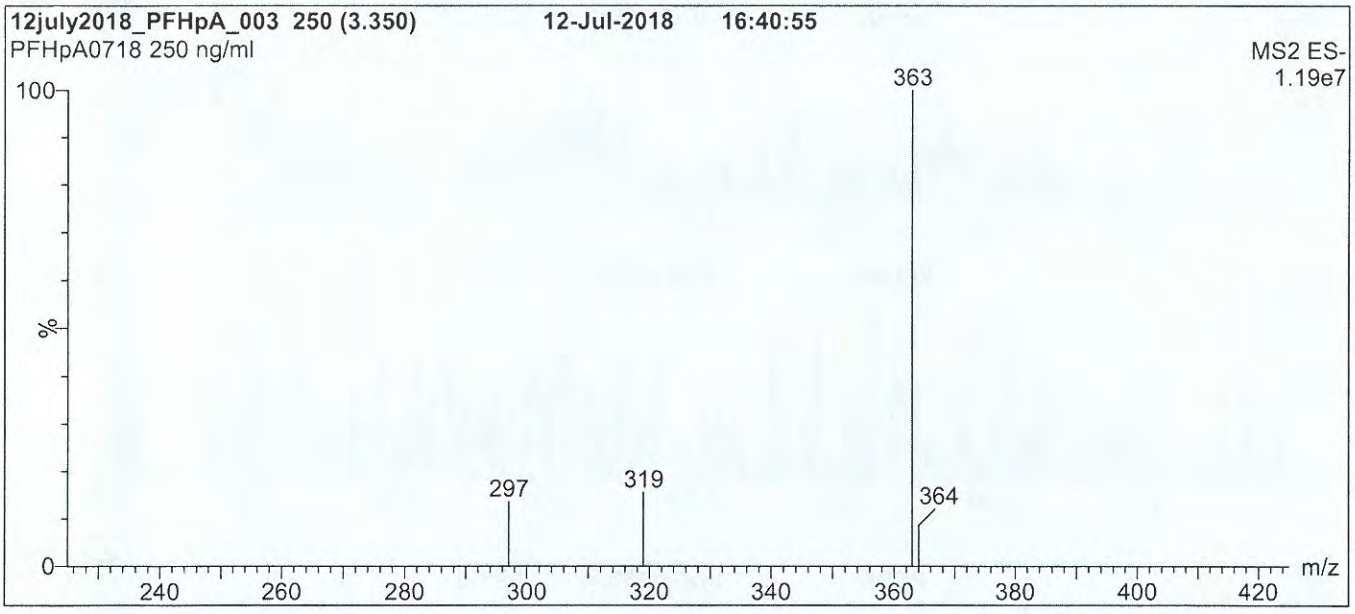
18L2041

Figure 1: **PFHpA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

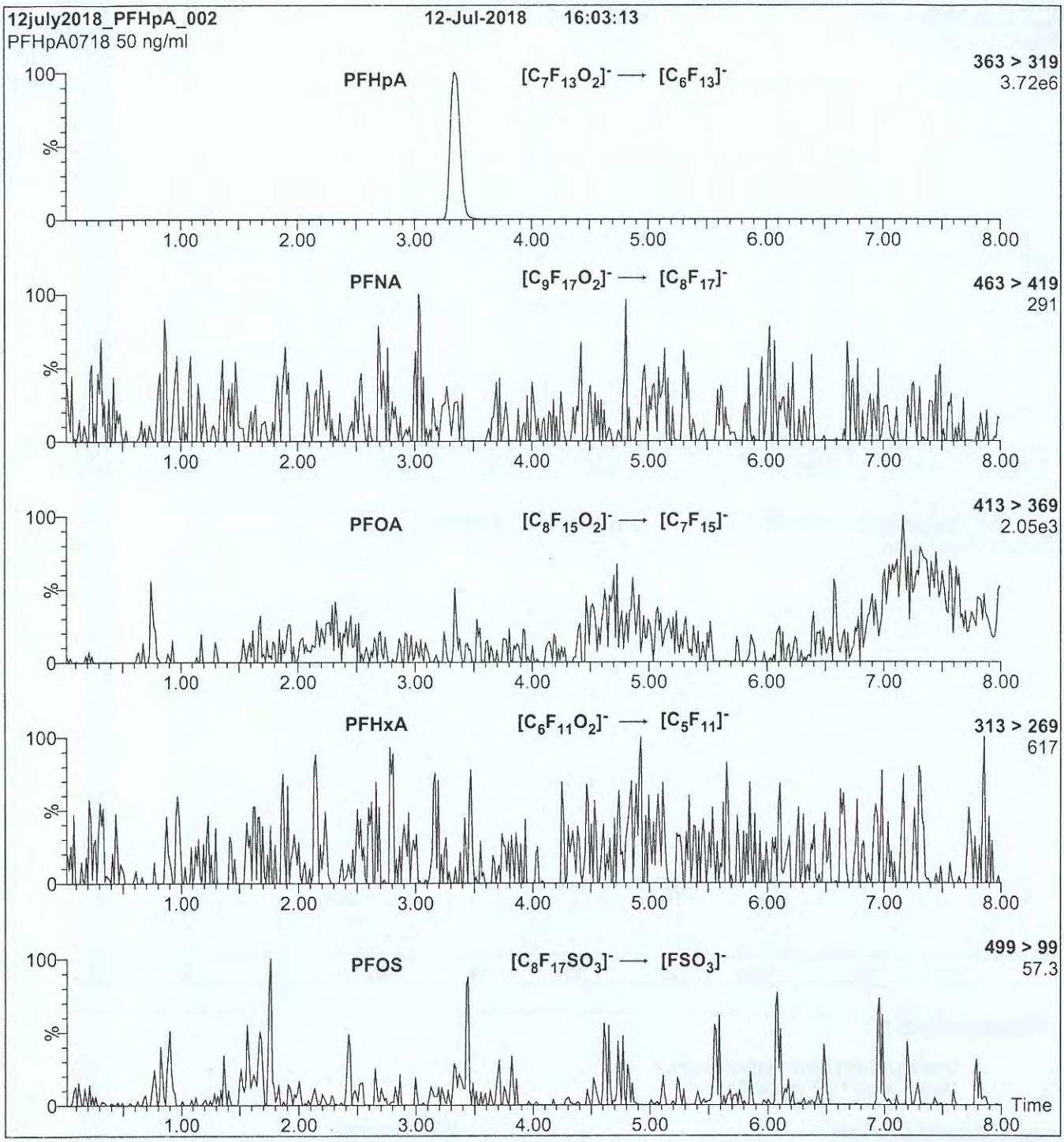
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2041

Figure 2: **PFHpA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHpA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

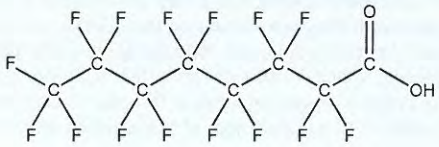
Collision Gas (mbar) = 3.47e-3
Collision Energy (eV) = 8

18L2042

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFOA	**LOT NUMBER:**	PFOA0818
COMPOUND:	Perfluoro-n-octanoic acid		
STRUCTURE:		**CAS #:**	335-67-1



MOLECULAR FORMULA:	$C_8HF_{15}O_2$	**MOLECULAR WEIGHT:**	414.07
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/23/2018		
EXPIRY DATE: (mm/dd/yyyy)	08/23/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/24/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812042

INTENDED USE:

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HANDLING:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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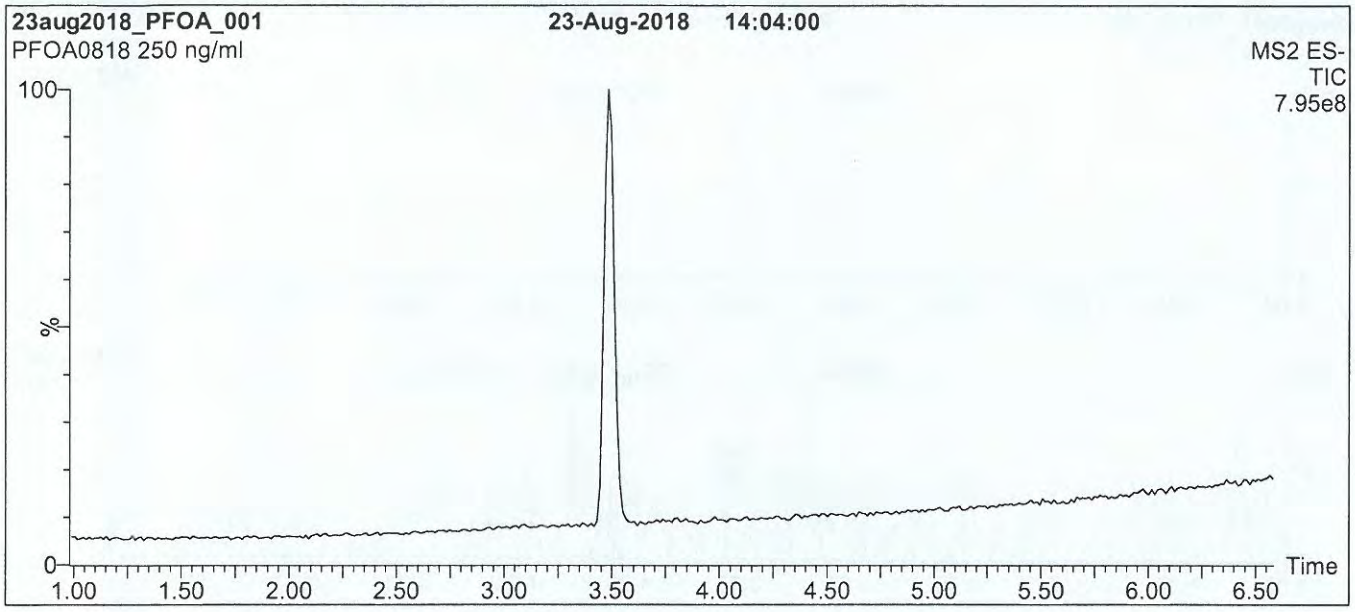
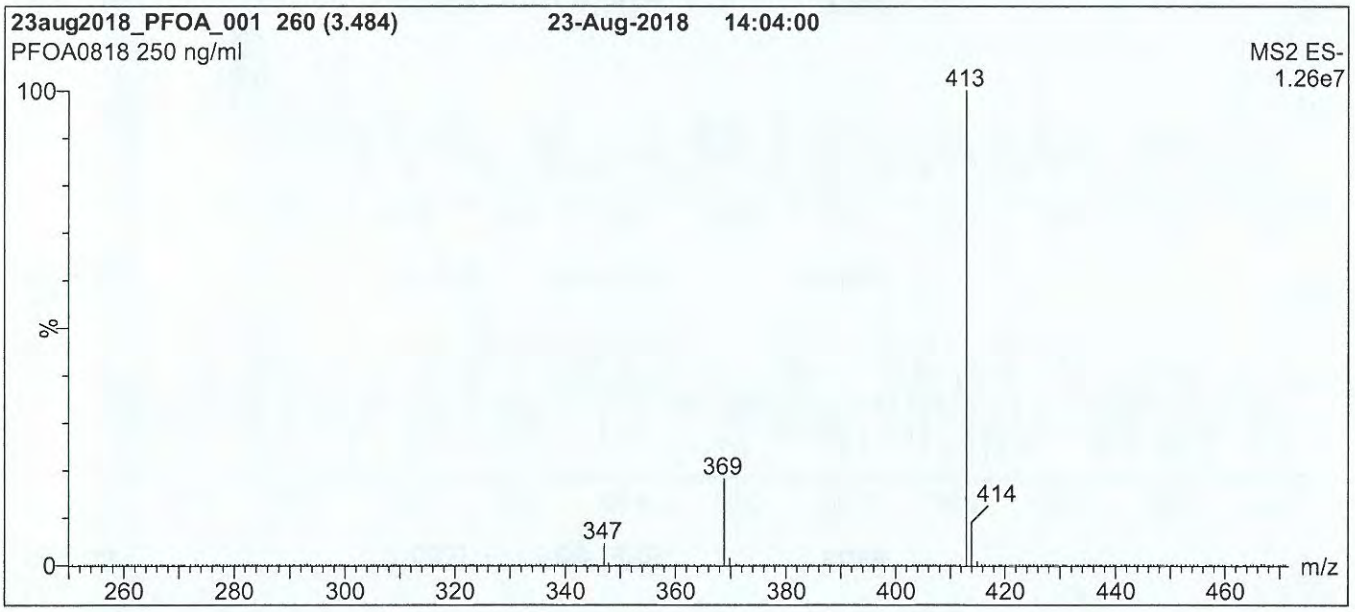
18L2042

Figure 1: **PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

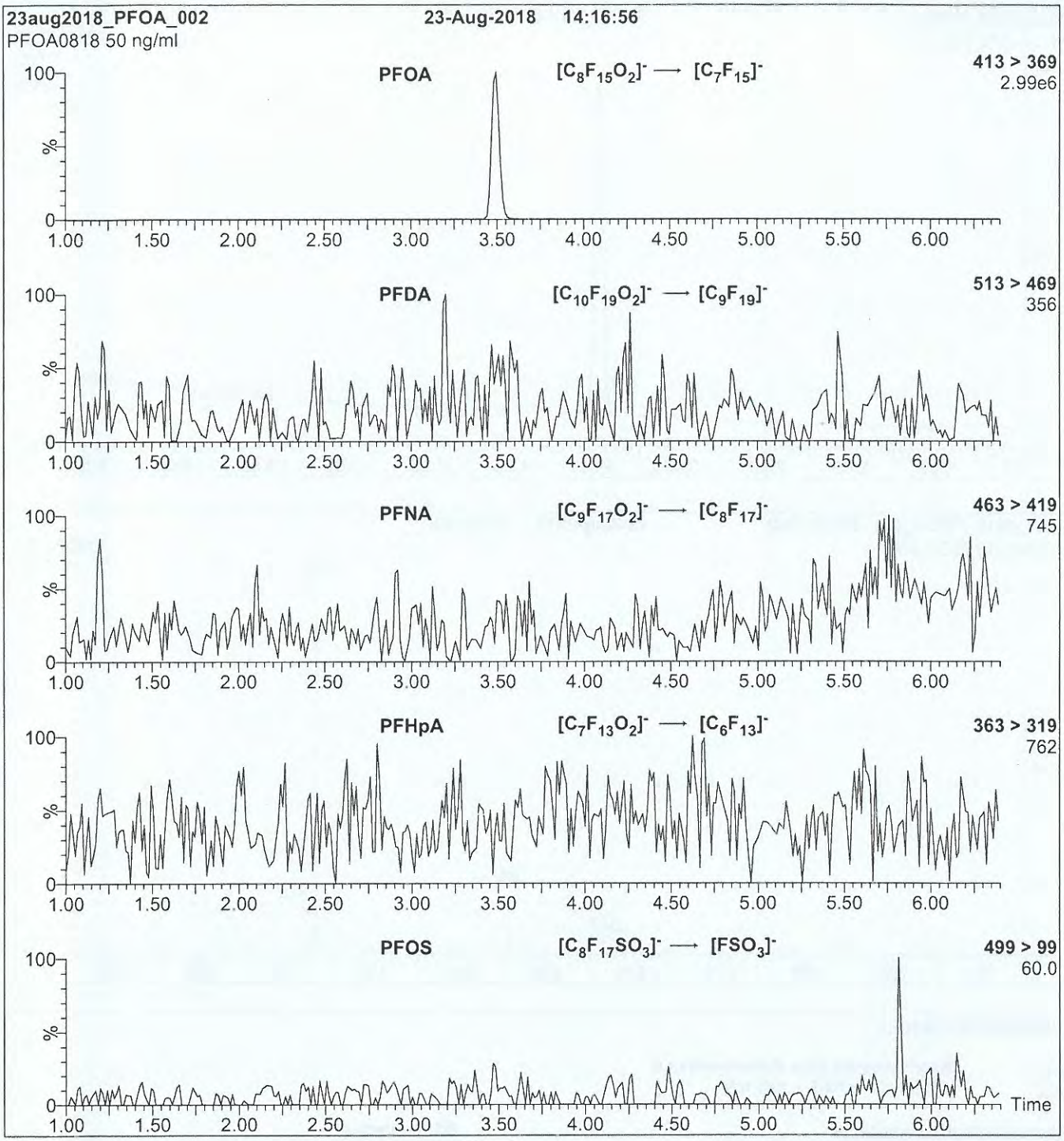
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812042

Figure 2: **PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFOA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 8

1812043

WELLINGTON LABORATORIES

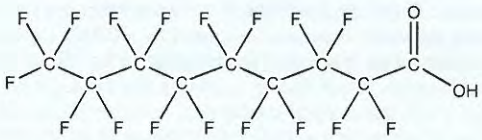
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFNA
COMPOUND: Perfluoro-n-nonanoic acid

LOT NUMBER: PFNA0218

STRUCTURE:

CAS #: 375-95-1



MOLECULAR FORMULA: $C_9HF_{17}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 464.08
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/16/2018
EXPIRY DATE: (mm/dd/yyyy) 02/16/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-octanoic acid (PFOA), < 0.1% of perfluoro-n-heptanoic acid (PFHpA), and < 0.1% of perfluoro-n-undecanoic acid (PFUdA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2043

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

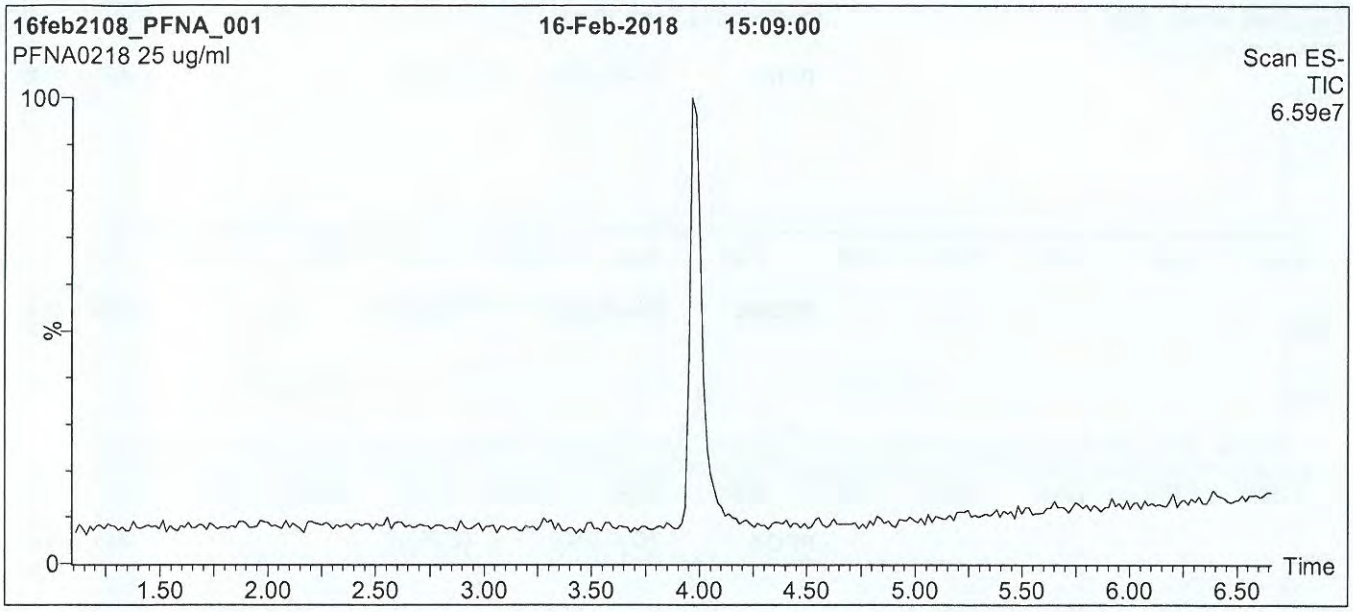
CALA Testing Accreditation No. A 1226

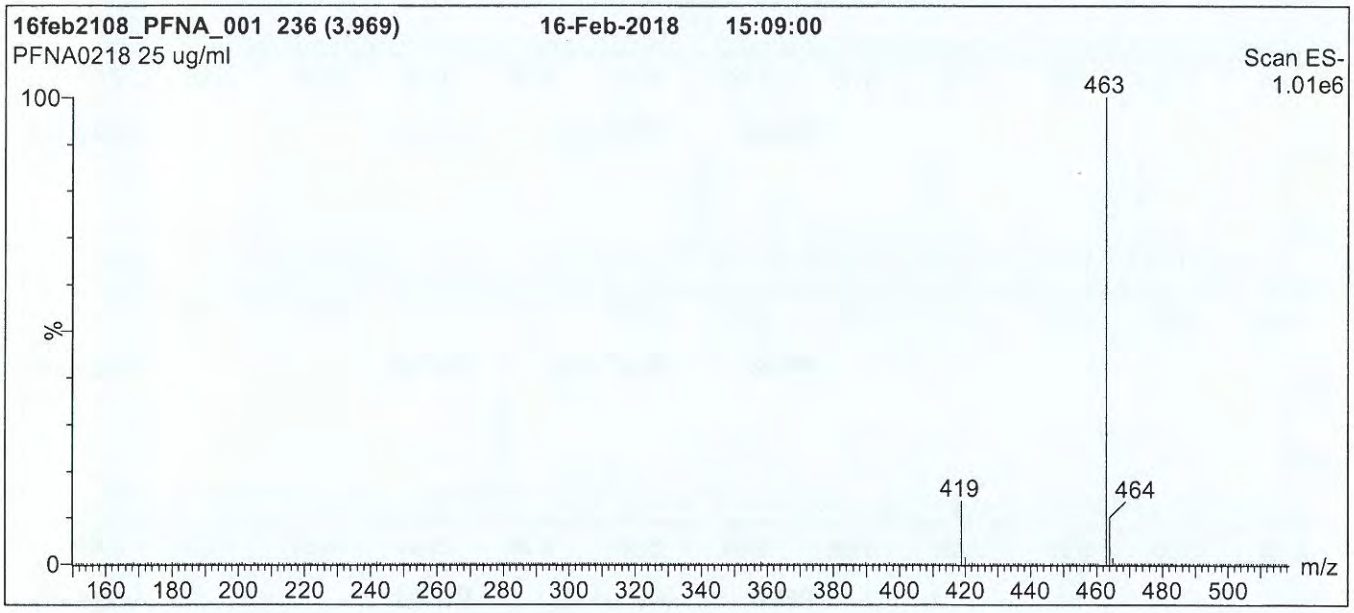
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2043

Figure 1: **PFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

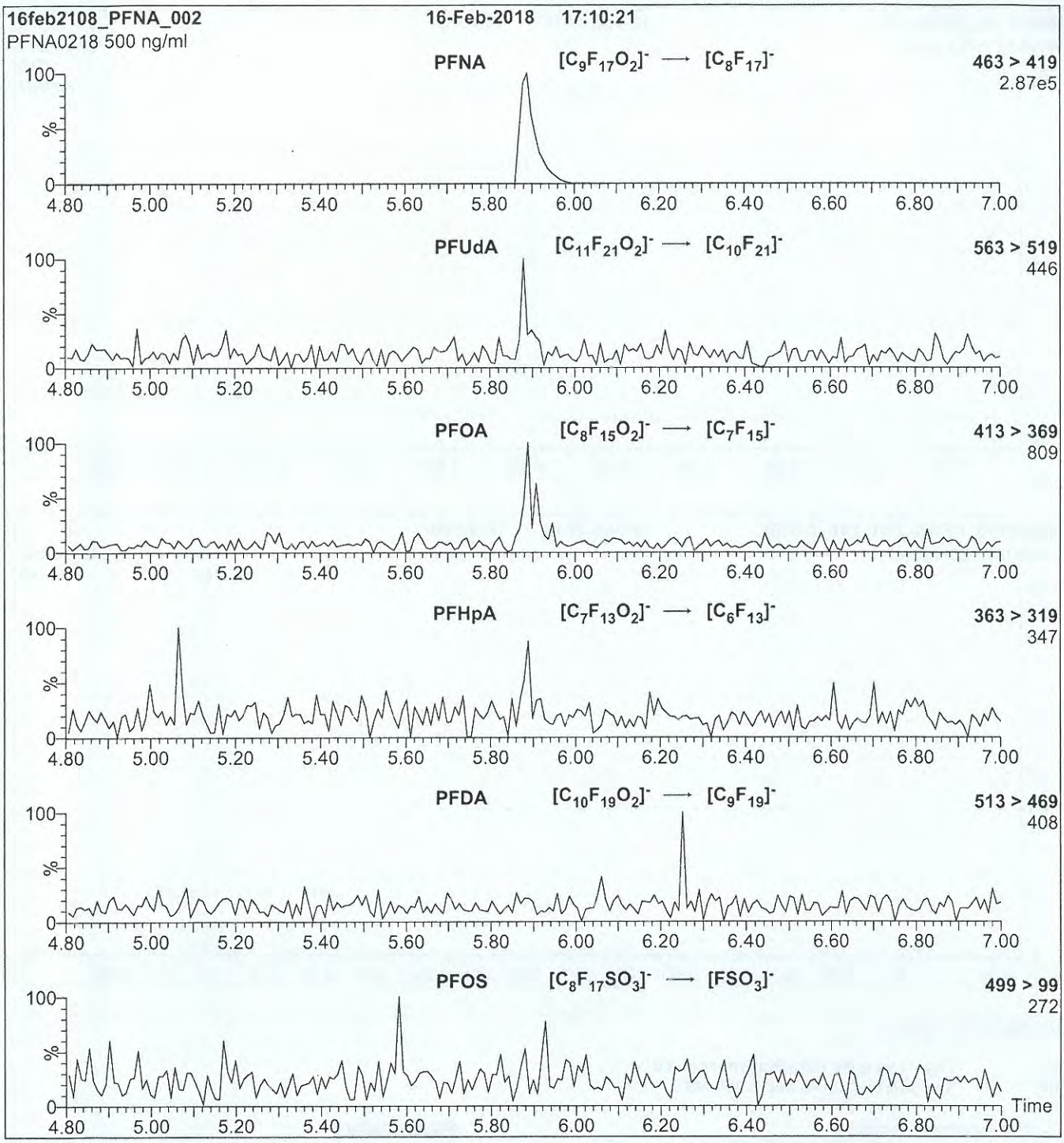
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

1812043

Figure 2: **PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.24e-3
Collision Energy (eV) = 11

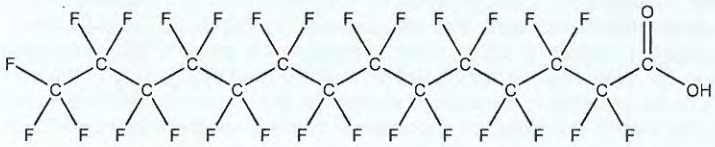
18L2044

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFTeDA
LOT NUMBER: PFTeDA0818
COMPOUND: Perfluoro-n-tetradecanoic acid

STRUCTURE:
CAS #: 376-06-7



MOLECULAR FORMULA: $C_{14}HF_{27}O_2$
MOLECULAR WEIGHT: 714.11
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/23/2018
EXPIRY DATE: (mm/dd/yyyy) 08/23/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of PFDoA ($C_{12}HF_{23}O_2$), ~ 0.1% of PFTrDA ($C_{13}HF_{25}O_2$), and ~ 0.1% of PFPeDA ($C_{15}HF_{29}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/05/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2044

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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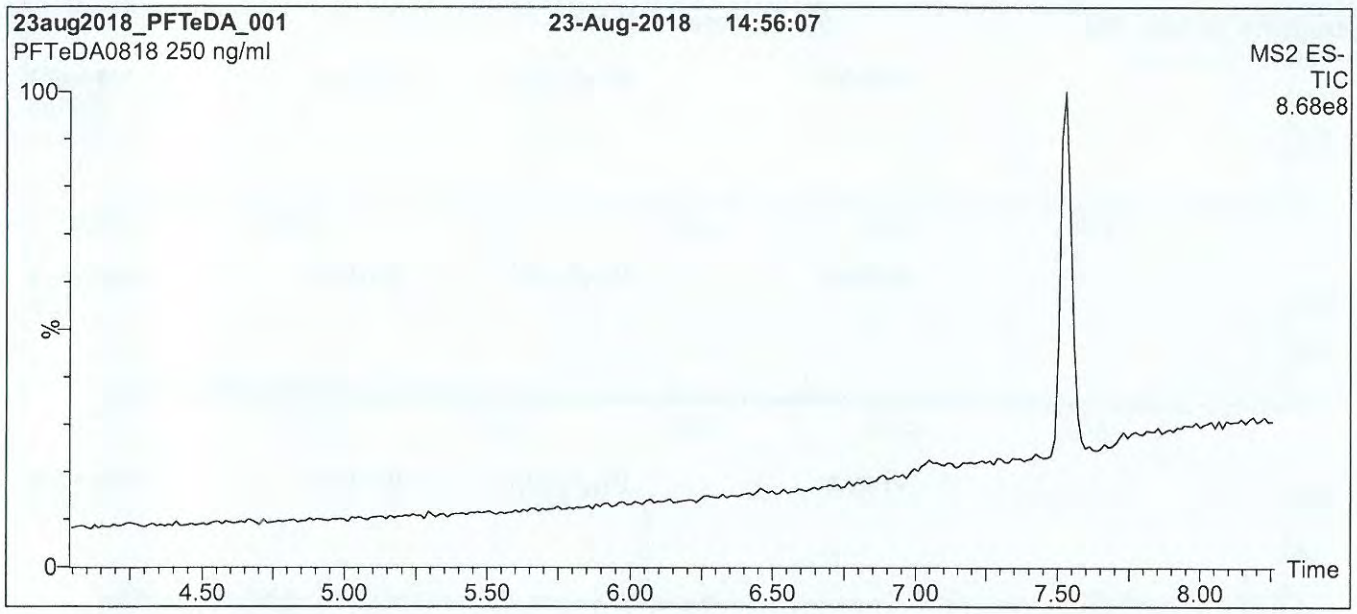
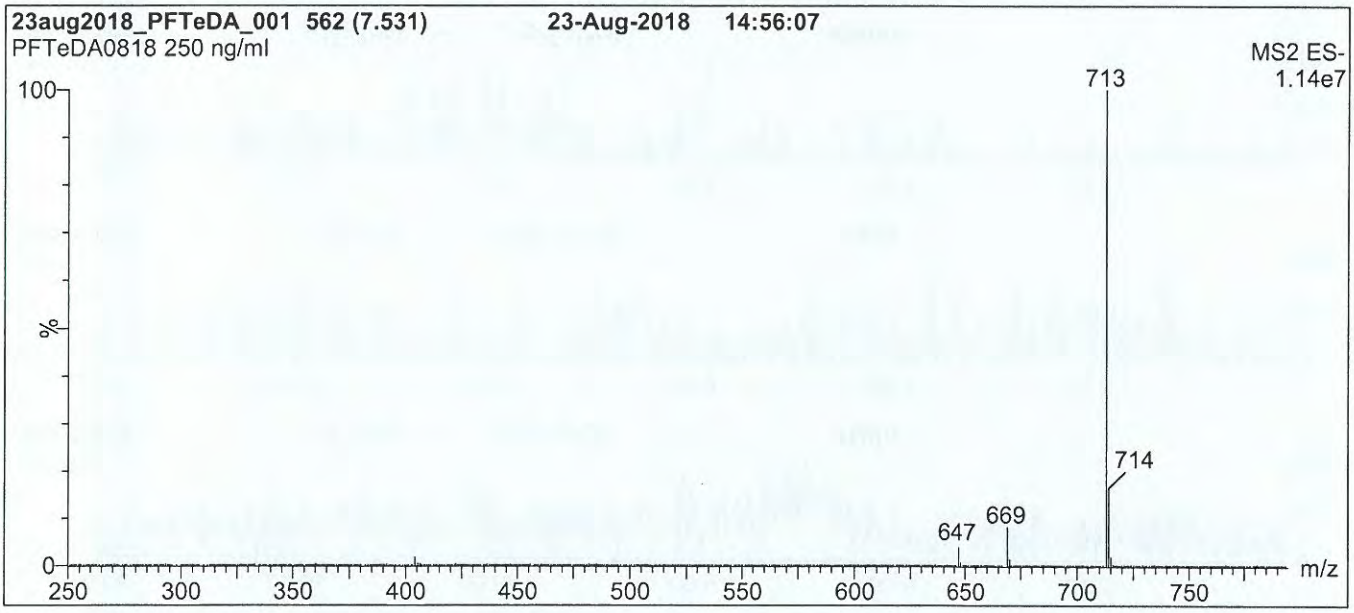
1812044

Figure 1: **PFTeDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

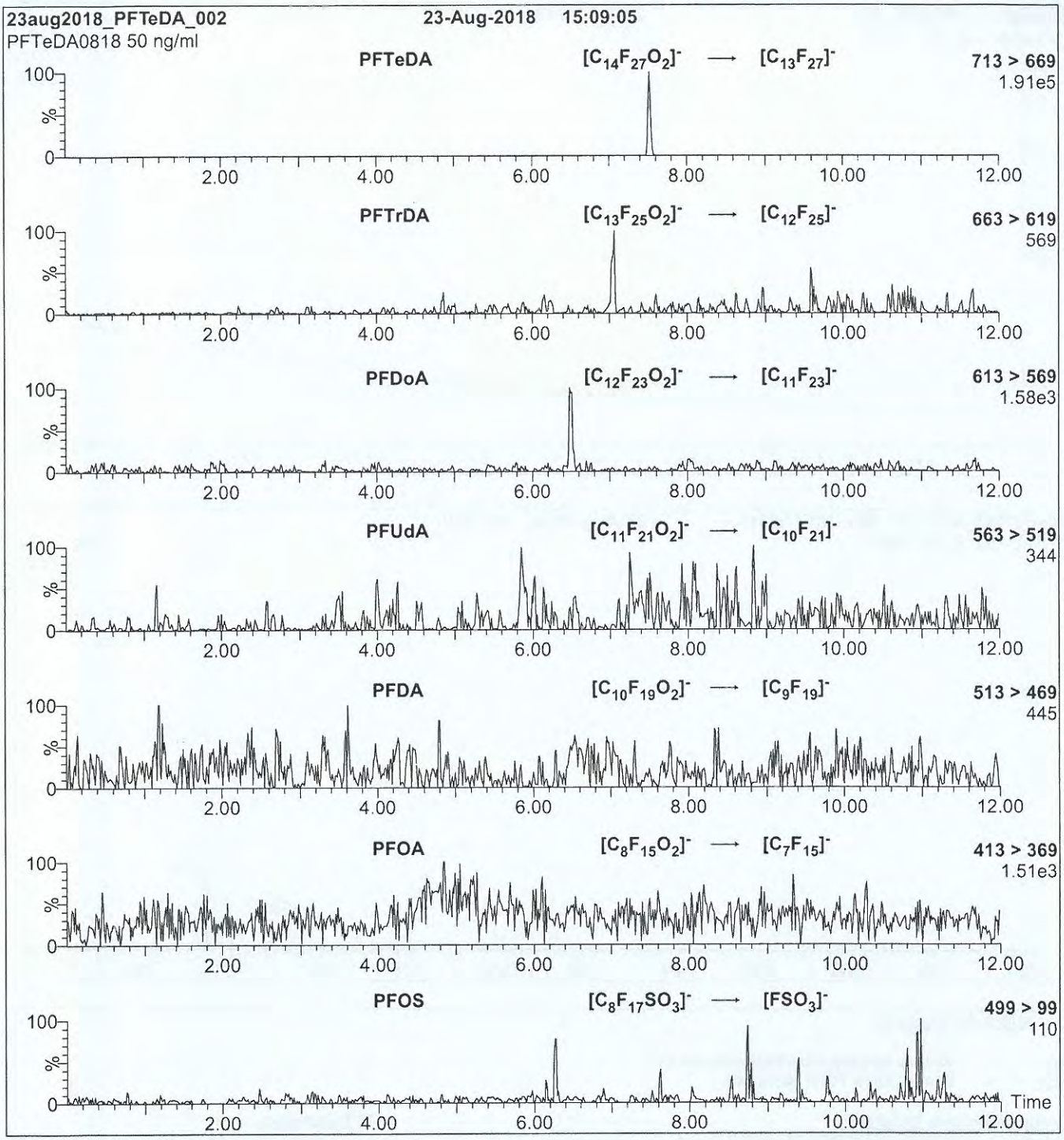
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2044

Figure 2: **PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFTeDA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 12

1812045

WELLINGTON LABORATORIES

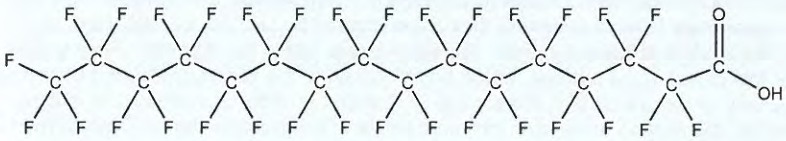
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHxDA
COMPOUND: Perfluoro-n-hexadecanoic acid

LOT NUMBER: PFHxDA0717

STRUCTURE:

CAS #: 67905-19-5



MOLECULAR FORMULA: $C_{16}HF_{31}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 814.13
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 07/13/2017
EXPIRY DATE: (mm/dd/yyyy) 07/13/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/04/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812045

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

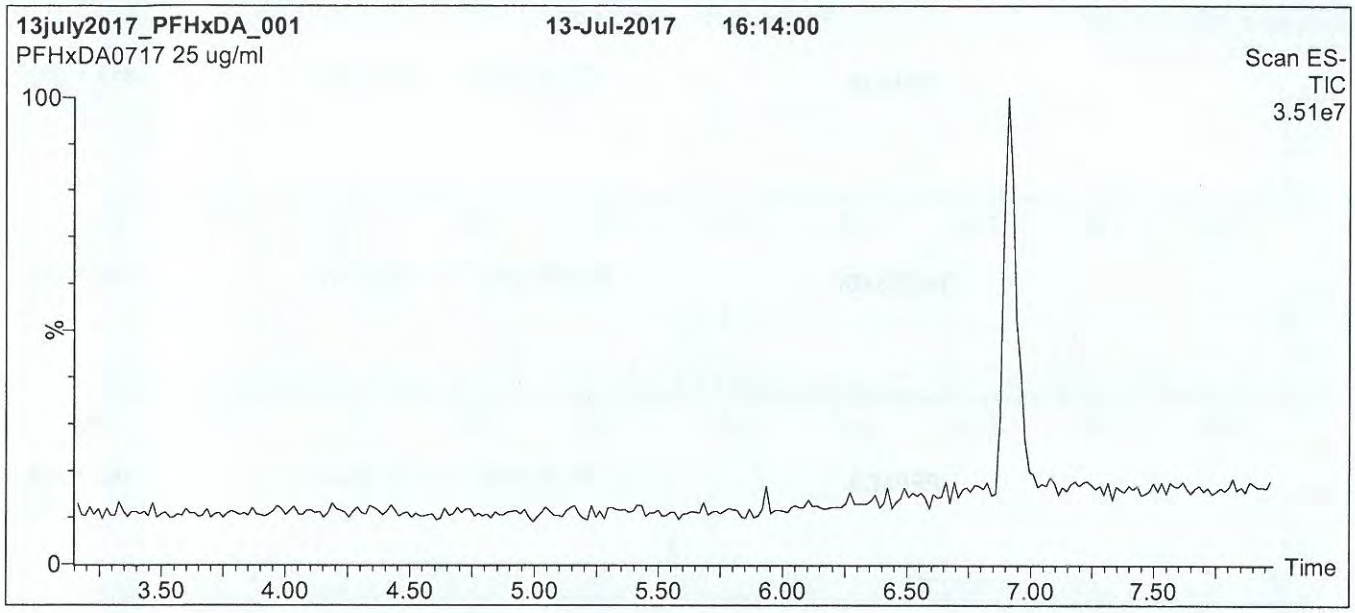
CALA Testing Accreditation No. A 1226

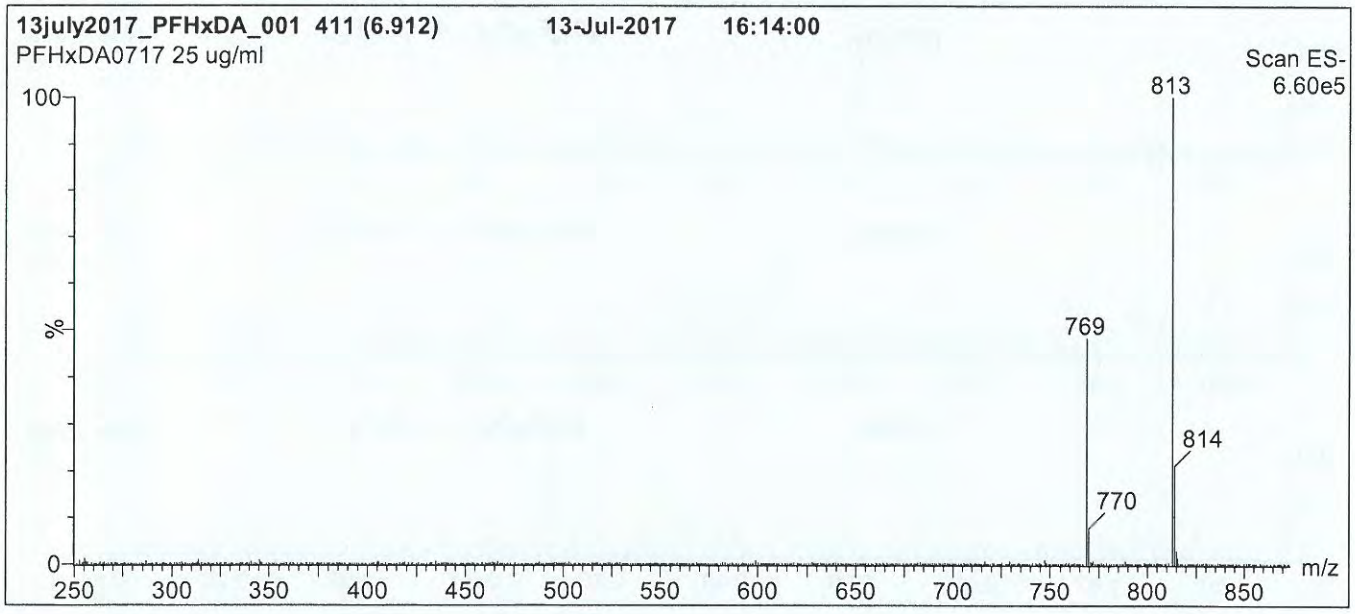
ANAB ACCREDITED PRODUCER REFERENCE MATERIAL

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2045

Figure 1: **PFHxDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

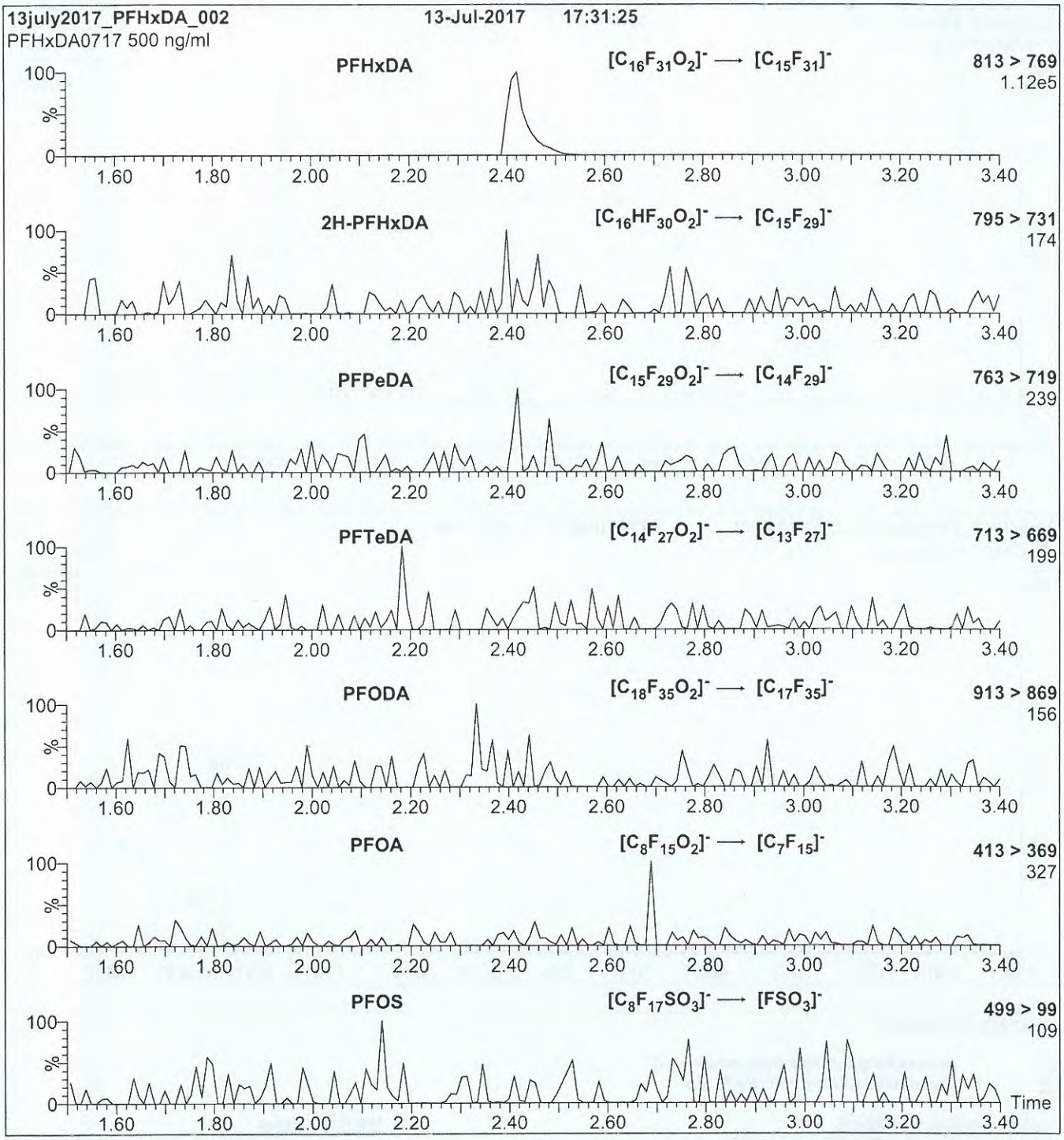
MS Parameters

Experiment: Full Scan (250 - 1250 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 25.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

182045

Figure 2: **PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFHxDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.13e-3
Collision Energy (eV) = 15

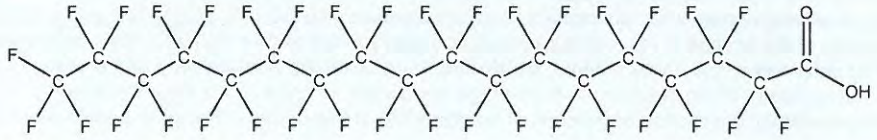
18L2046

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFODA
COMPOUND: Perfluoro-n-octadecanoic acid
LOT NUMBER: PFODA0717

STRUCTURE:
CAS #: 16517-11-6



MOLECULAR FORMULA: $C_{18}HF_{35}O_2$
MOLECULAR WEIGHT: 914.14
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 07/13/2017
EXPIRY DATE: (mm/dd/yyyy) 07/13/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/14/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2046

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

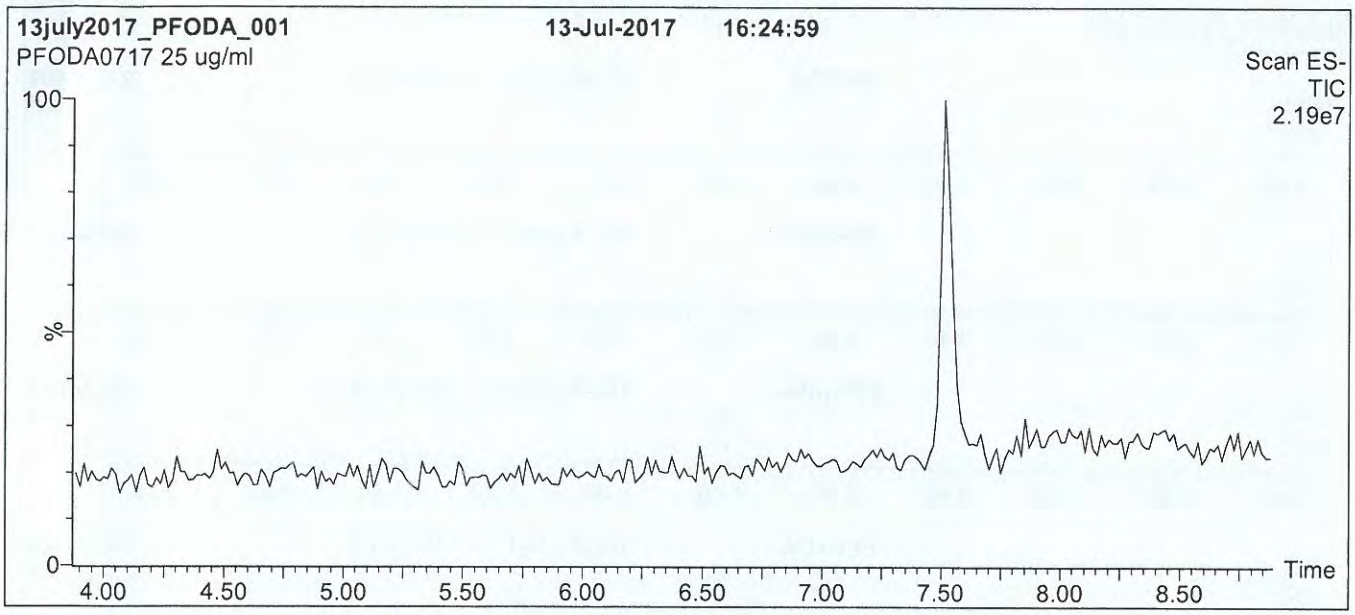
CALA Testing Accreditation No. A 1226

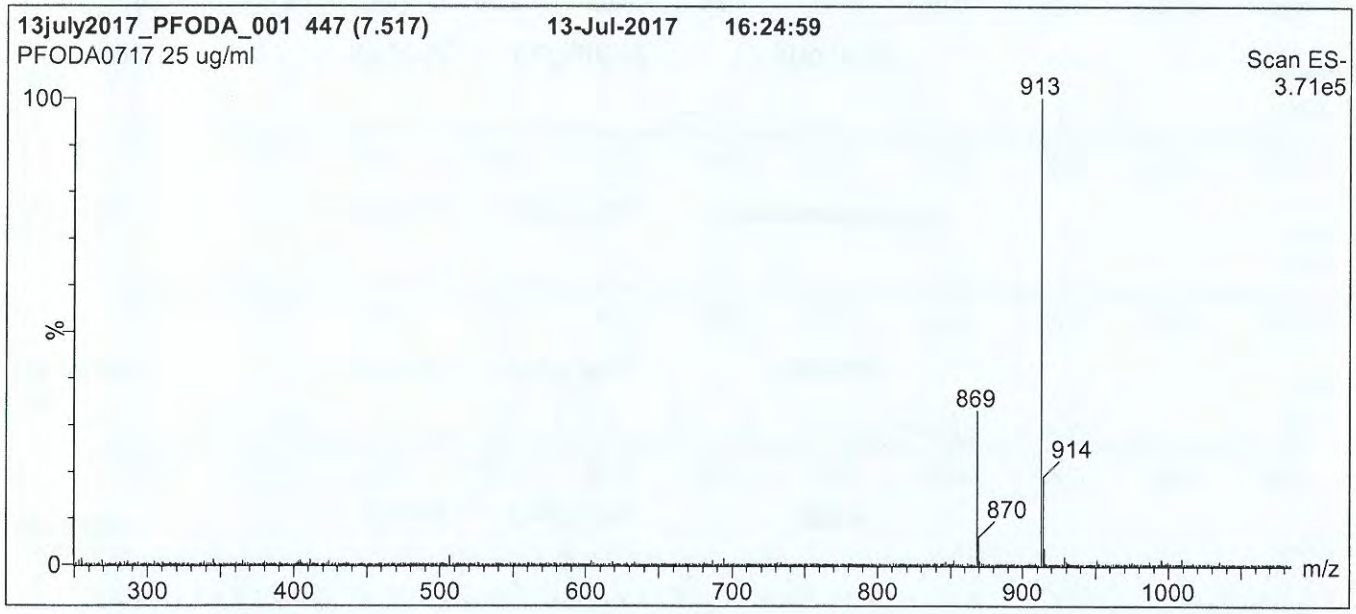
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812046

Figure 1: **PFODA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

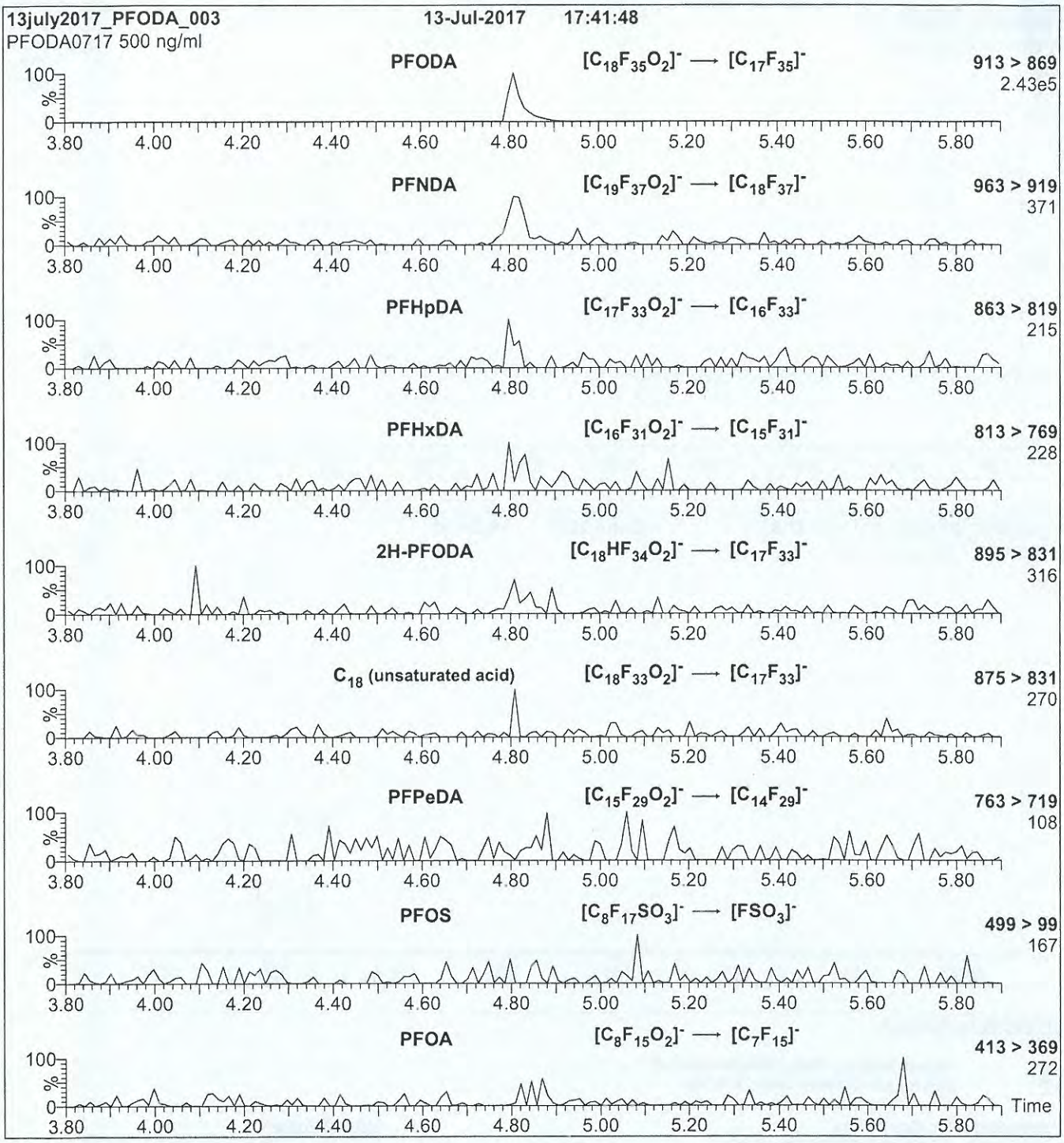
MS Parameters

Experiment: Full Scan (250 - 1250 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 25.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

18L2046

Figure 2: **PFODA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFODA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

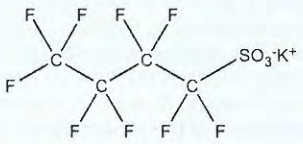
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 15

1812047

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFBS	**LOT NUMBER:**	LPFBS0418
COMPOUND:	Potassium perfluoro-1-butanesulfonate		
STRUCTURE:		**CAS #:**	29420-49-3



MOLECULAR FORMULA:	$C_4F_9SO_3K$	**MOLECULAR WEIGHT:**	338.19
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt) 44.2 ± 2.2 µg/ml (PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/04/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/04/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/25/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812047

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SYNTHESIS / CHARACTERIZATION:

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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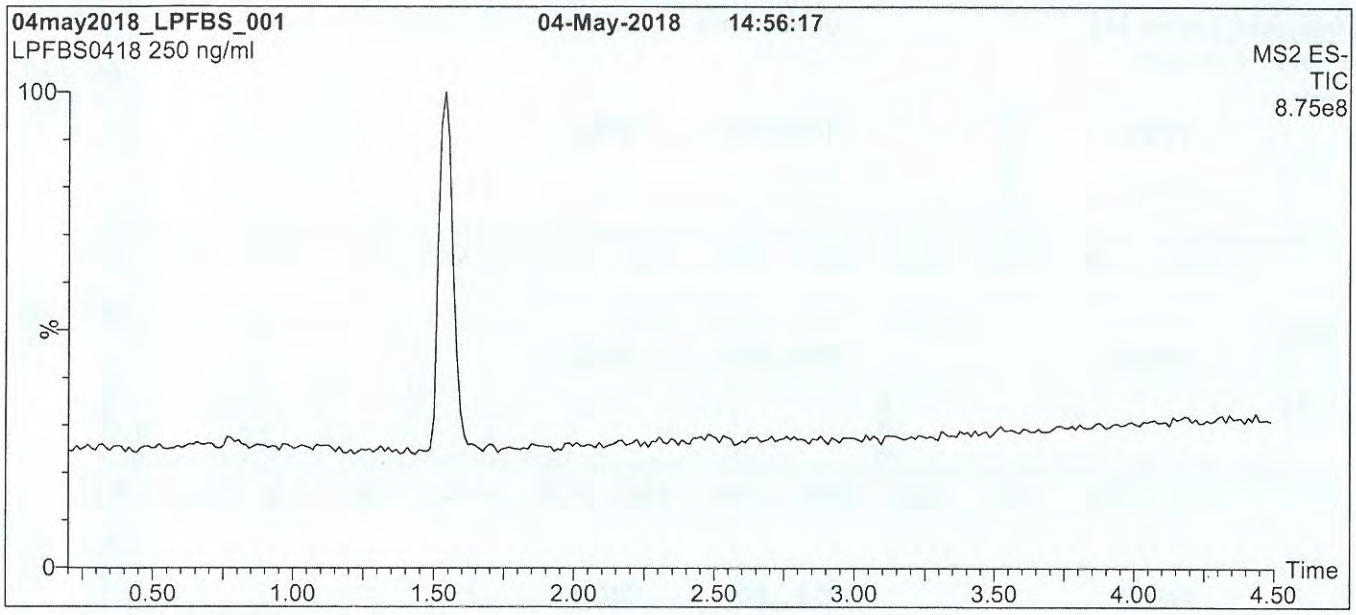
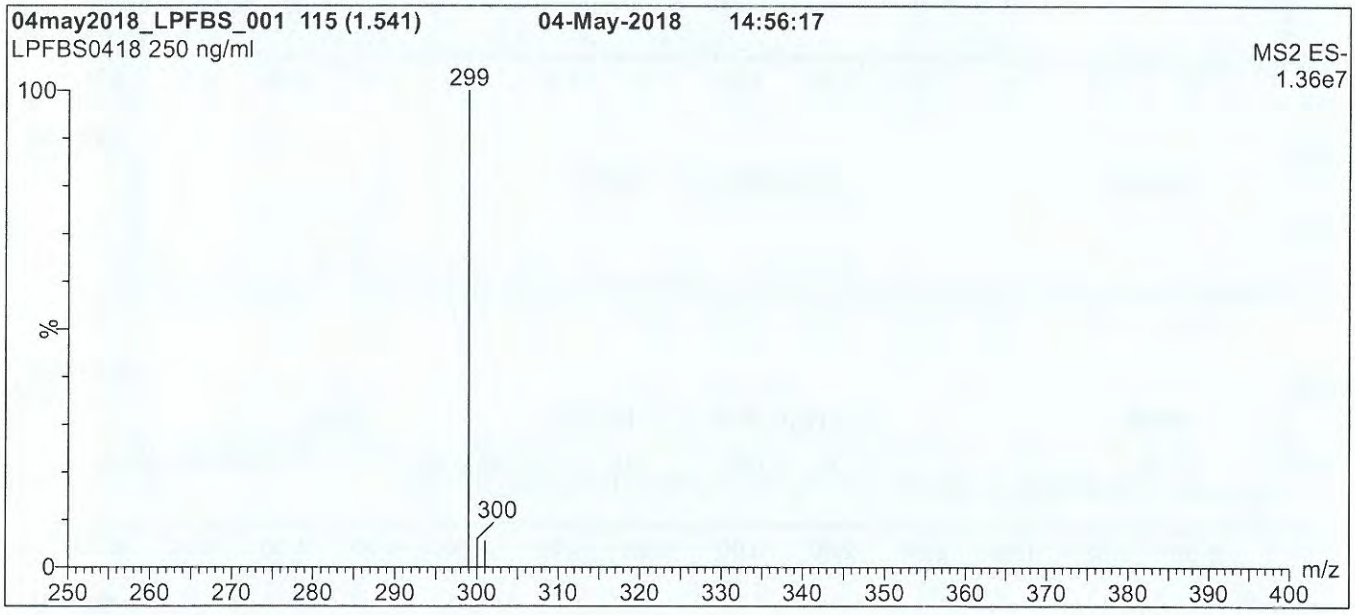
18L2047

Figure 1: **L-PFBS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

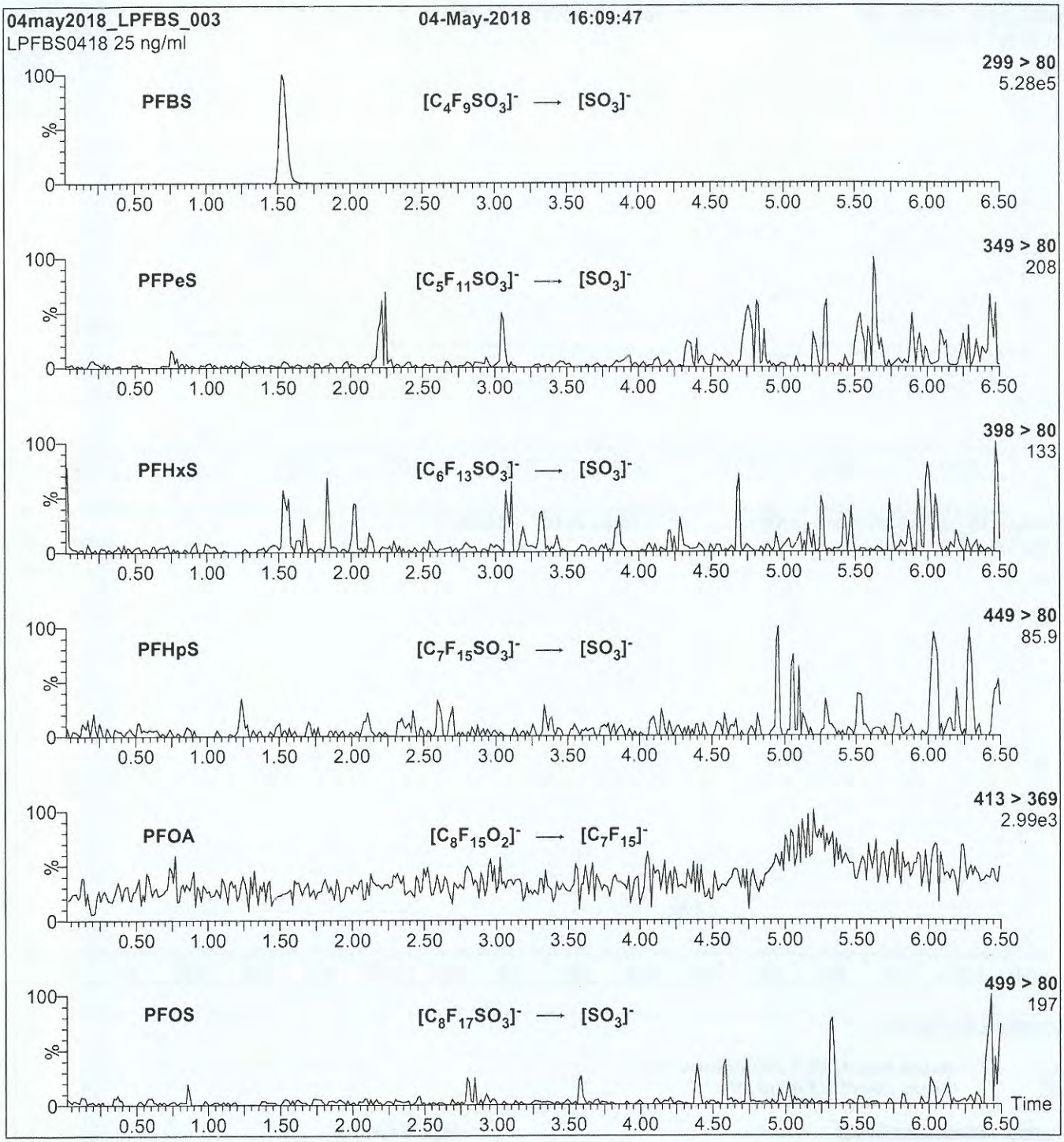
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812047

Figure 2: **L-PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFBS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

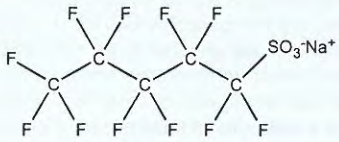
Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 30

1812048

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFPeS	**LOT NUMBER:**	LPFPeS0718
COMPOUND:	Sodium perfluoro-1-pentanesulfonate		
STRUCTURE:		**CAS #:**	630402-22-1



MOLECULAR FORMULA:	$C_5F_{11}SO_3Na$	**MOLECULAR WEIGHT:**	372.09
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 46.9 ± 2.3 µg/ml (PFPeS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/12/2018		
EXPIRY DATE: (mm/dd/yyyy)	07/12/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/18/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812048

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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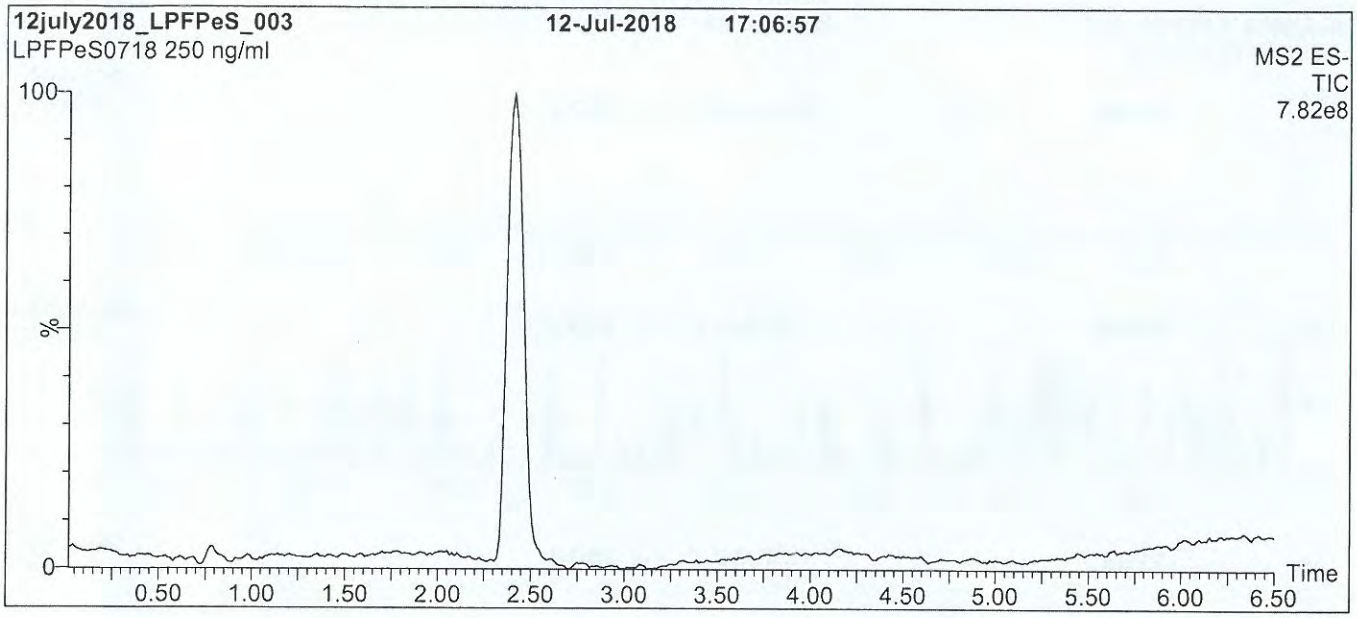
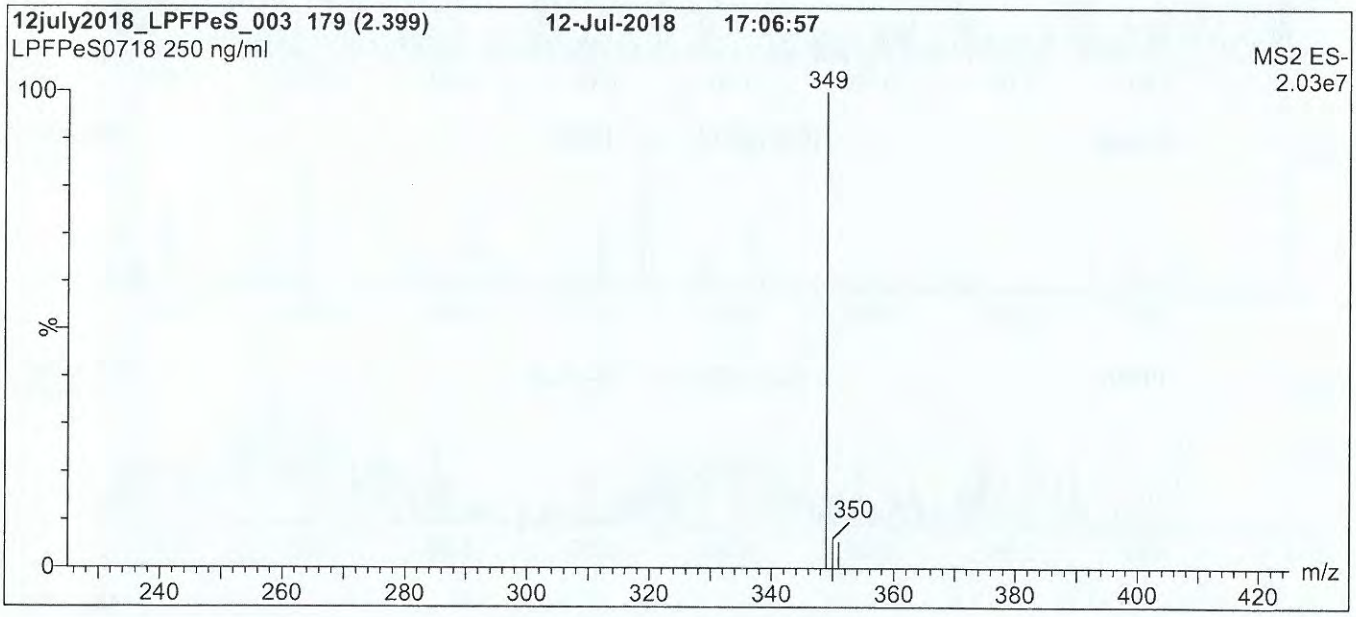
18L2048

Figure 1: **L-PFPeS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

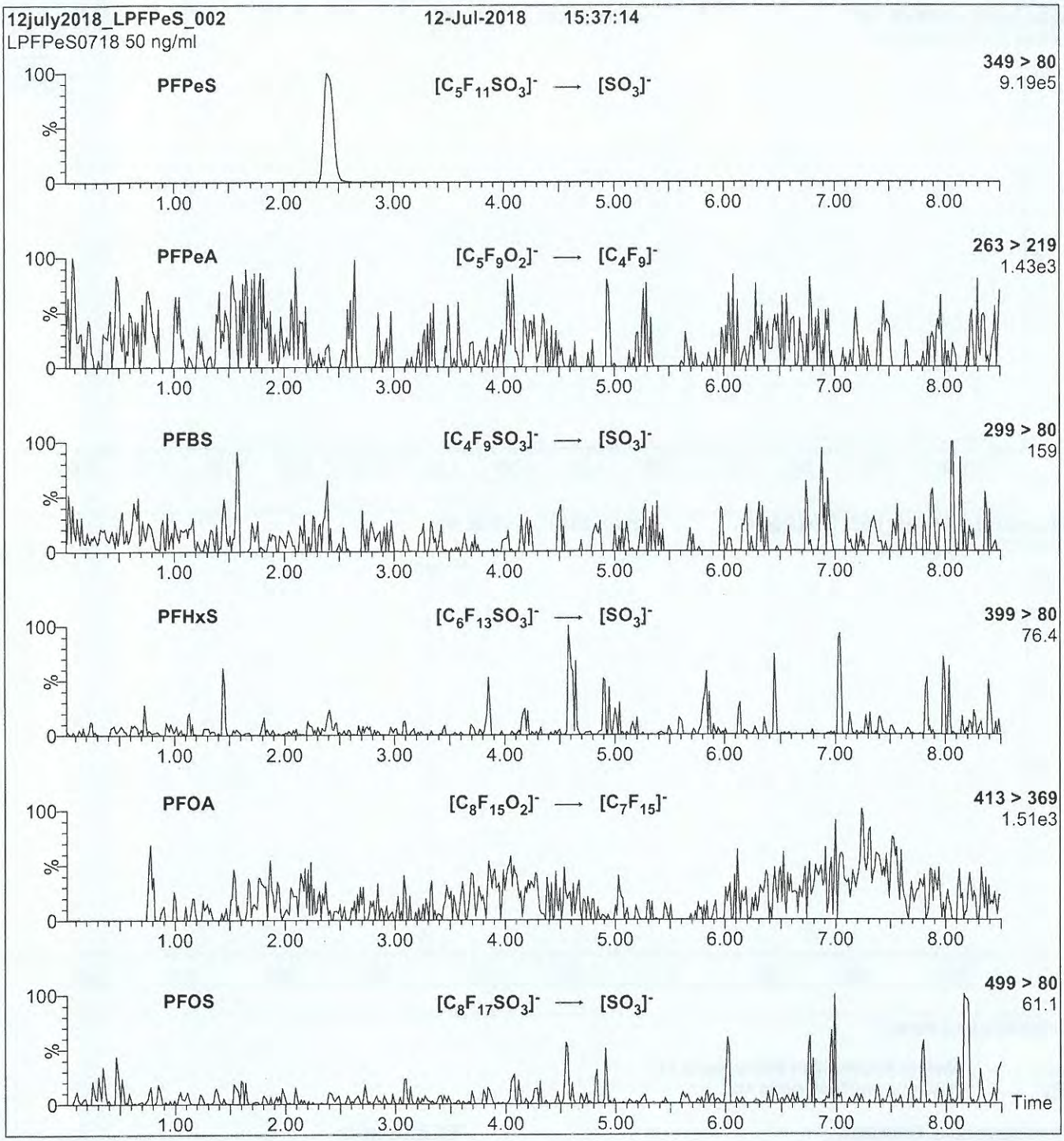
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812048

Figure 2: **L-PFPeS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFPeS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.47e-3
Collision Energy (eV) = 32

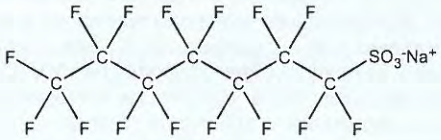
18L2049

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFHpS
LOT NUMBER: LPFHpS0418
COMPOUND: Sodium perfluoro-1-heptanesulfonate

STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA:	$C_7F_{15}SO_3Na$	**MOLECULAR WEIGHT:**	472.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.6 ± 2.4 µg/ml (PFHpS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/04/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/04/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of L-PFHxS ($C_6F_{13}SO_3Na$) and ~ 0.1% of L-PFOS ($C_8F_{17}SO_3Na$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/17/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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1812049

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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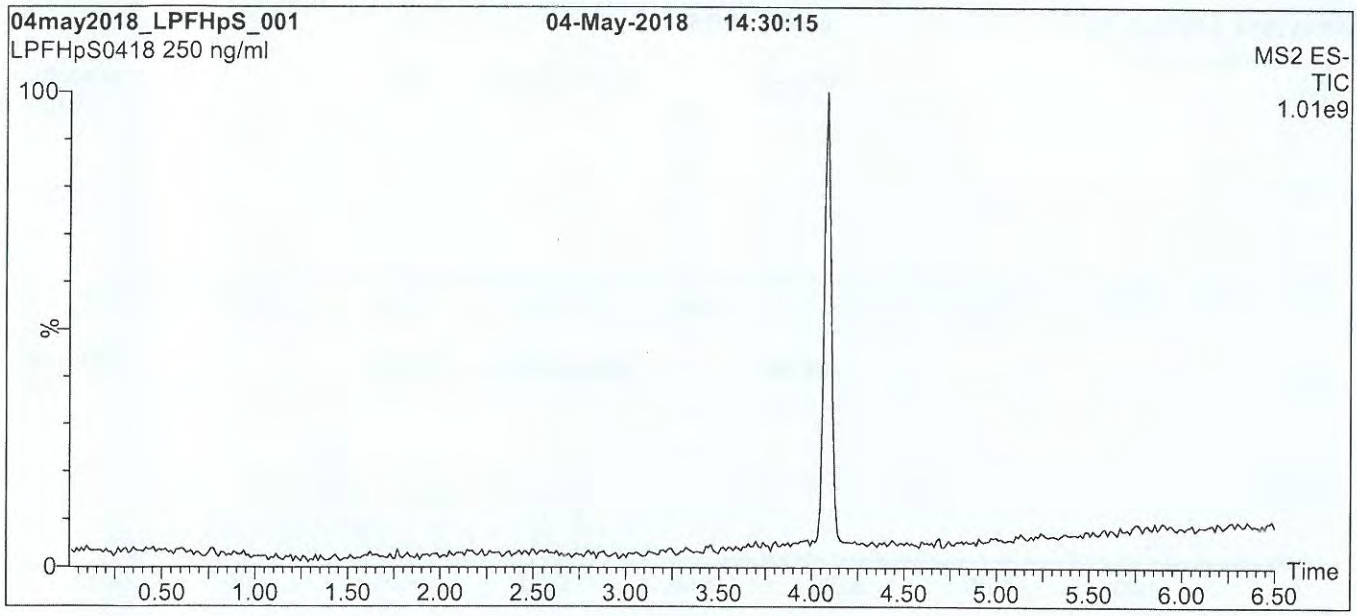
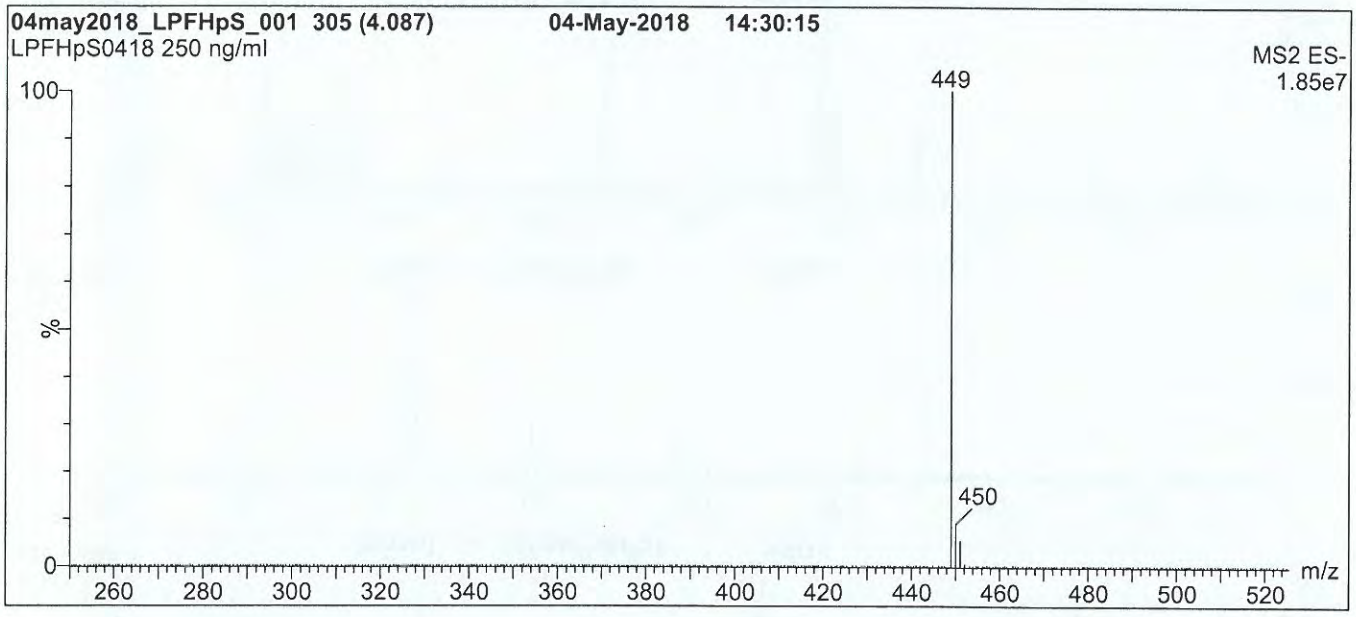
18L2049

Figure 1: **L-PFHpS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

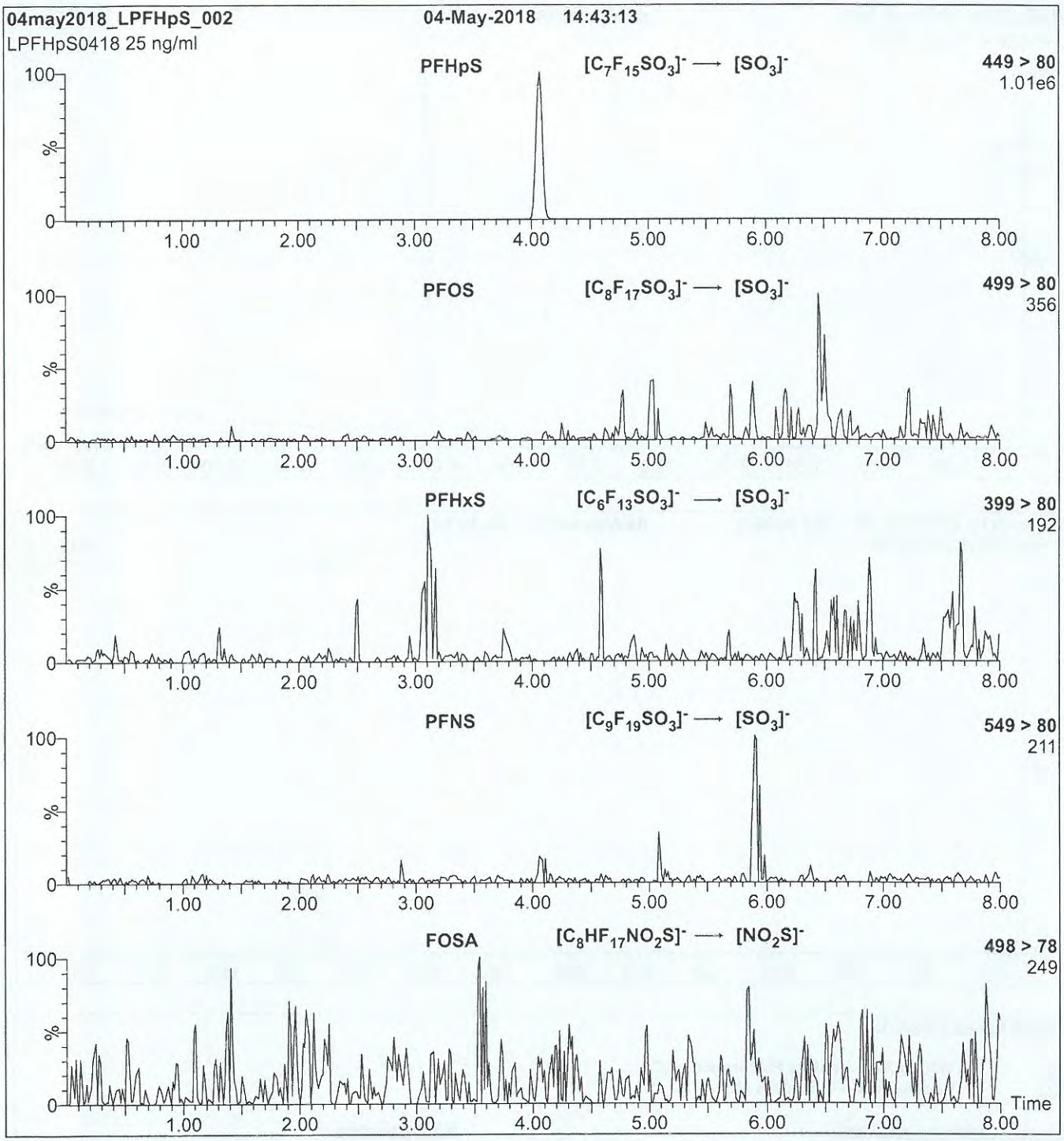
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

18L2049

Figure 2: **L-PFHpS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFHpS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.45e-3

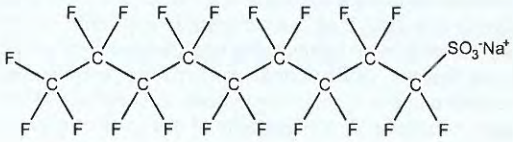
Collision Energy (eV) = 42

18L2050

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFNS	**LOT NUMBER:**	LPFNS0718
COMPOUND:	Sodium perfluoro-1-nonanesulfonate		
STRUCTURE:		**CAS #:**	98789-57-2



MOLECULAR FORMULA:	$C_9F_{19}SO_3Na$	**MOLECULAR WEIGHT:**	572.12
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.0 ± 2.4 µg/ml (PFNS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/13/2018		
EXPIRY DATE: (mm/dd/yyyy)	07/13/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/18/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2050

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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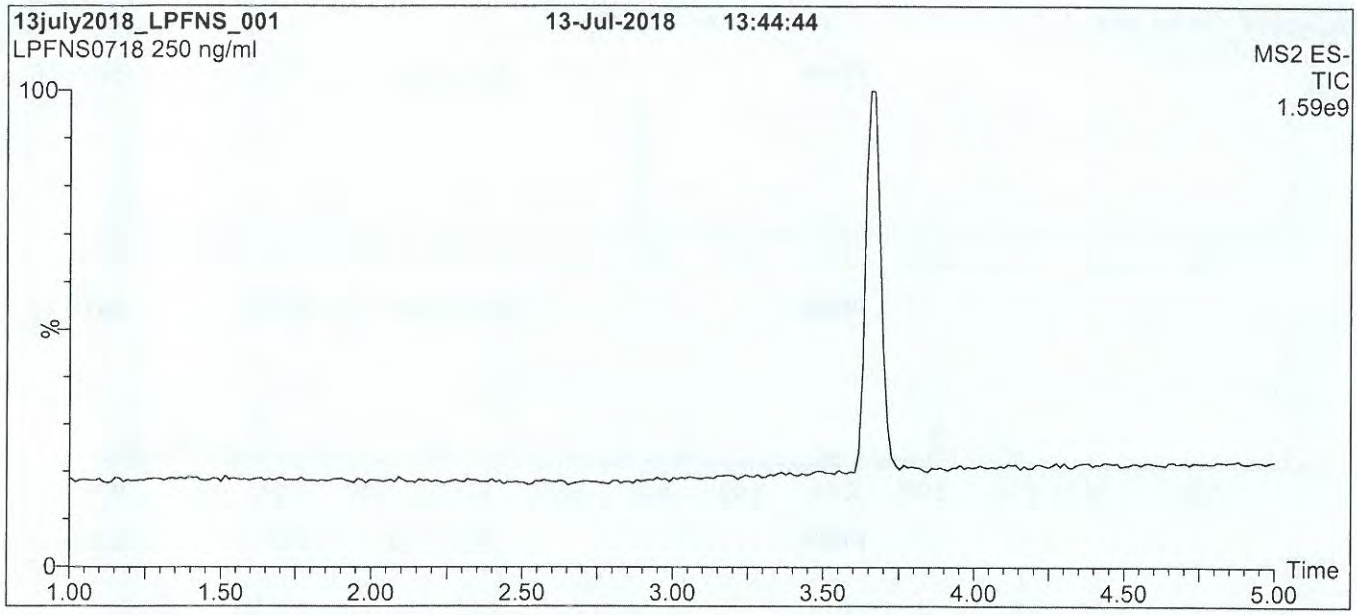
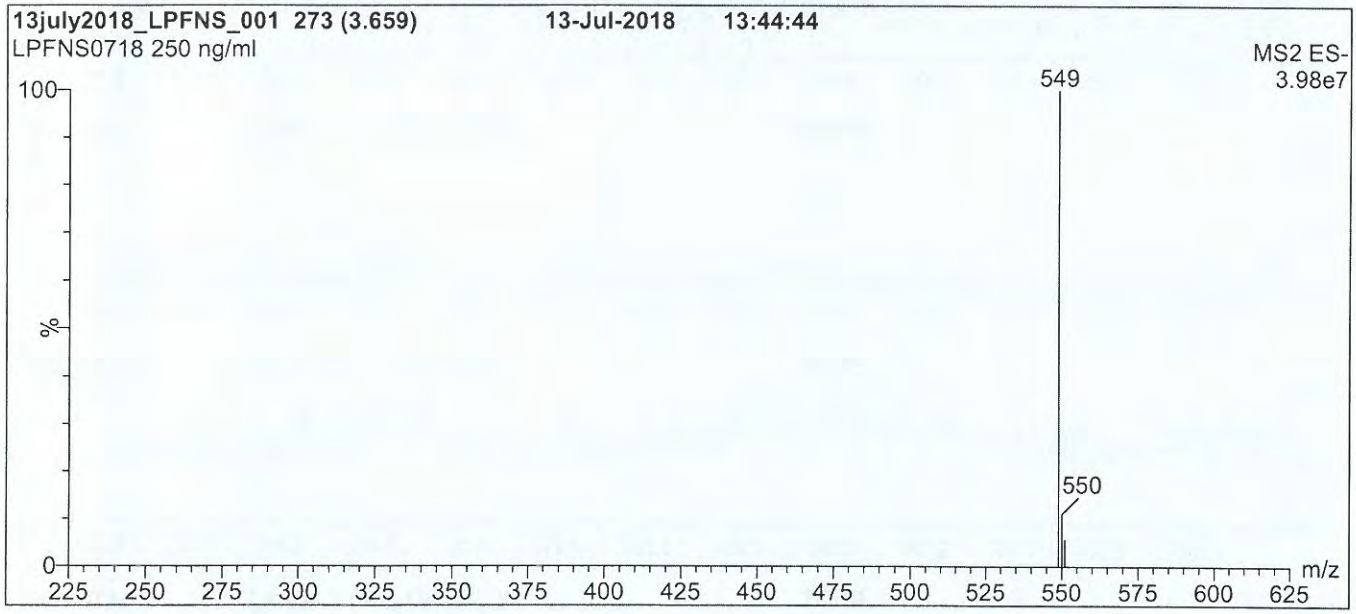
1812050

Figure 1: **L-PFNS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

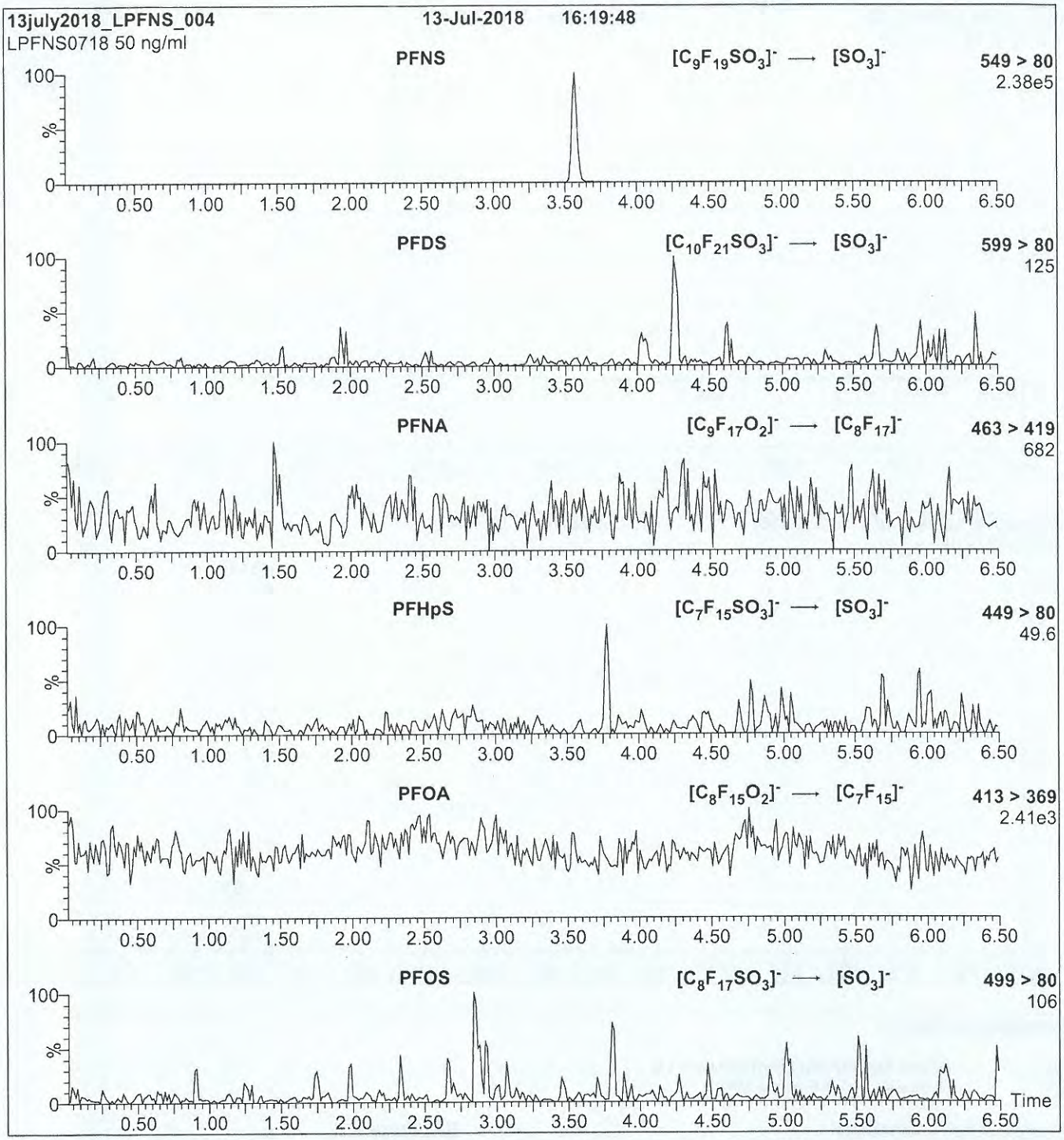
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812050

Figure 2: **L-PFNS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFNS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 64

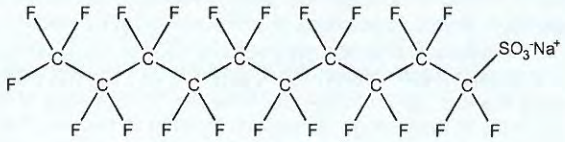
1812057

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: L-PFDS
LOT NUMBER: LPFDS1018
COMPOUND: Sodium perfluoro-1-decanesulfonate

STRUCTURE:



CAS #: 2806-15-7

MOLECULAR FORMULA:	$C_{10}F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	622.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.2 ± 2.4 µg/ml (PFDS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/05/2018		
EXPIRY DATE: (mm/dd/yyyy)	10/05/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.9% of sodium perfluoro-1-dodecanesulfonate (L-PFDoS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/09/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812057

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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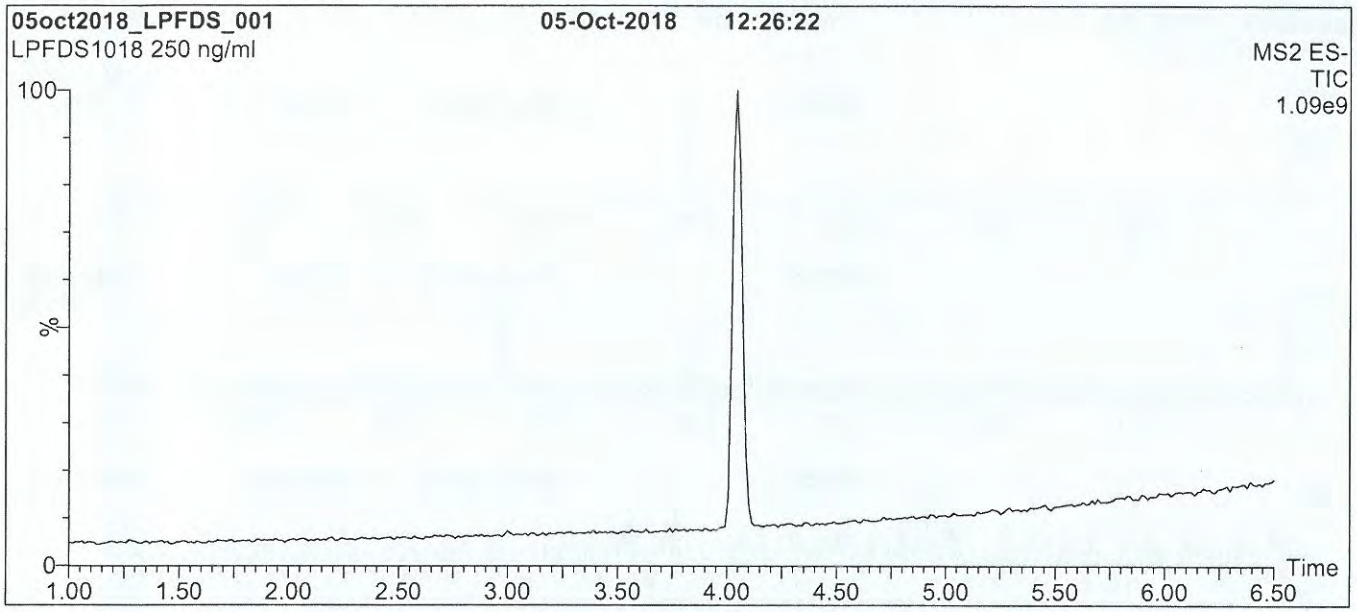
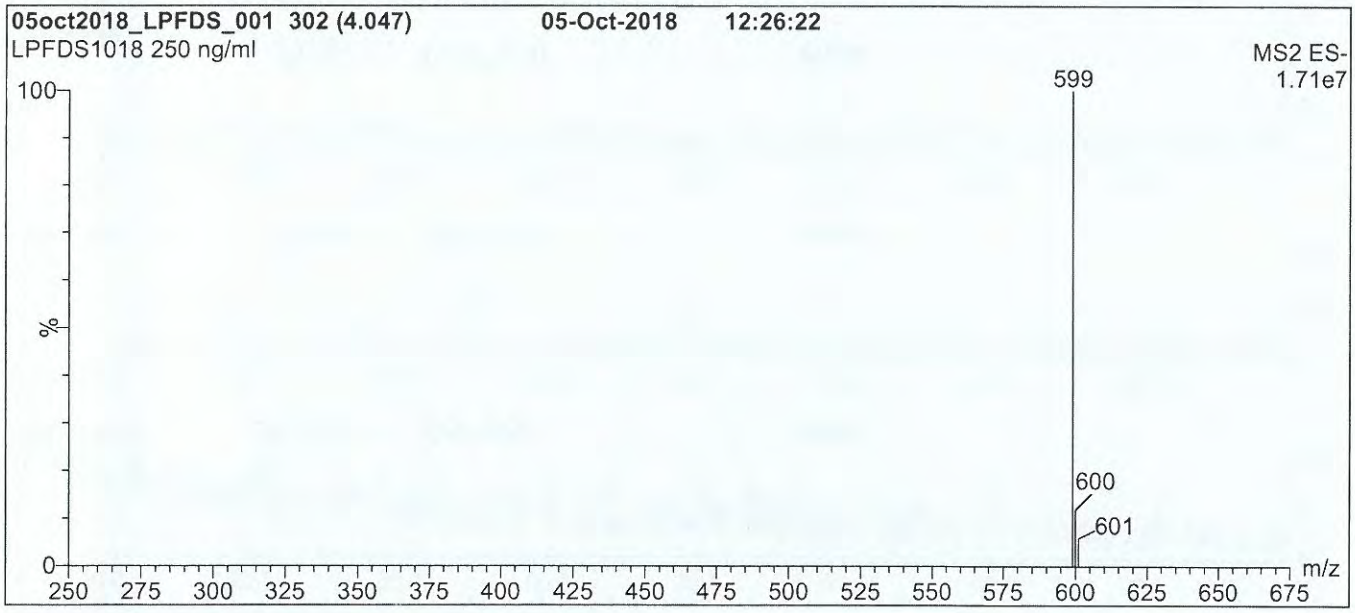
18L2051

Figure 1: **L-PFDS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

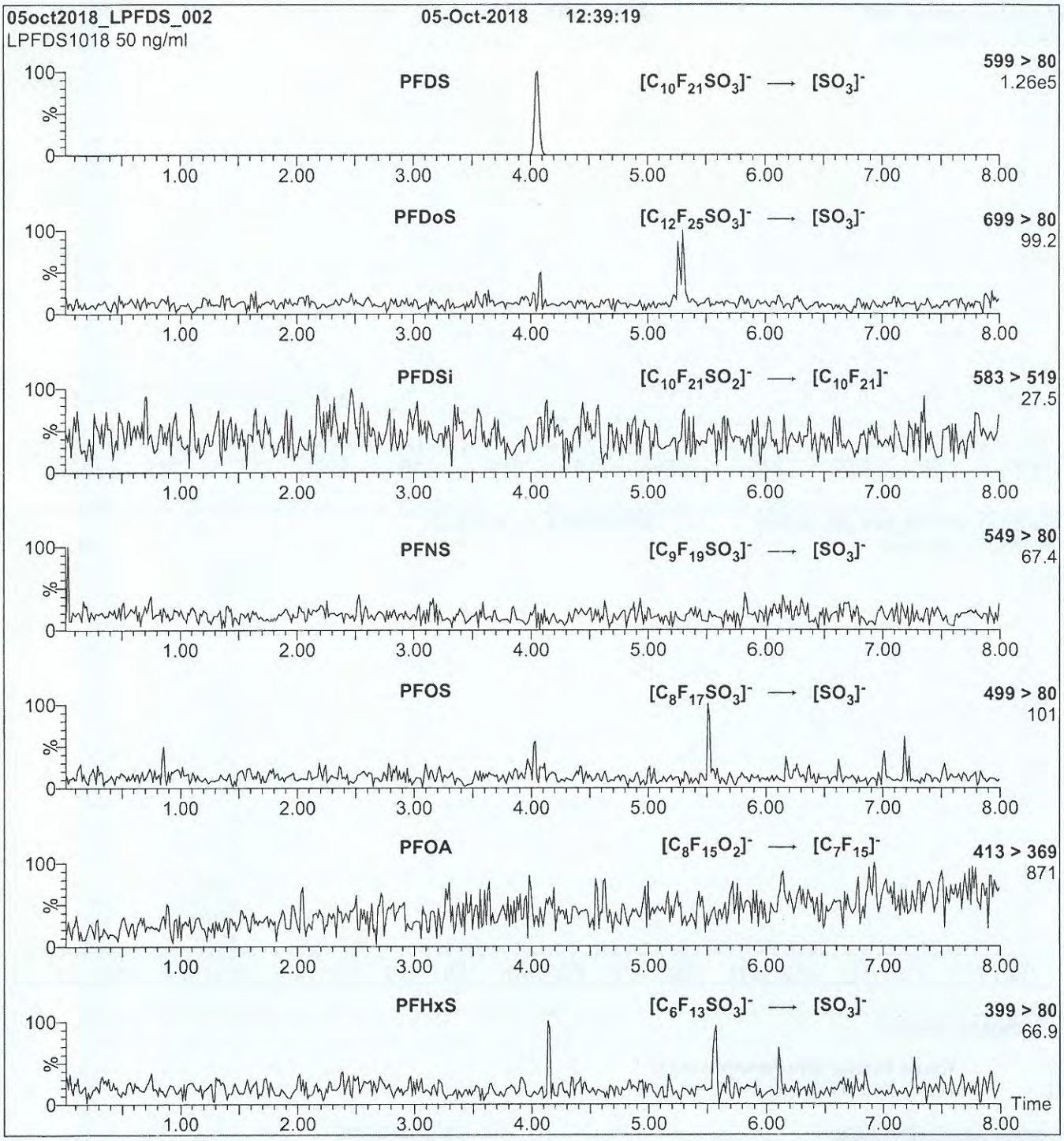
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1862057

Figure 2: **L-PFDS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFDS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 56

1812052

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK1018
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt)
	45.5 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	10/01/2018
LAST TESTED: (mm/dd/yyyy)	10/02/2018
EXPIRY DATE: (mm/dd/yyyy)	10/02/2023
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorohexanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.3% of perfluoro-n-hexanoic acid and ~ 0.15% of perfluoro-1-pentanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

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1812052

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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1812052

Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

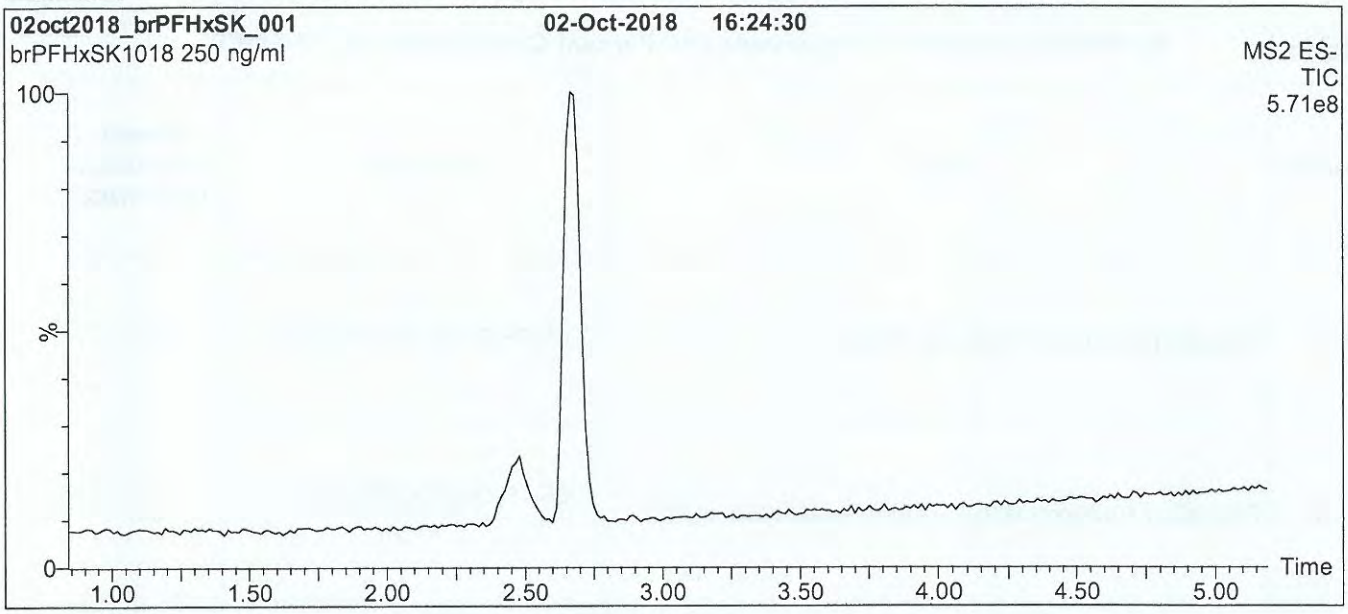
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$CF_3C(CF_3)CF_2CF_2SO_3^-K^+$	0.2
7	Other Unidentified Isomers		0.5

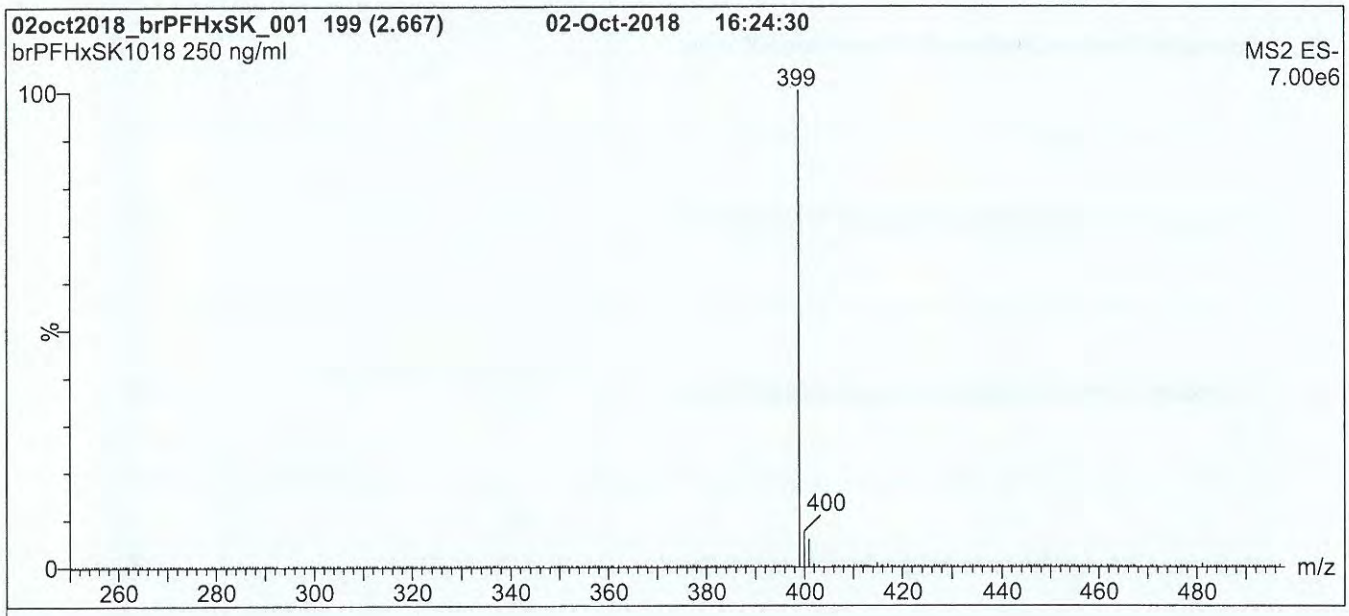
* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Certified By: _____ **Date:** 10/05/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

18L2052

Figure 1: **br-PFHxSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min. Hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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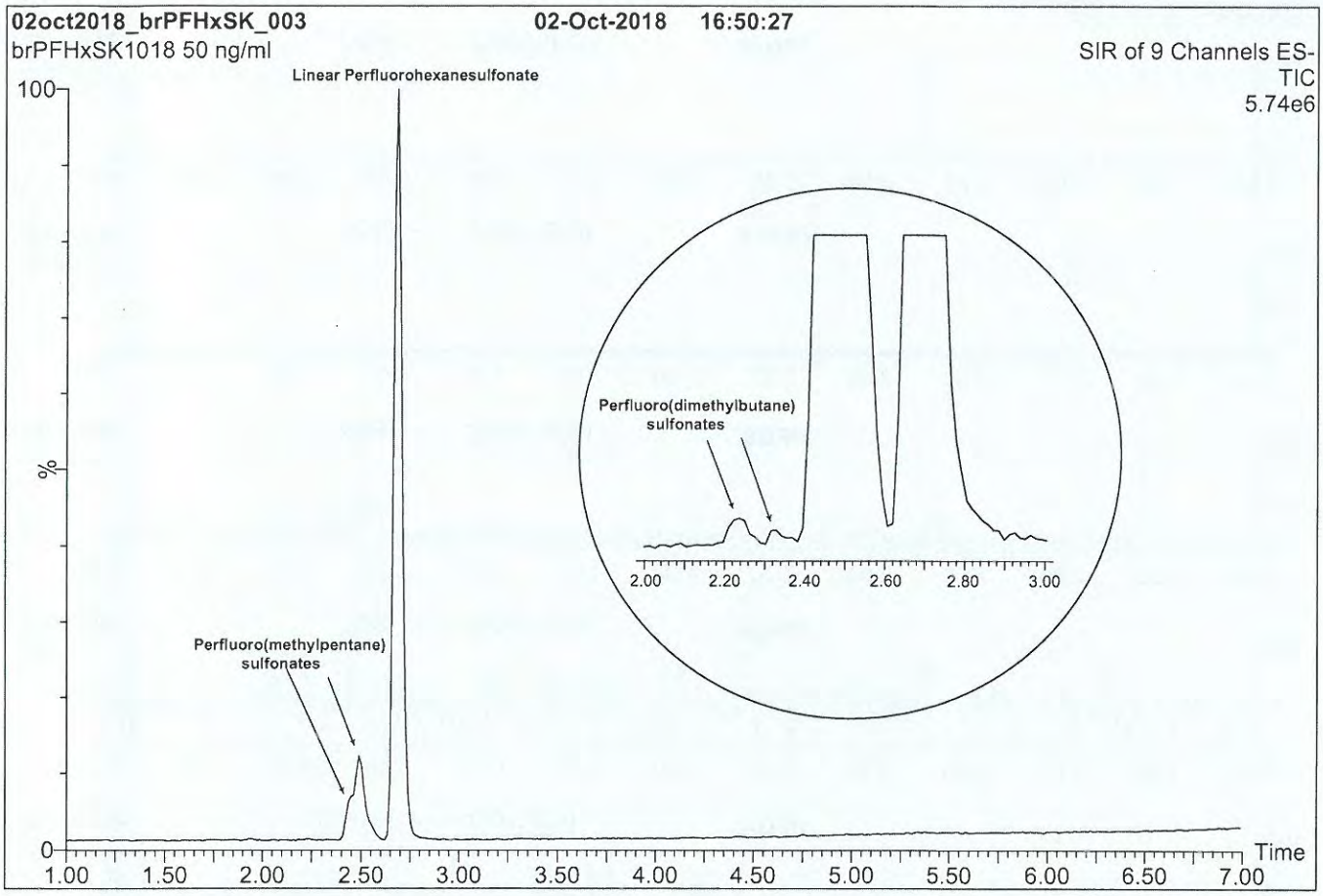
Figure 2: **br-PFHxSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min. Hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: SIR (9 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (2 - 6)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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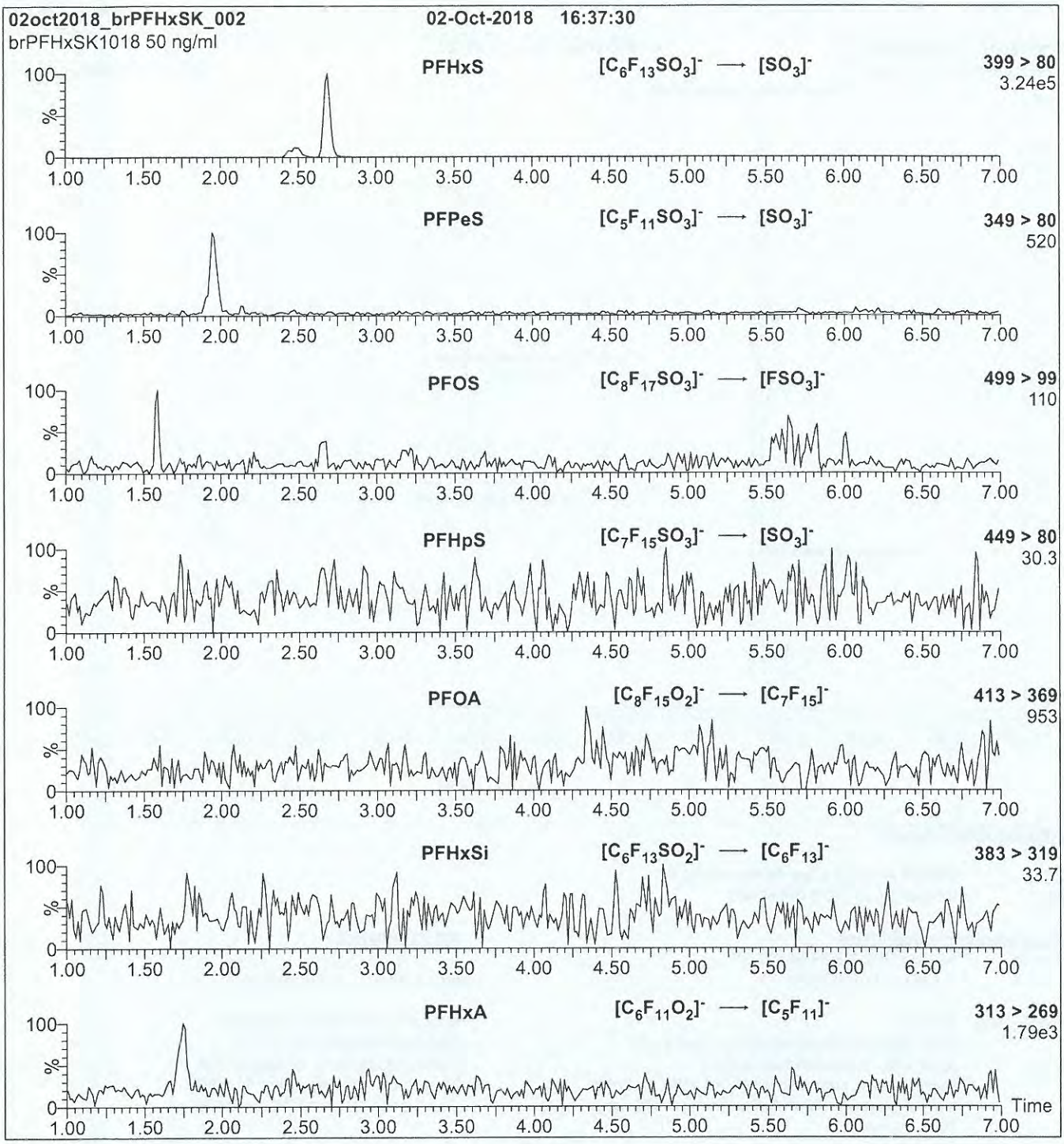
Figure 3: **br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (br-PFHxSK)

Mobile phase: Same as Figures 1 and 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.87e-3
Collision Energy (eV) = 42

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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and
Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK0418
CONCENTRATION:	50 ± 2.5 µg/ml (total potassium salt)
	46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	04/09/2018
LAST TESTED: (mm/dd/yyyy)	04/18/2018
EXPIRY DATE: (mm/dd/yyyy)	04/18/2023
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- A 5-point calibration curve was generated using linear PFOS (potassium salt) and mass-labelled PFOS as an internal standard to enable quantitation of br-PFOSK using isotopic dilution.
- CAS#: 2795-39-3 (for linear isomer; potassium salt).

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1862053

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3C(CF_3)_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)_2CF_2CF_2SO_3^-K^+$	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF(CF_3)CF_2SO_3^-K^+$	0.07

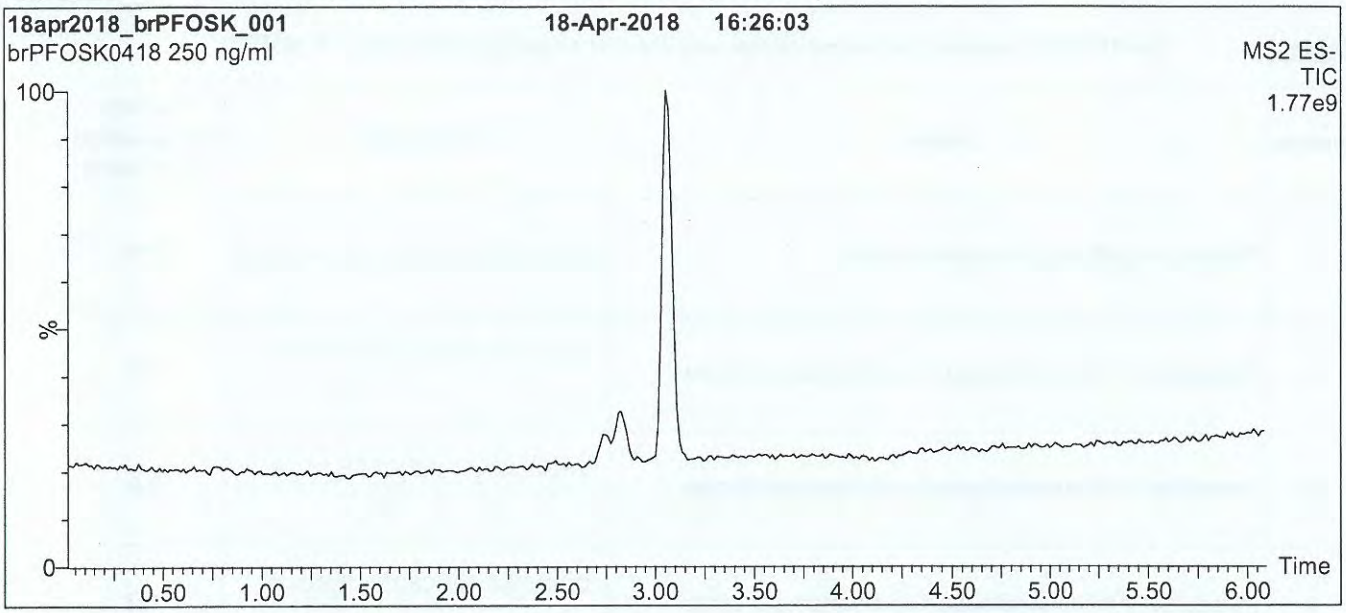
* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

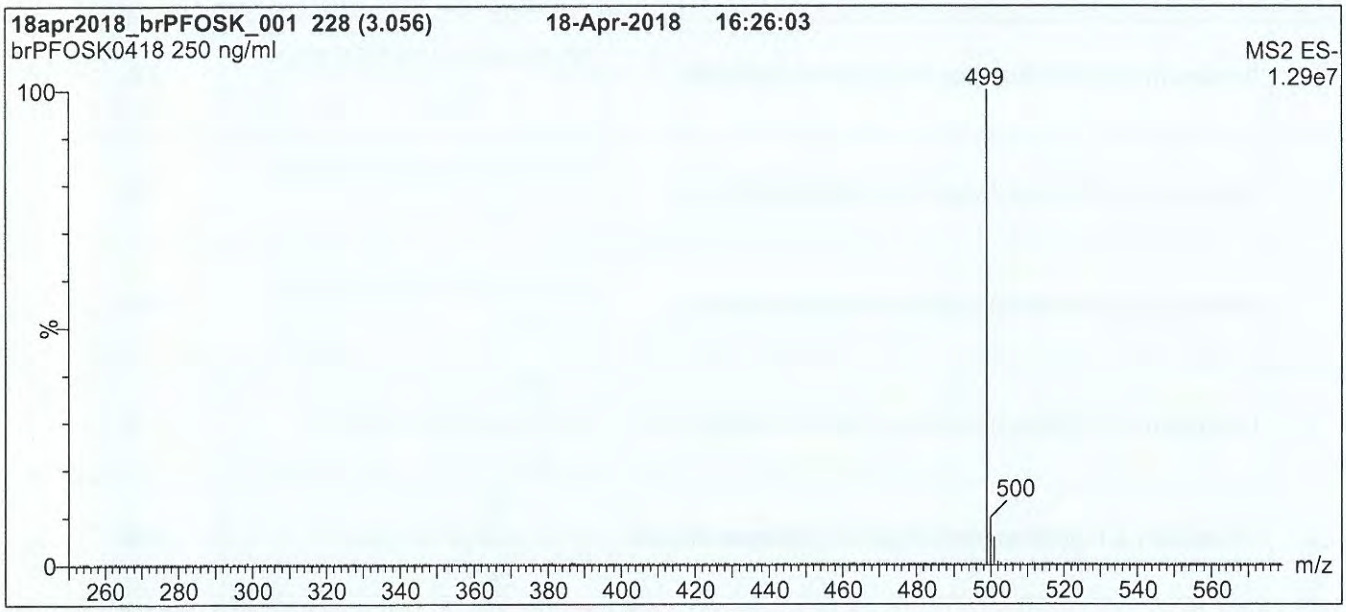
Certified By: _____ **Date:** 04/23/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

1812053

Figure 1: **br-PFOSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 85% organic over 7 min and hold for 3 min.
Return to initial conditions over 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

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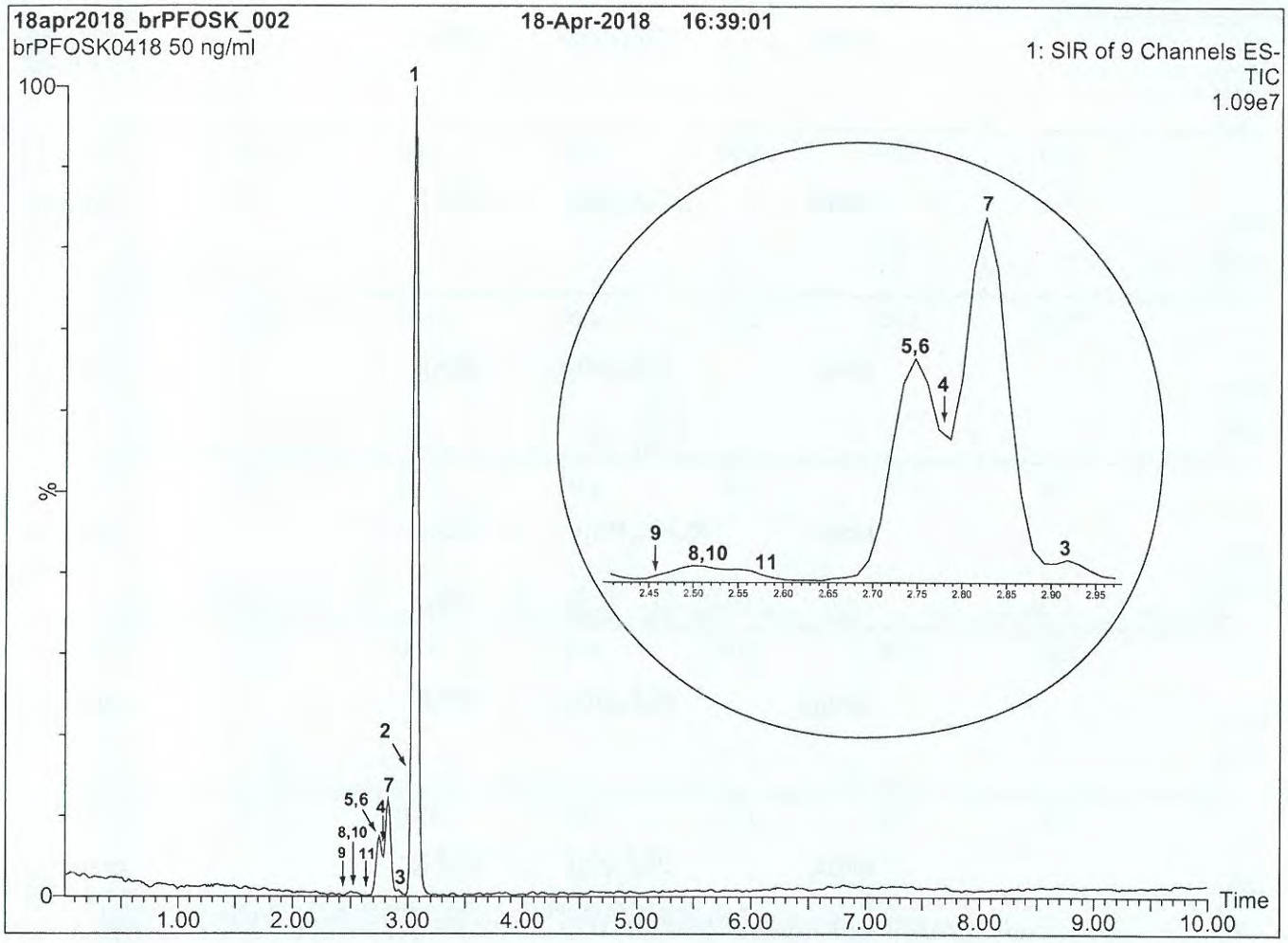
Figure 2: **br-PFOSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18} (1.7 µm, 2.1 x 100 mm)

Injection: 50 ng/ml of br-PFOSK

Mobile Phase: Gradient
60% (80:20 MeOH:ACN) / 40% H_2O (both with 10 mM NH_4OAc buffer)
Ramp to 85% organic over 7 min and hold for 3 min.
Return to initial conditions over 0.75 min.
Time: 12 min

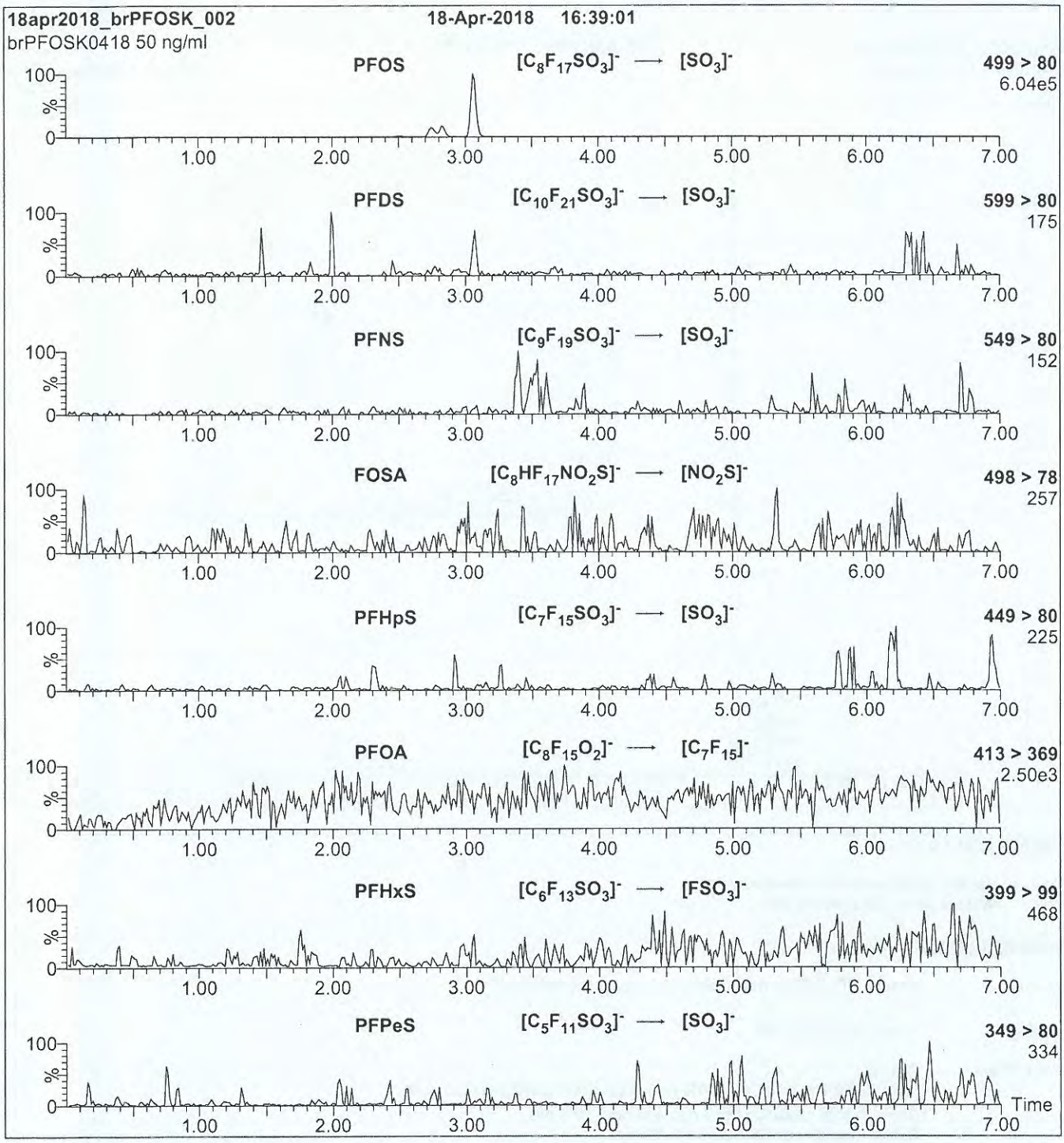
Flow: 300 µl/min

MS Conditions:

SIR (ES^-)
Source = 150 °C
Desolvation = 500 °C
Cone Voltage = 2 - 20V (variable)

18L2053

Figure 3: **br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (br-PFOSK)

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.47e-3
Collision Energy (eV) = 64

18L2054

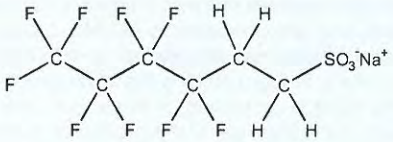
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 4:2FTS **LOT NUMBER:** 42FTS0718

COMPOUND: Sodium 1H,1H,2H,2H-perfluorohexane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_6H_4F_9SO_3Na$	**MOLECULAR WEIGHT:**	350.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	46.7 ± 2.3 µg/ml (4:2FTS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/03/2018		
EXPIRY DATE: (mm/dd/yyyy)	07/03/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS Data (Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/05/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812054

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812054

Figure 1: 4:2FTS; LC/MS Data (SIR)

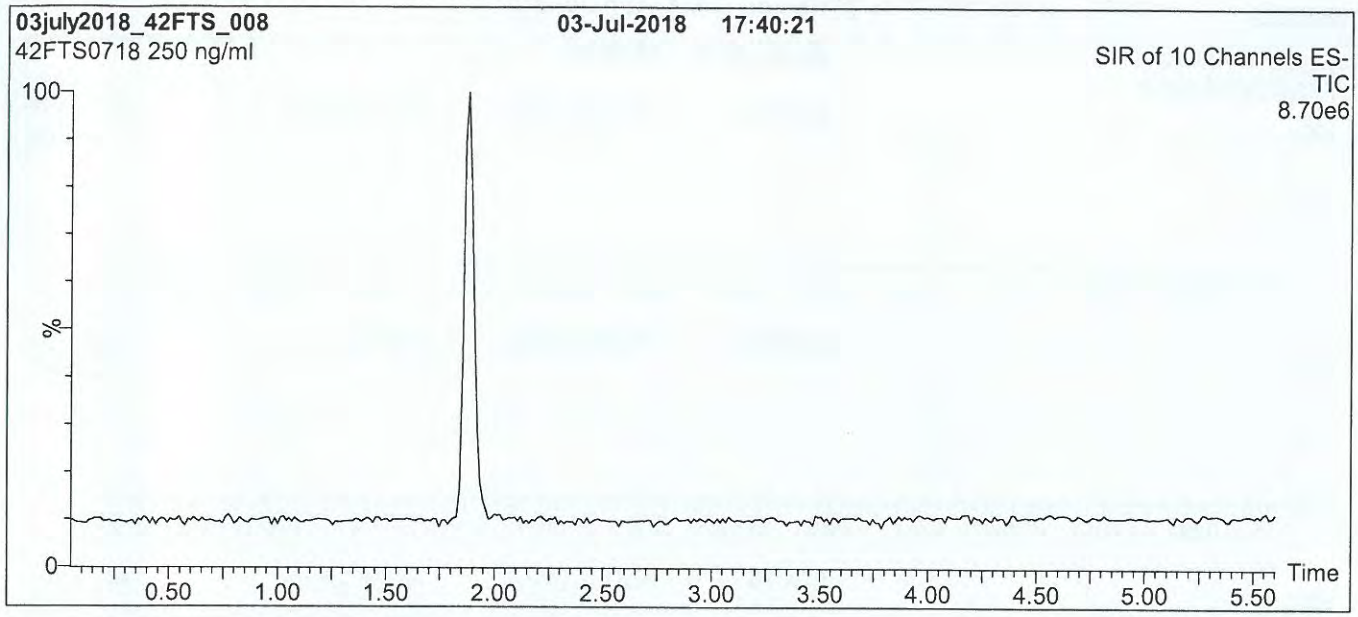
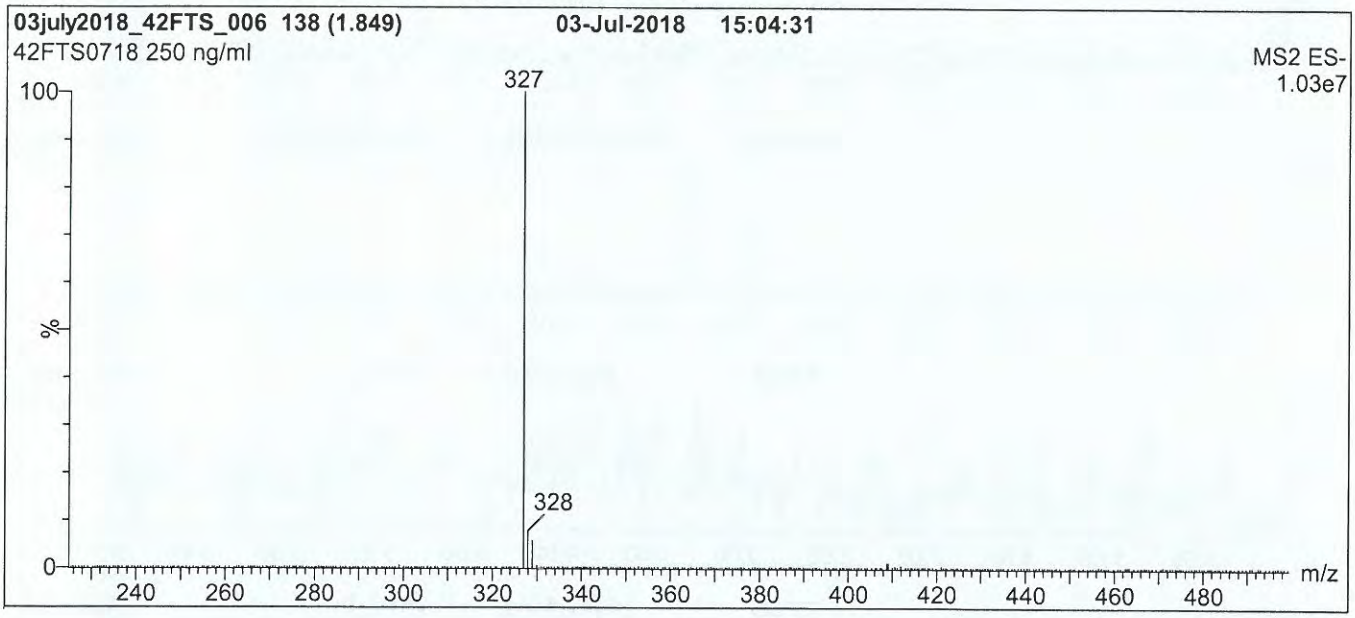


Figure 2: 4:2FTS; LC/MS Data (Mass Spectrum)



Conditions for Figures 1 & 2:

LC: Waters Acquity Ultra Performance LC
MS: Waters Xevo TQ-S micro MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25 (variable for SIR (2-20))
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

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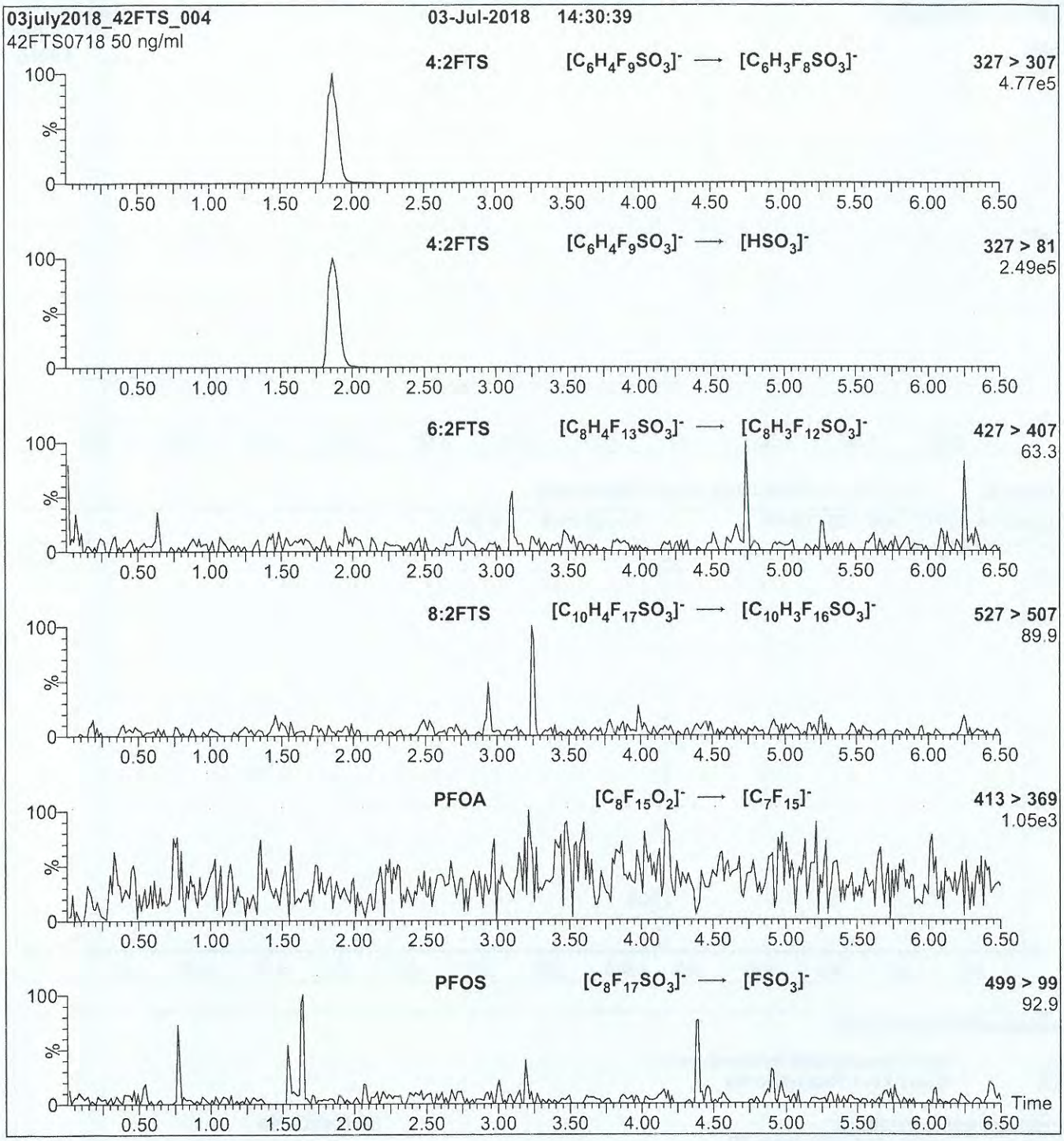
Figure 3: **4:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (4:2FTS)

Mobile phase: Same as Figures 1 & 2

Flow: 300 µl/min

MS Parameters
Collision Gas (mbar) = 3.55e-3
Collision Energy (eV) = 18

18L2055

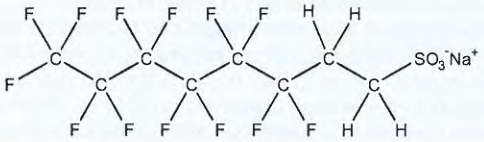
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 6:2FTS **LOT NUMBER:** 62FTS0418

COMPOUND: Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_8H_4F_{13}SO_3Na$		**MOLECULAR WEIGHT:**	450.15
CONCENTRATION:	50.0 ± 2.5 µg/ml	(Na salt)	**SOLVENT(S):**	Methanol
	47.4 ± 2.4 µg/ml	(6:2FTS anion)		
CHEMICAL PURITY:	>98%			
LAST TESTED: (mm/dd/yyyy)	04/03/2018			
EXPIRY DATE: (mm/dd/yyyy)	04/03/2023			
RECOMMENDED STORAGE:	Refrigerate ampoule			

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.3% of sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2FTS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/09/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2055

INTENDED USE:

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HANDLING:

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HOMOGENEITY:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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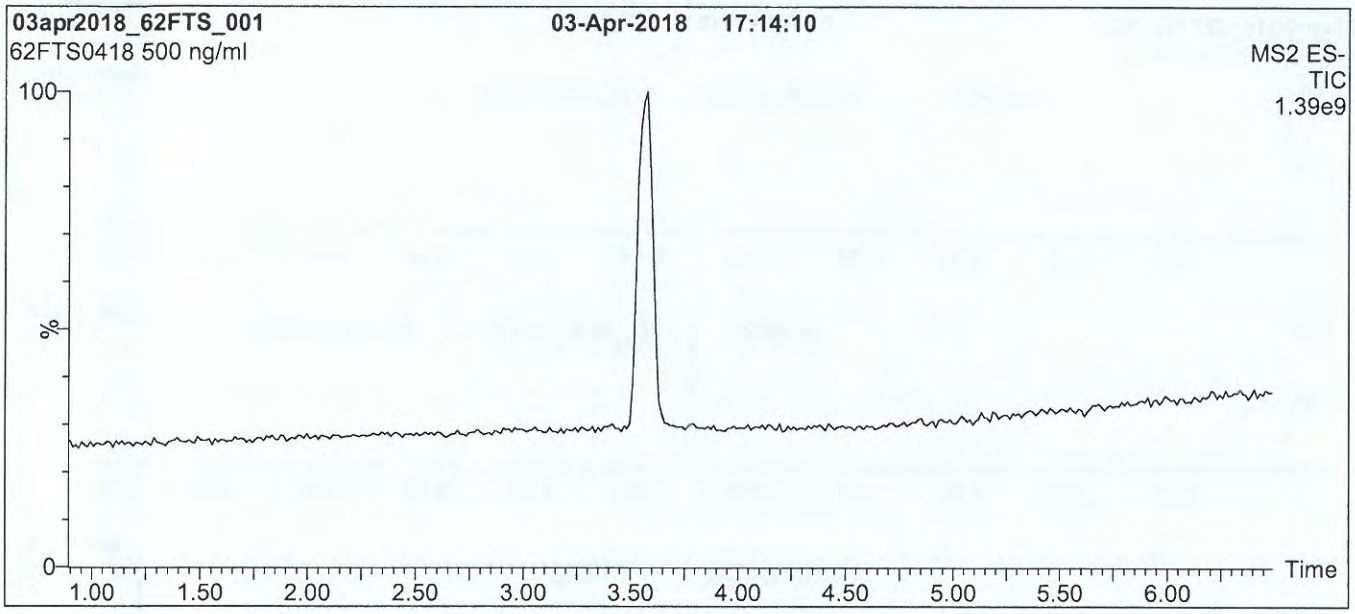
CALA Testing Accreditation No. A 1226

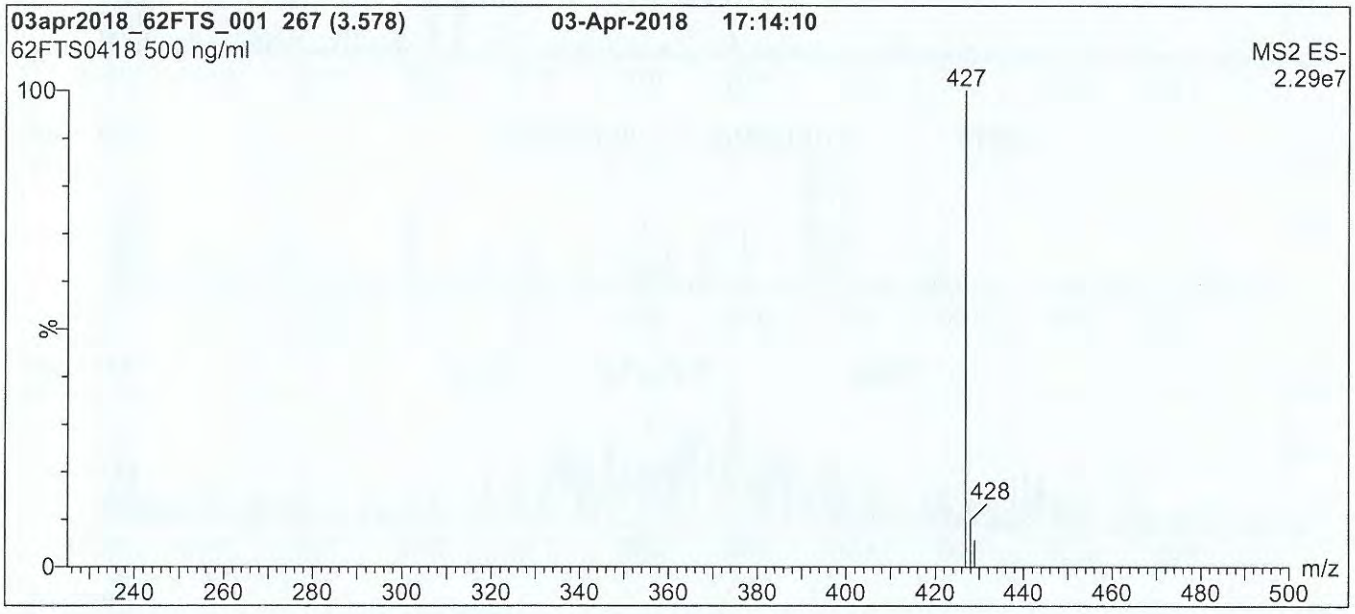
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812055

Figure 1: **6:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

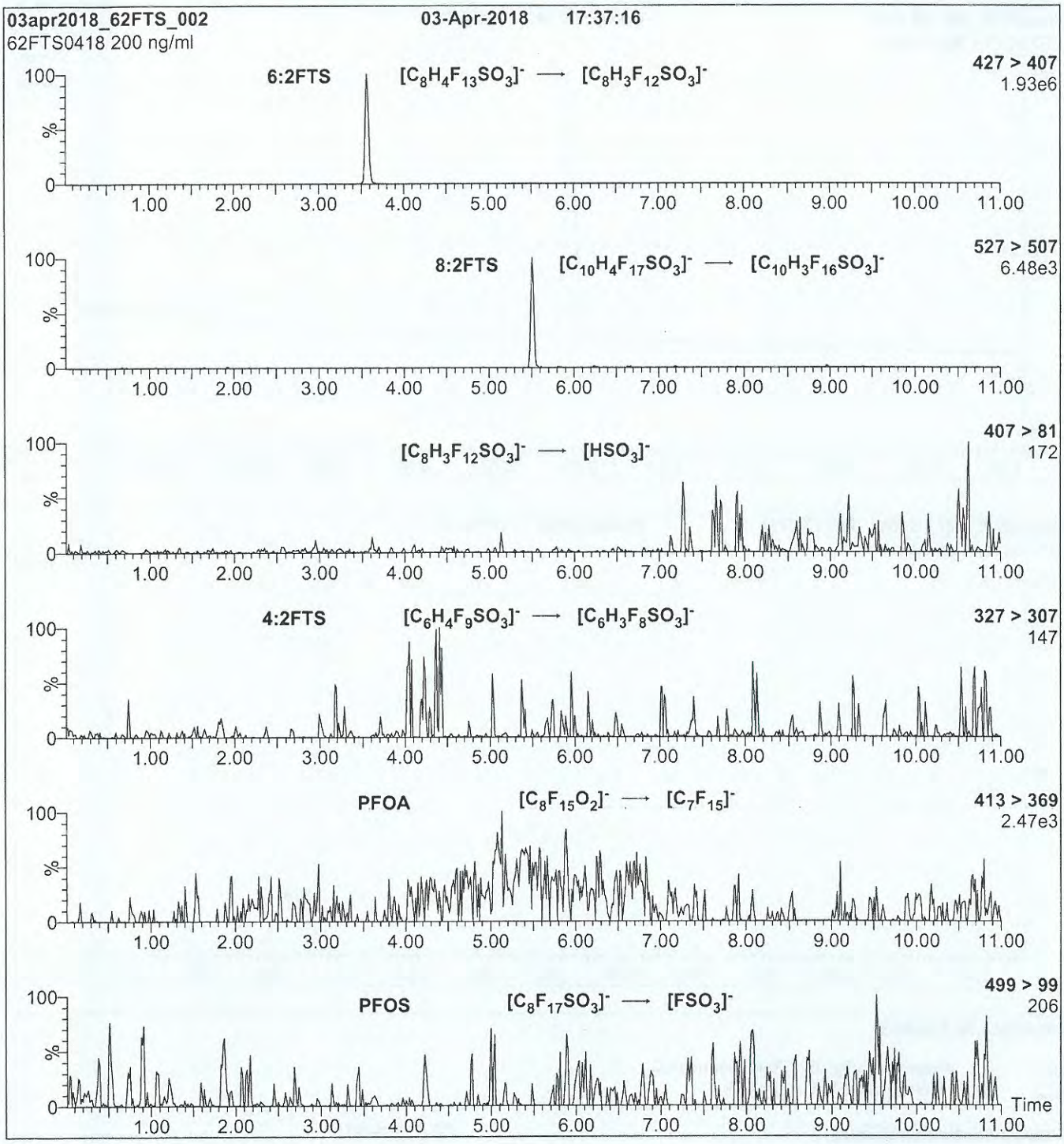
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812055

Figure 2: **6:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (6:2FTS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 20

1812056

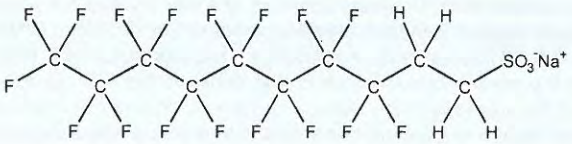
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 8:2FTS **LOT NUMBER:** 82FTS1118

COMPOUND: Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{10}H_4F_{17}SO_3Na$		**MOLECULAR WEIGHT:**	550.16
CONCENTRATION:	50.0 ± 2.5 µg/ml	(Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml	(8:2FTS anion)		
CHEMICAL PURITY:	>98%			
LAST TESTED: (mm/dd/yyyy)	11/28/2018			
EXPIRY DATE: (mm/dd/yyyy)	11/28/2023			
RECOMMENDED STORAGE:	Refrigerate ampoule			

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/29/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812056

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CALA Testing Accreditation No. A1226

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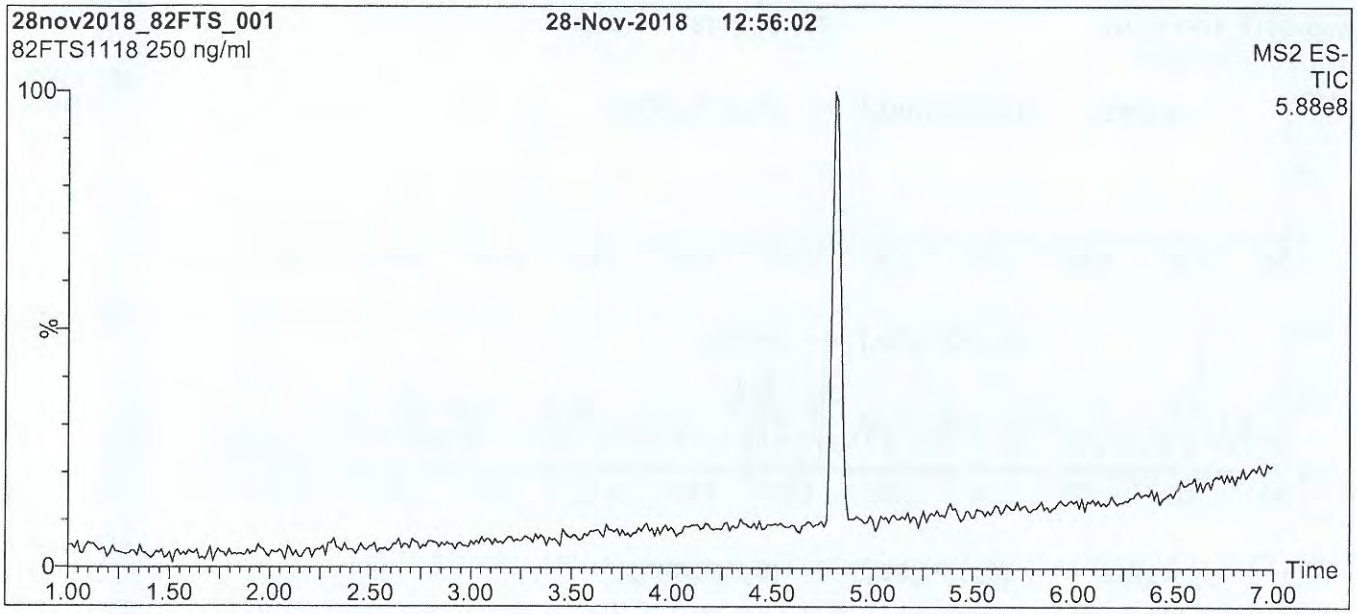
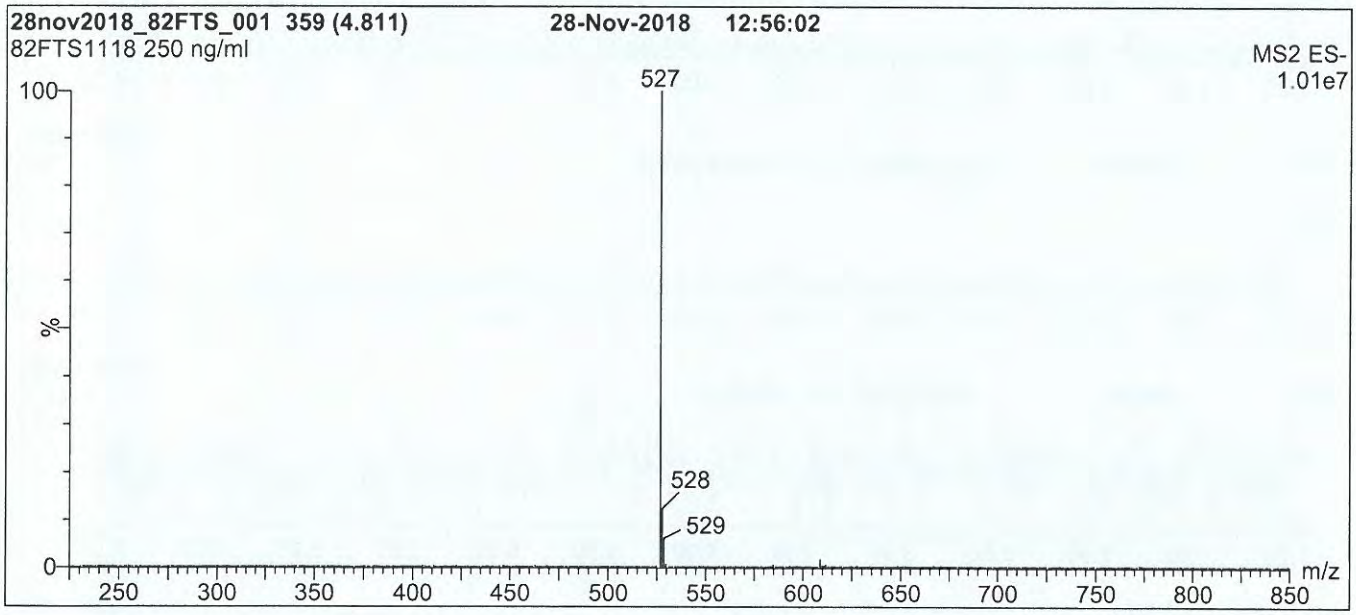
1812056

Figure 1: **8:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

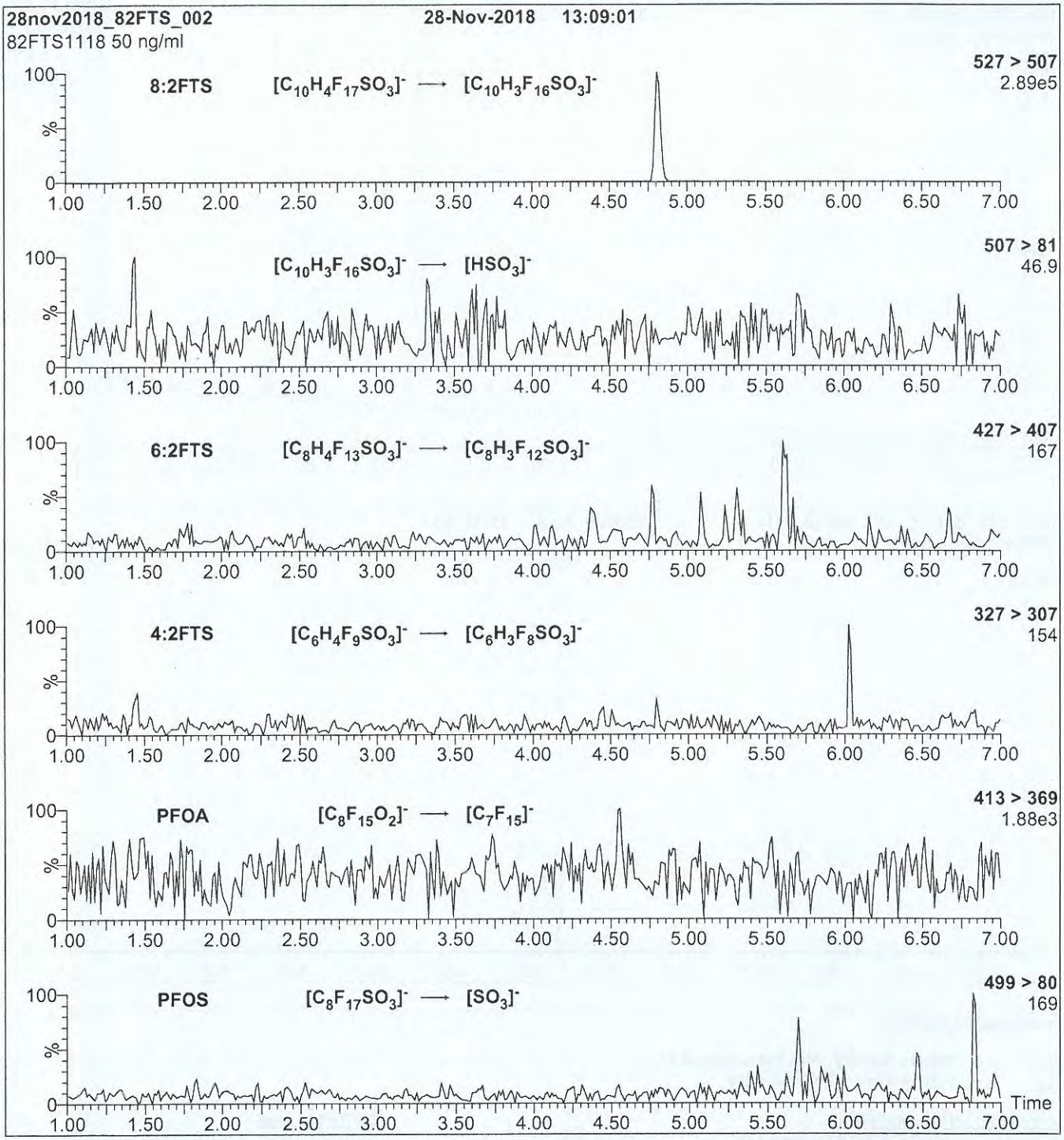
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812056

Figure 2: **8:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (8:2FTS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

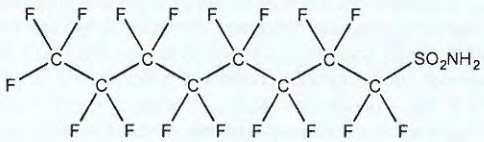
Collision Gas (mbar) = 2.74e-3
Collision Energy (eV) = 26

1812057

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	FOSA-I	**LOT NUMBER:**	FOSA0618I
COMPOUND:	Perfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	754-91-6



MOLECULAR FORMULA:	$C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	499.14
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	06/20/2018		
EXPIRY DATE: (mm/dd/yyyy)	06/20/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 06/25/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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1812057

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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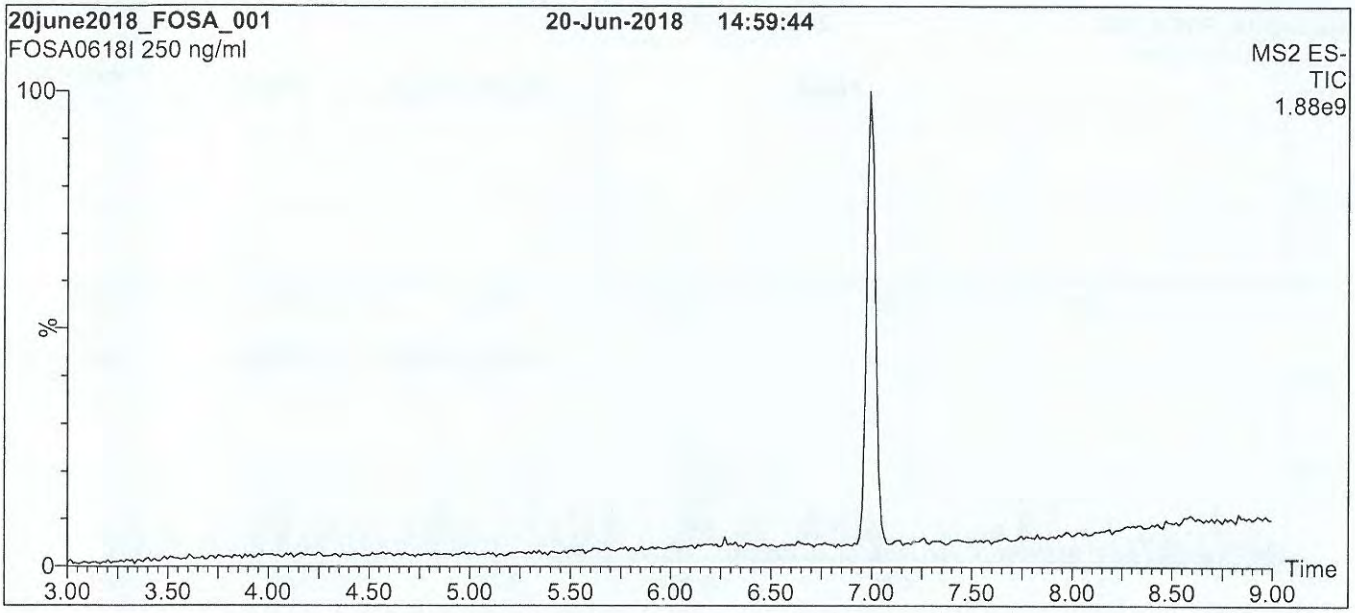
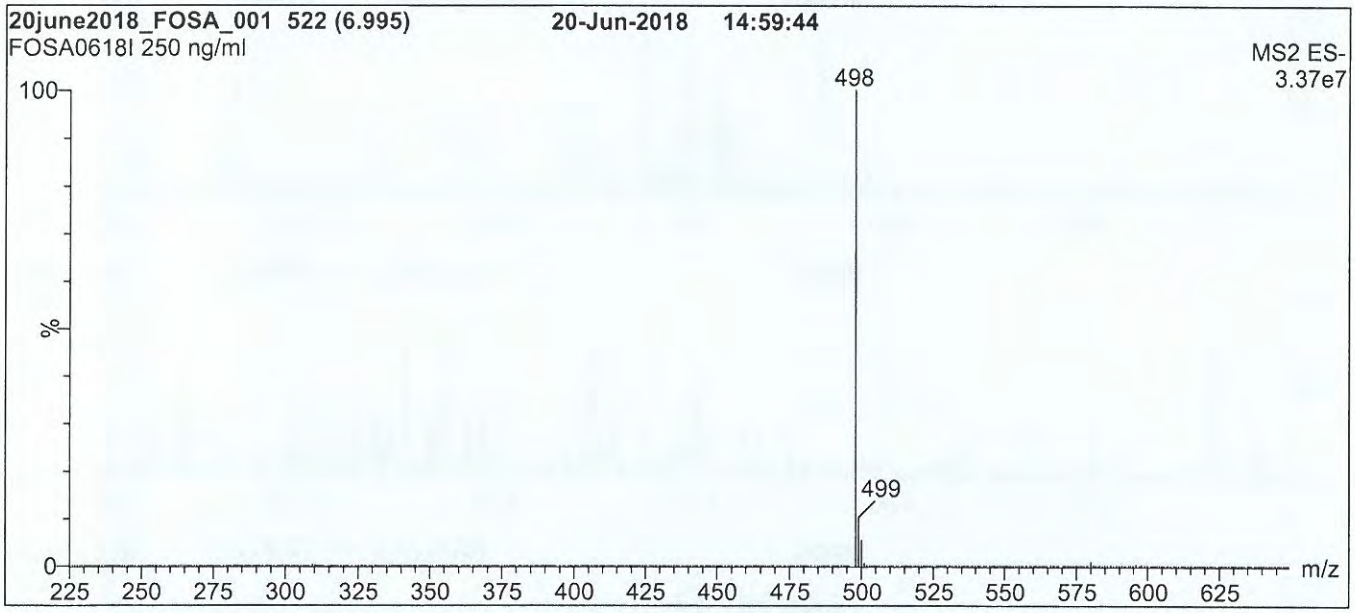
1812057

Figure 1: **FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

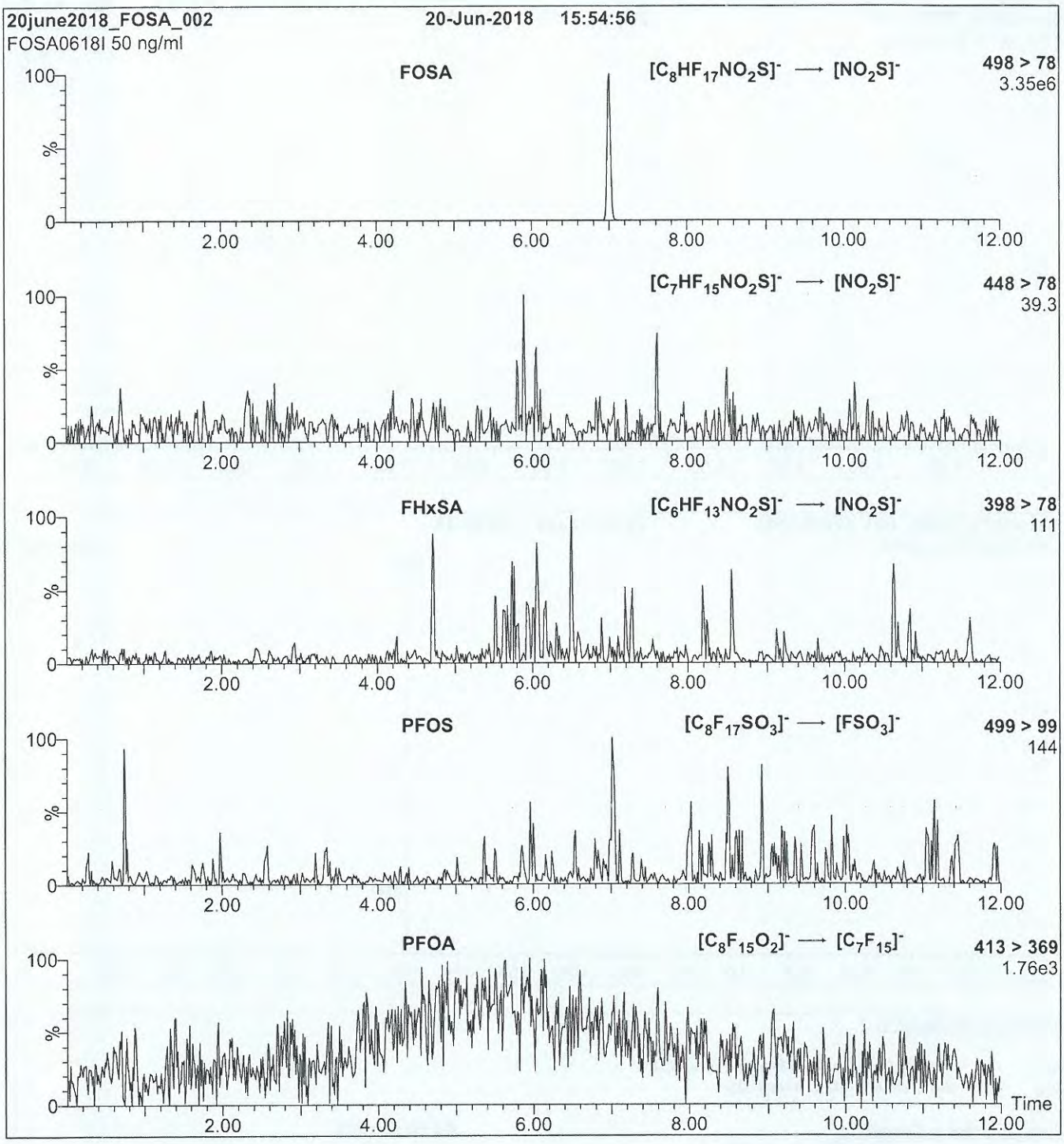
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1862057

Figure 2: **FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (FOSA-I)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3

Collision Energy (eV) = 30

1812058

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSAA

N-Methylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NMeFOSAA
LOT NUMBER:	brNMeFOSAA0118
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	01/10/2018
LAST TESTED: (mm/dd/yyyy)	01/17/2018
EXPIRY DATE: (mm/dd/yyyy)	01/17/2023
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamidoacetic acid (linear and branched isomers). The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.

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18L2058

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CALA Testing Accreditation No. A 1226

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1812058

Table A: **br-NMeFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2H$	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CO_2H$	0.7
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CO_2H$	2.0
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	6.0
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CO_2H$	14.0
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	0.2
7	Other Unidentified Isomers		1.1

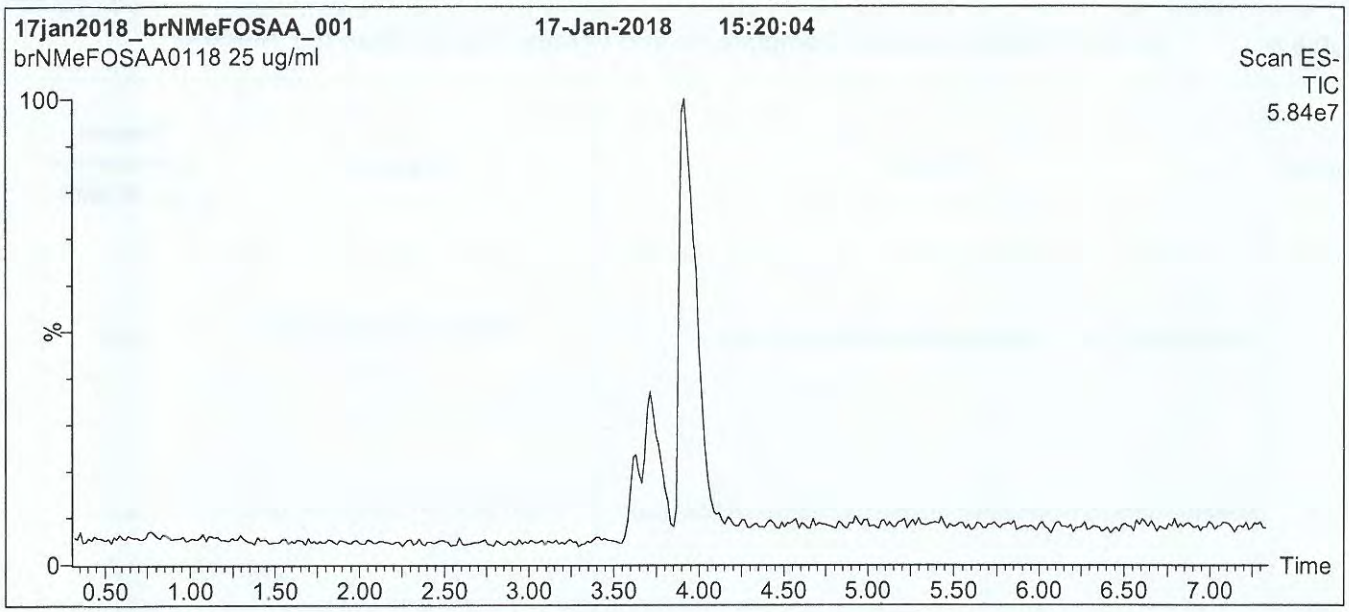
* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

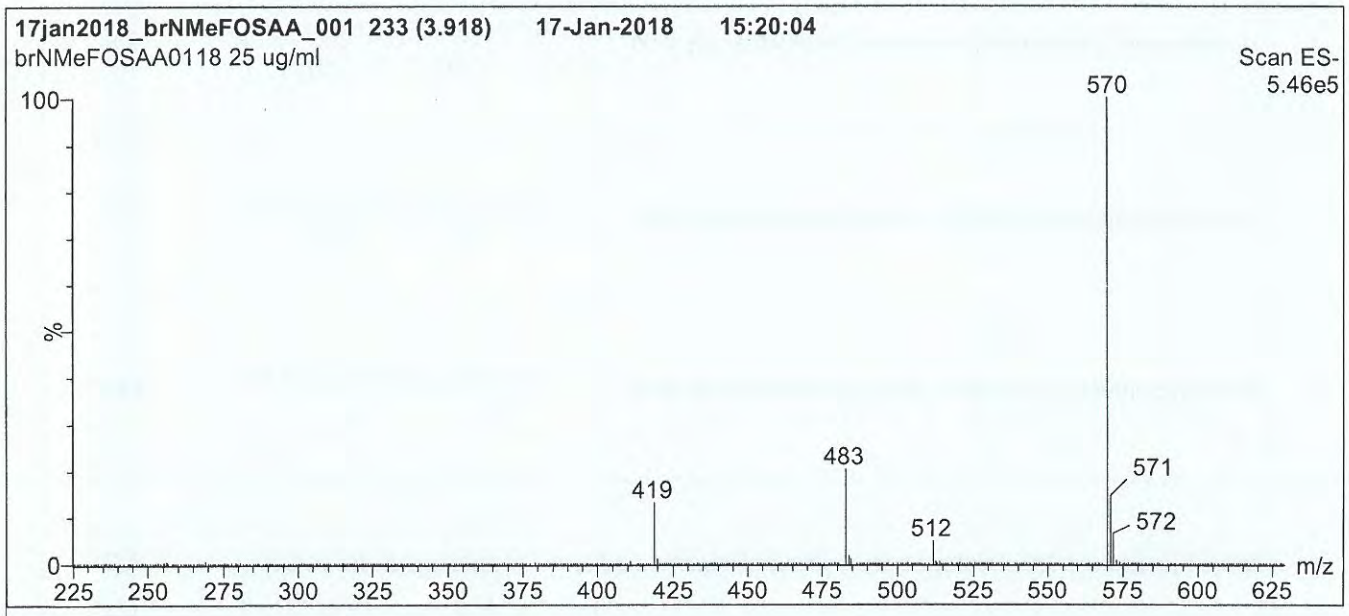
Certified By: _____ **Date:** 03/22/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

18L2058

Figure 1: **br-NMeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

Time: 10 min

Flow: 300 µl/min

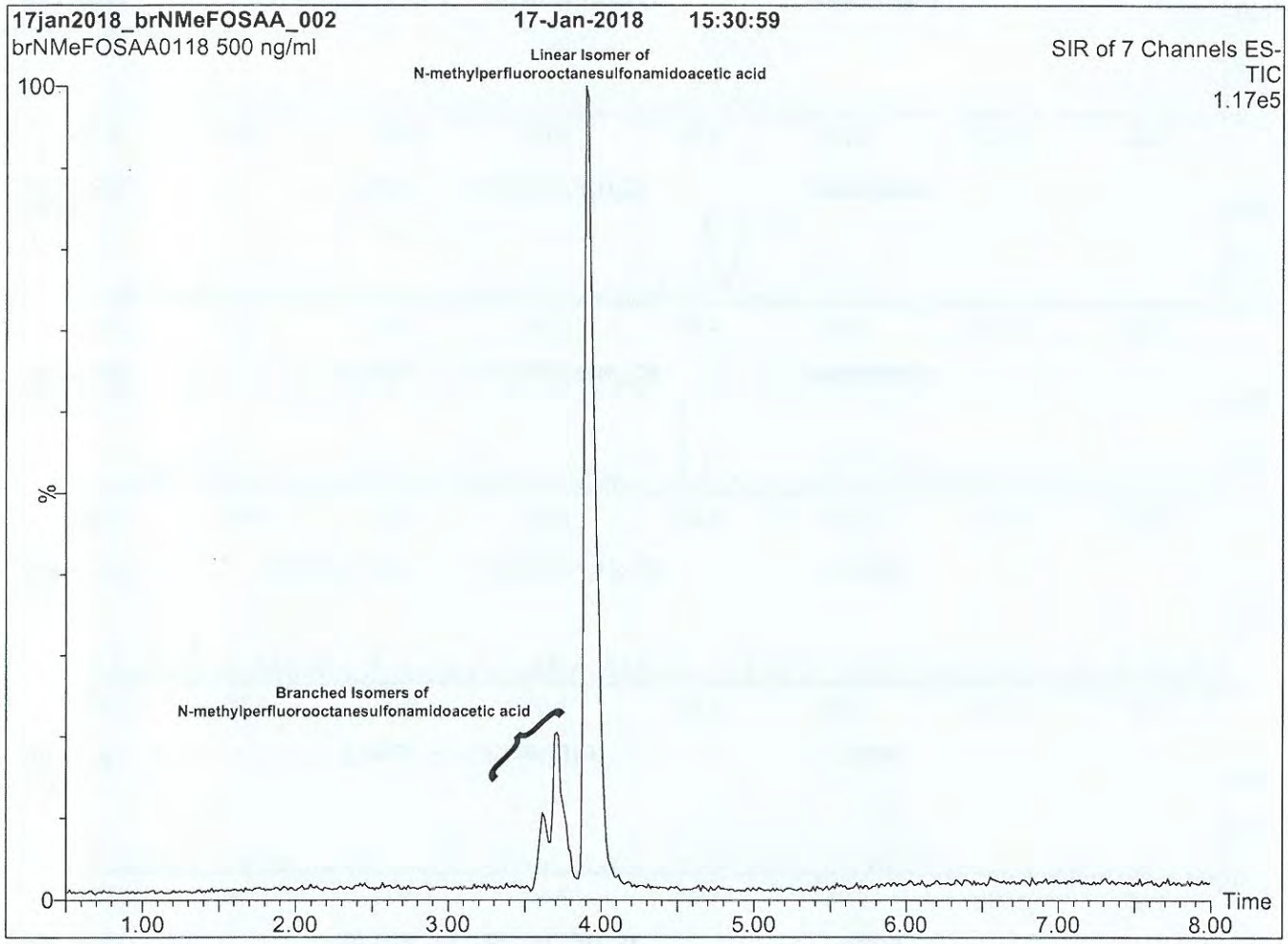
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

1812058

Figure 2: **br-NMeFOSAA; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

Time: 10 min

Flow: 300 µl/min

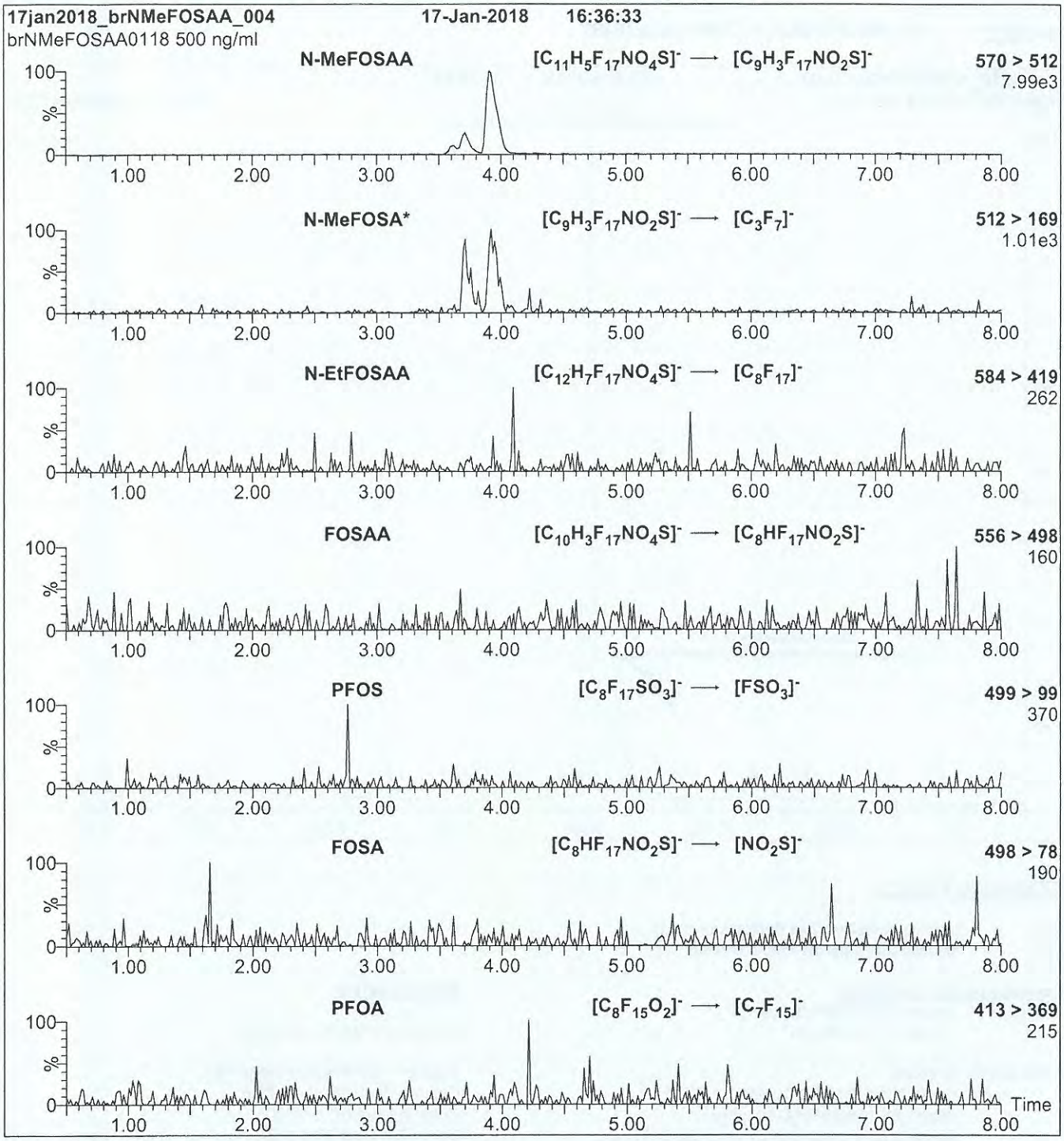
MS Parameters

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

1812058

Figure 3: **br-NMeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



***Note**: N-MeFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

1812059

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSAA

N-Ethylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NEtFOSAA
LOT NUMBER:	brNEtFOSAA0718
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	07/25/2018
LAST TESTED: (mm/dd/yyyy)	07/26/2018
EXPIRY DATE: (mm/dd/yyyy)	07/26/2023
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamidoacetic acid (linear and branched isomers). The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.
- Contains ~ 0.6% of perfluoro-n-octanoic acid.

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Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2059

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812059

Table A: **br-NEtFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(C_2H_5)CH_2CO_2H$	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	2.3
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	2.2
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	5.4
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(C_2H_5)CH_2CO_2H$	10.4
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	0.3
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	0.3
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF_2CF(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	0.3
9	Other Unidentified Isomers		1.3

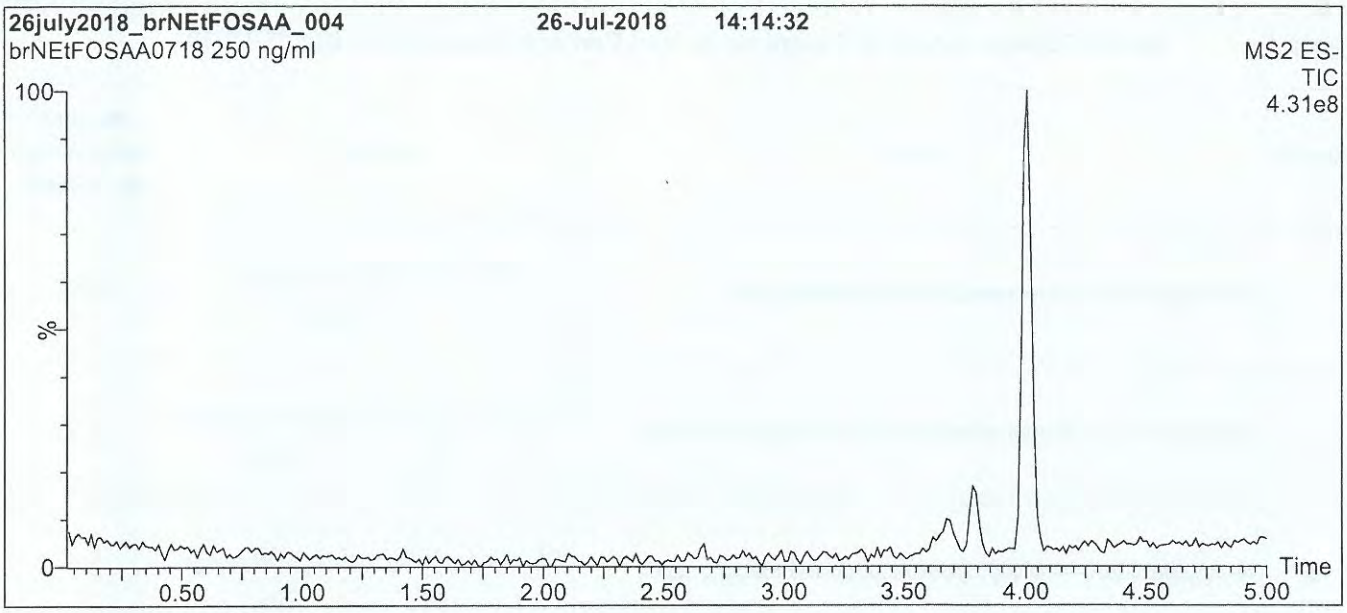
* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

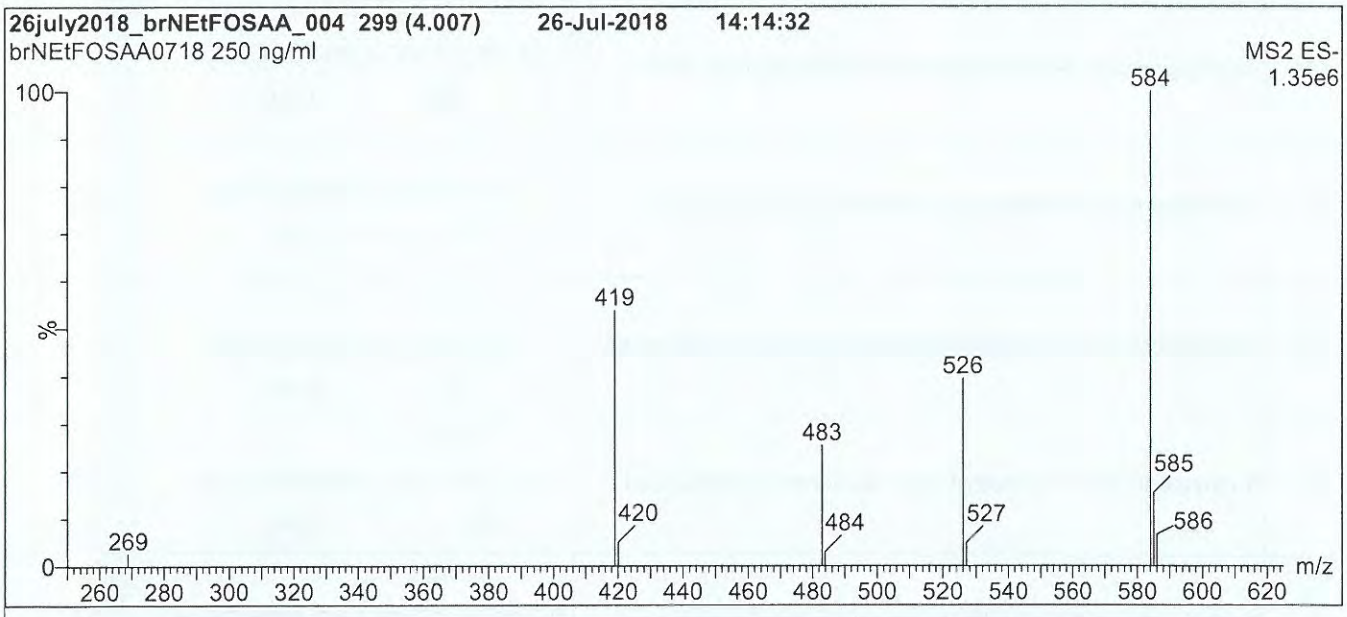
Certified By: _____ **Date:** 07/27/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

1812059

Figure 1: **br-NEtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

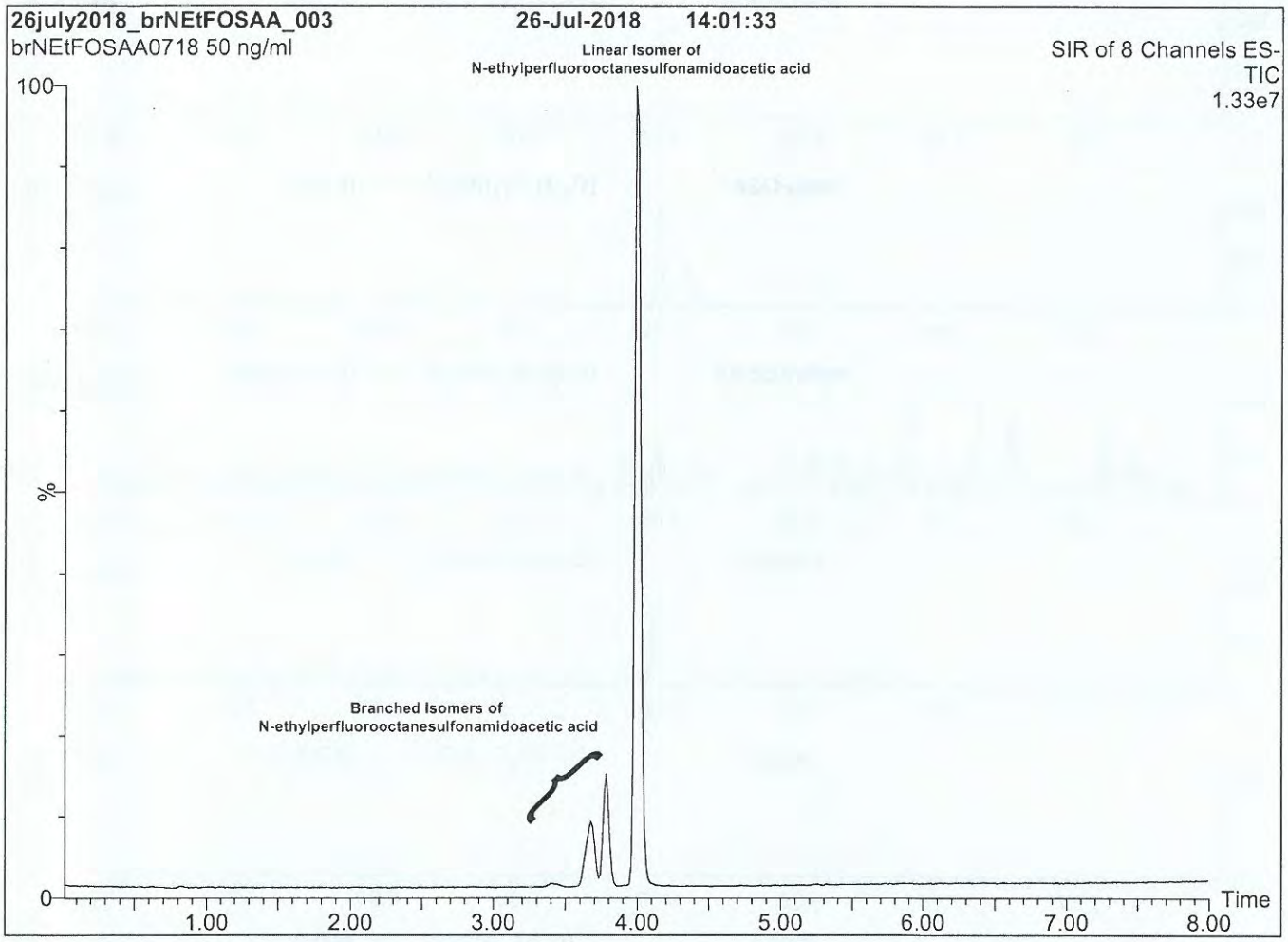
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 64
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

18L2059

Figure 2: **br-NEtFOSAA; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

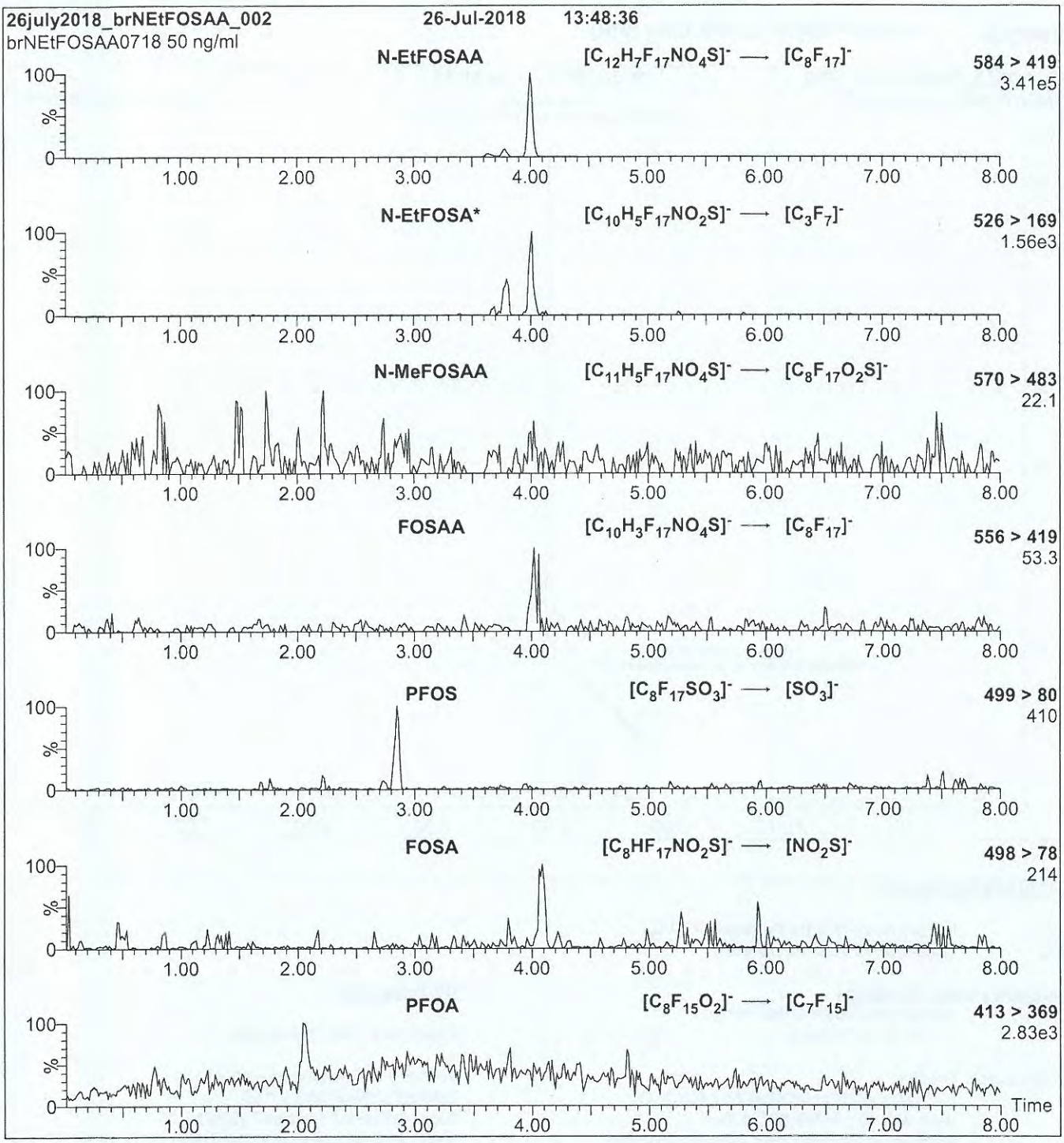
MS Parameters

Experiment: SIR (8 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = variable (2-64)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812059

Figure 3: **br-NEtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



*__Note__: N-EtFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column (br-NEtFOSAA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

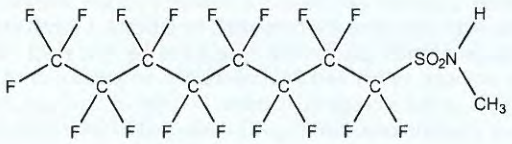
Collision Gas (mbar) = 3.76e-3
Collision Energy (eV) = 18

1812060

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0518M
COMPOUND:	N-methylperfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	31506-32-8



MOLECULAR FORMULA:	$C_9H_4F_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/31/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/07/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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18L2060

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

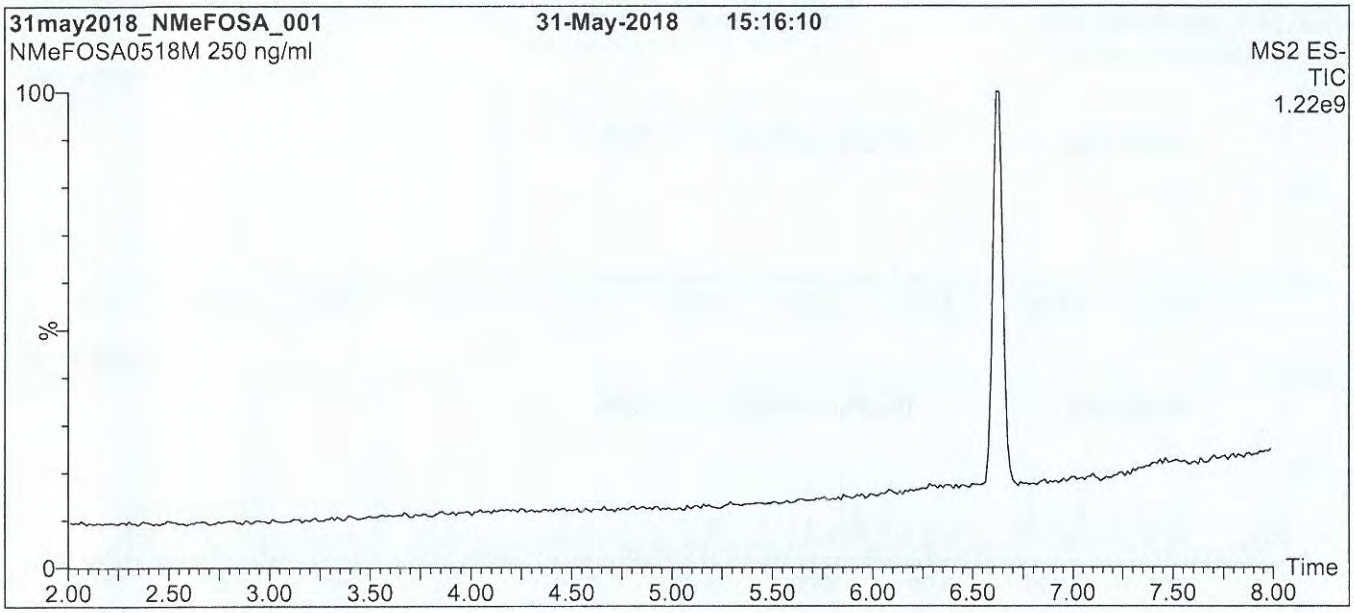
CALA Testing Accreditation No. A 1226

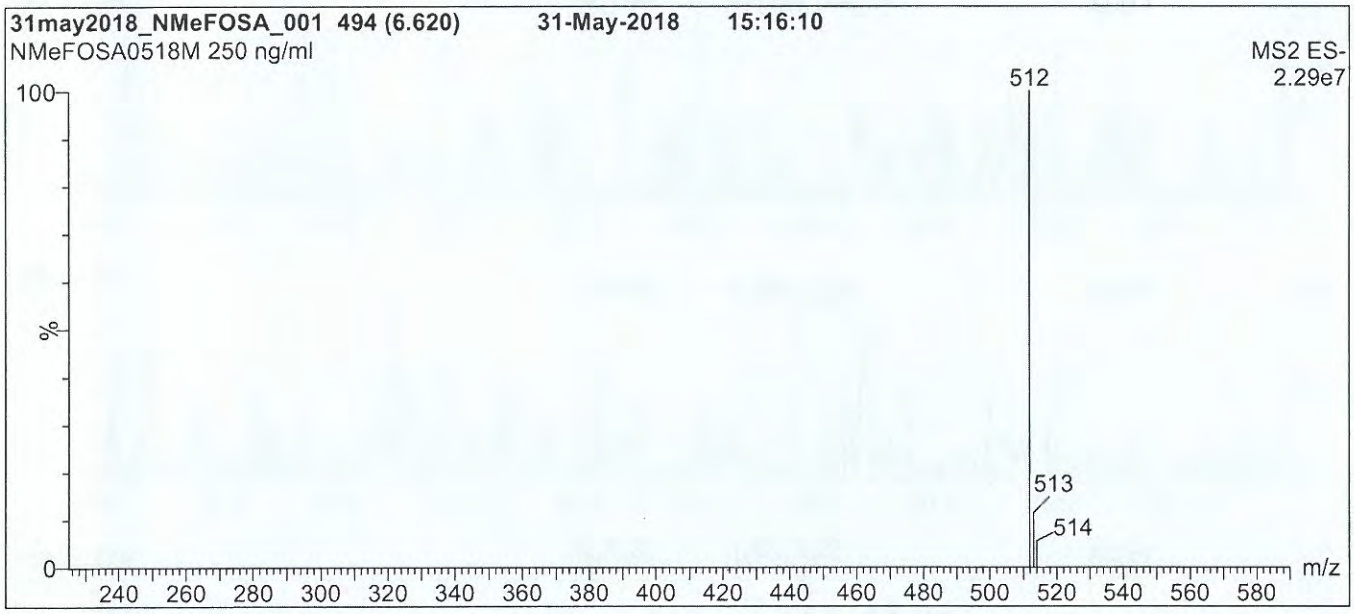
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812000

Figure 1: **N-MeFOSA-M; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH C_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 85% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

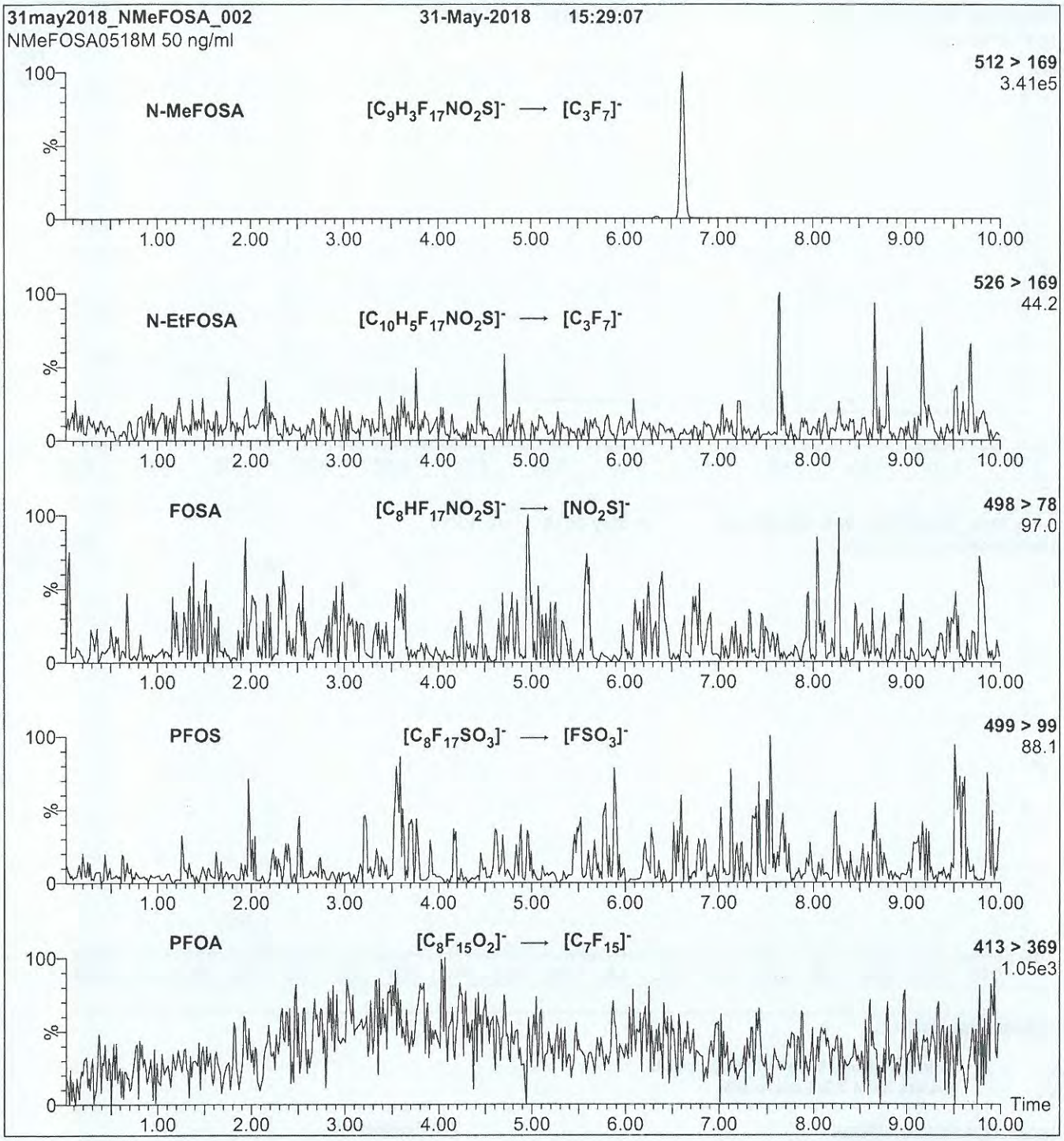
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812060

Figure 2: N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)



Conditions for Figure 2:

Injection: On-column (N-MeFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

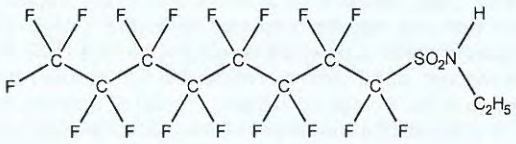
Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 24

1812061

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSA-M	**LOT NUMBER:**	NEtFOSA0518M
COMPOUND:	N-ethylperfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	4151-50-2



MOLECULAR FORMULA:	$C_{10}H_6F_{17}NO_2S$	**MOLECULAR WEIGHT:**	527.20
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/31/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% branched isomers of N-ethylperfluorooctanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/12/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1820601

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

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SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

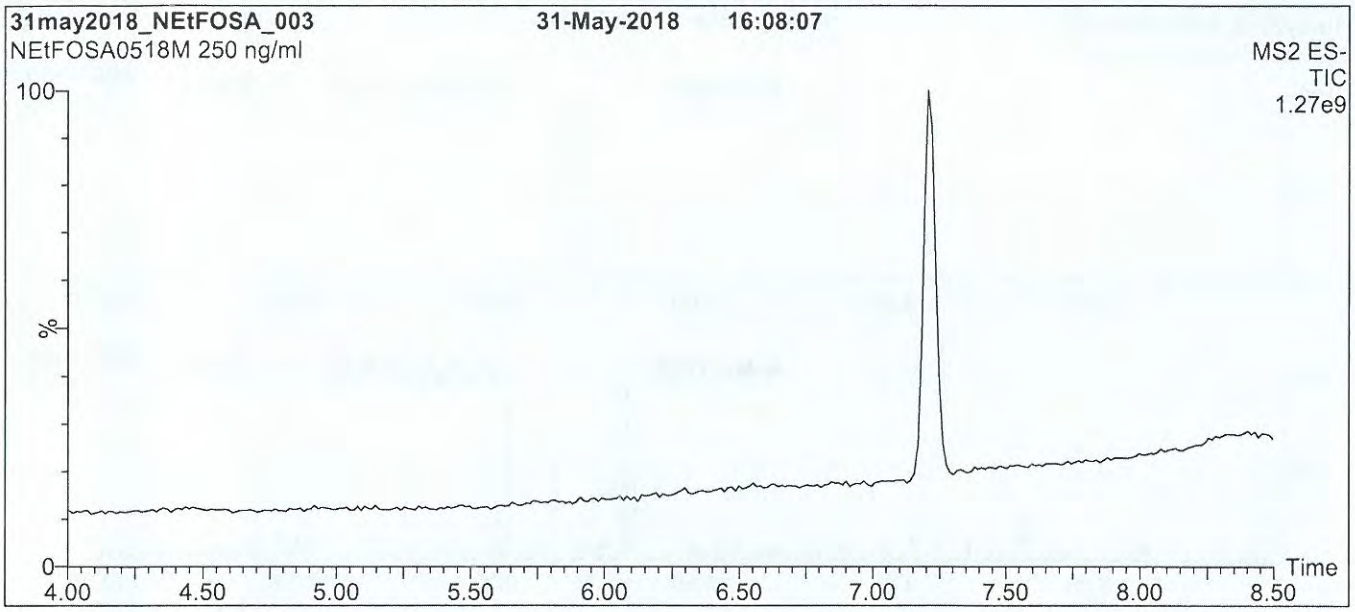
CALA Testing Accreditation No. A 1226

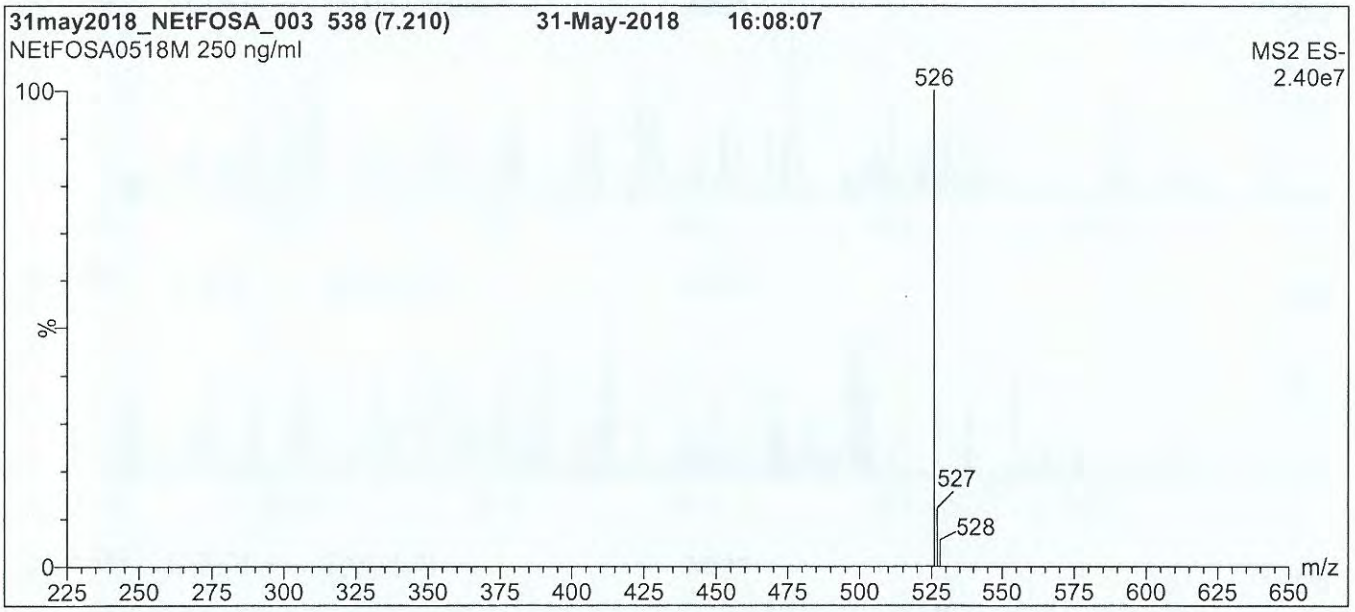
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812061

Figure 1: **N-EtFOSA-M; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH C_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 85% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

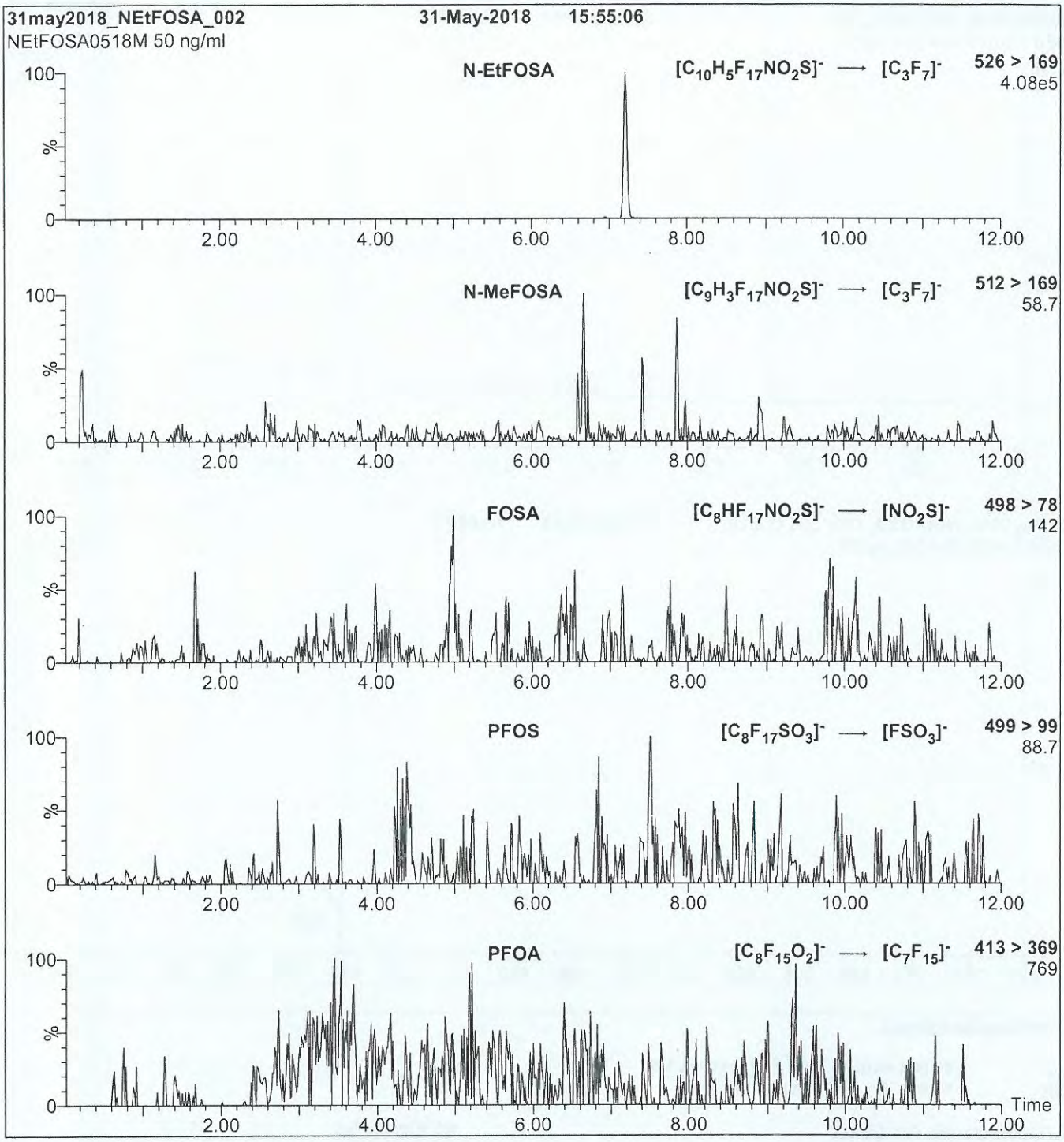
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812061

Figure 2: **N-EtFOSA-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (N-EtFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 24

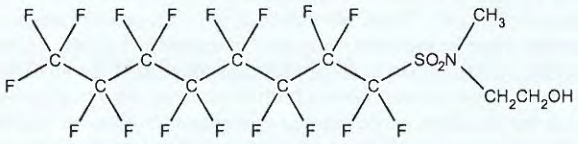
1812062

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE0418M
COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/17/2018 (HRGC/LRMS) 05/03/2018 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	05/17/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/25/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812062

INTENDED USE:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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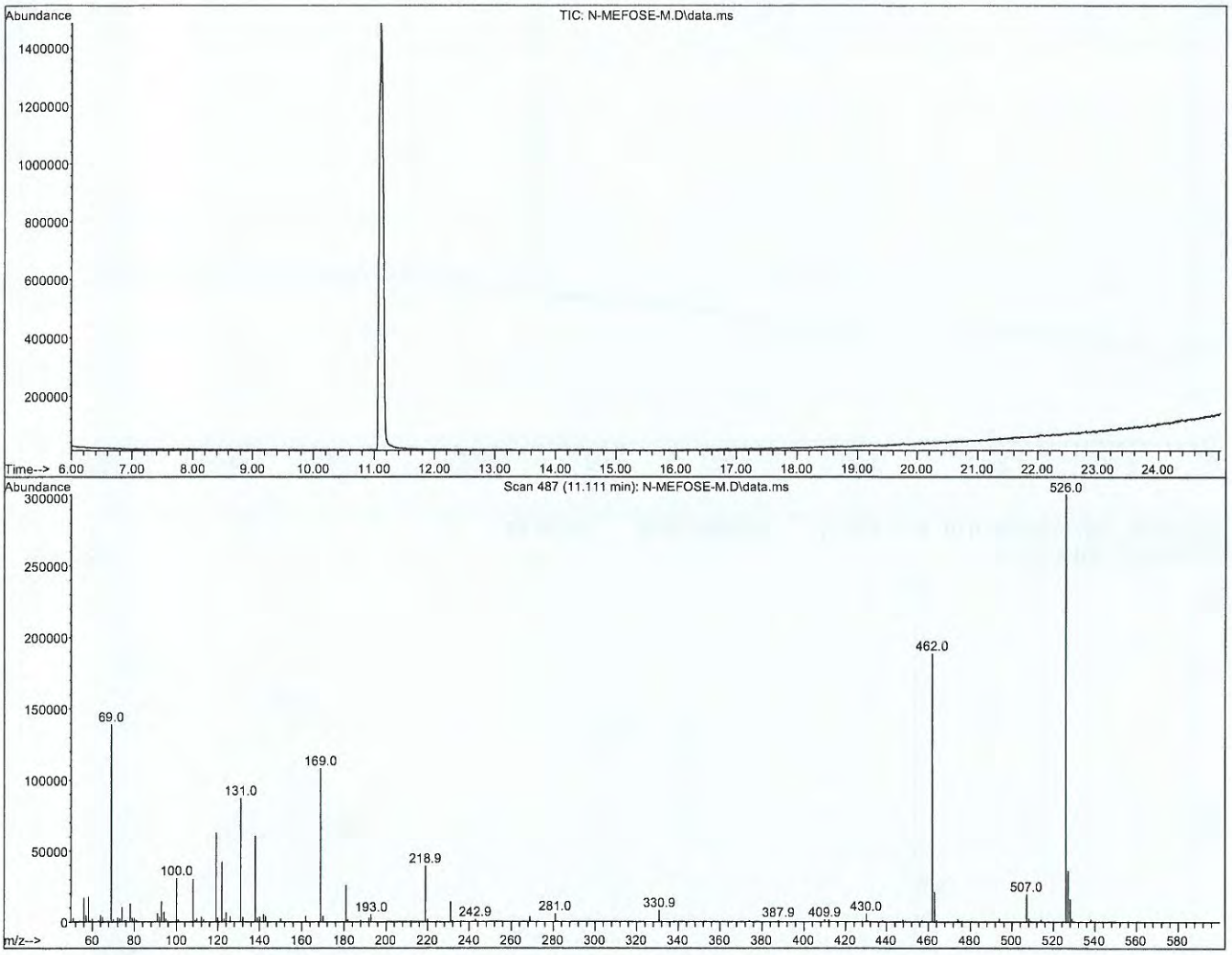
18L2062

Figure 1: **N-MeFOSE-M; HRGC/LRMS Data (TIC and Mass Spectrum)**



HRGC/LRMS:

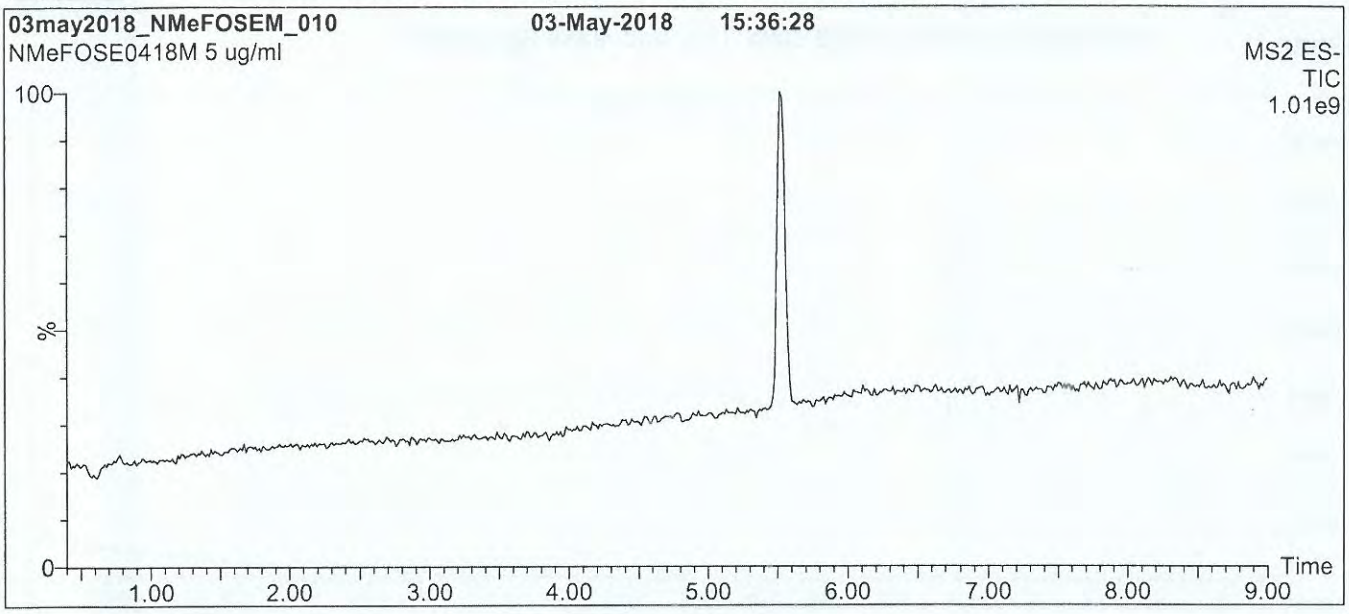
Agilent 7890A (HRGC)
Agilent 5975C (LRMS)

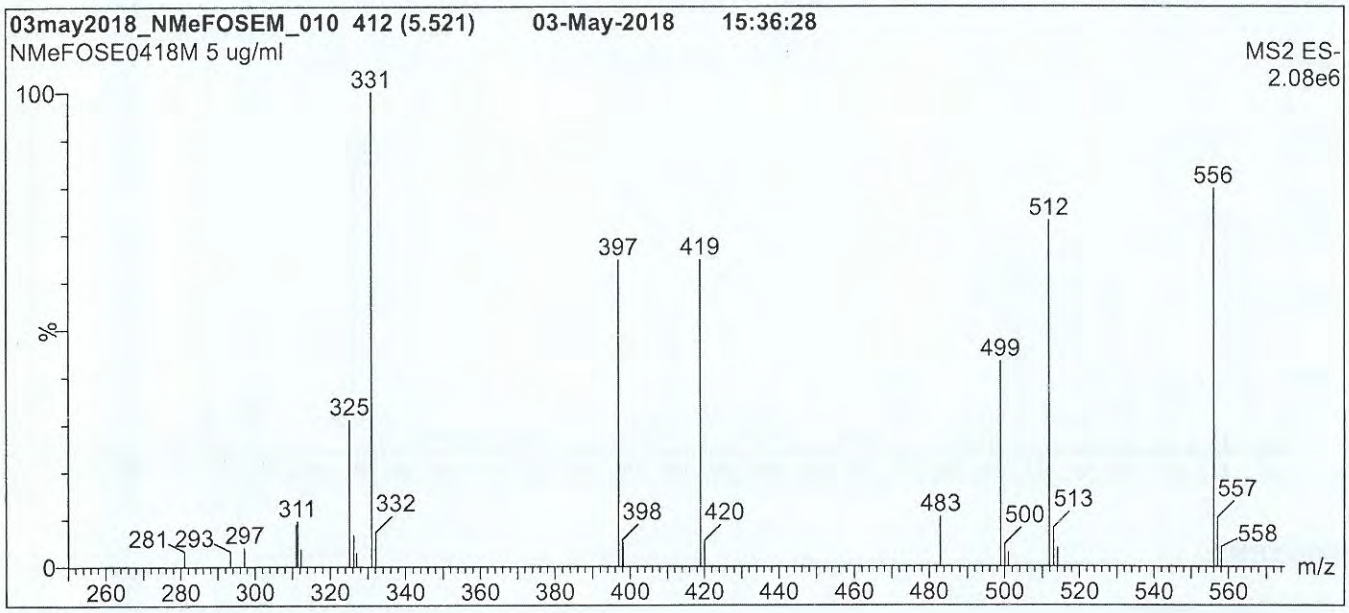
Chromatographic Conditions:

Column:	30 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Injector:	250 °C (Splitless Injection)
Oven:	100 °C (5 min)
	10 °C/min to 325 °C
	325 °C (20 min)
Ionization:	EI+
Detector:	250 °C
	Full Scan (50-1000 amu)

~~1812062~~ GRB 01/15/19
1812062

Figure 2: **N-MeFOSE-M; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% MeOH / 35% H_2O
Ramp to 85% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

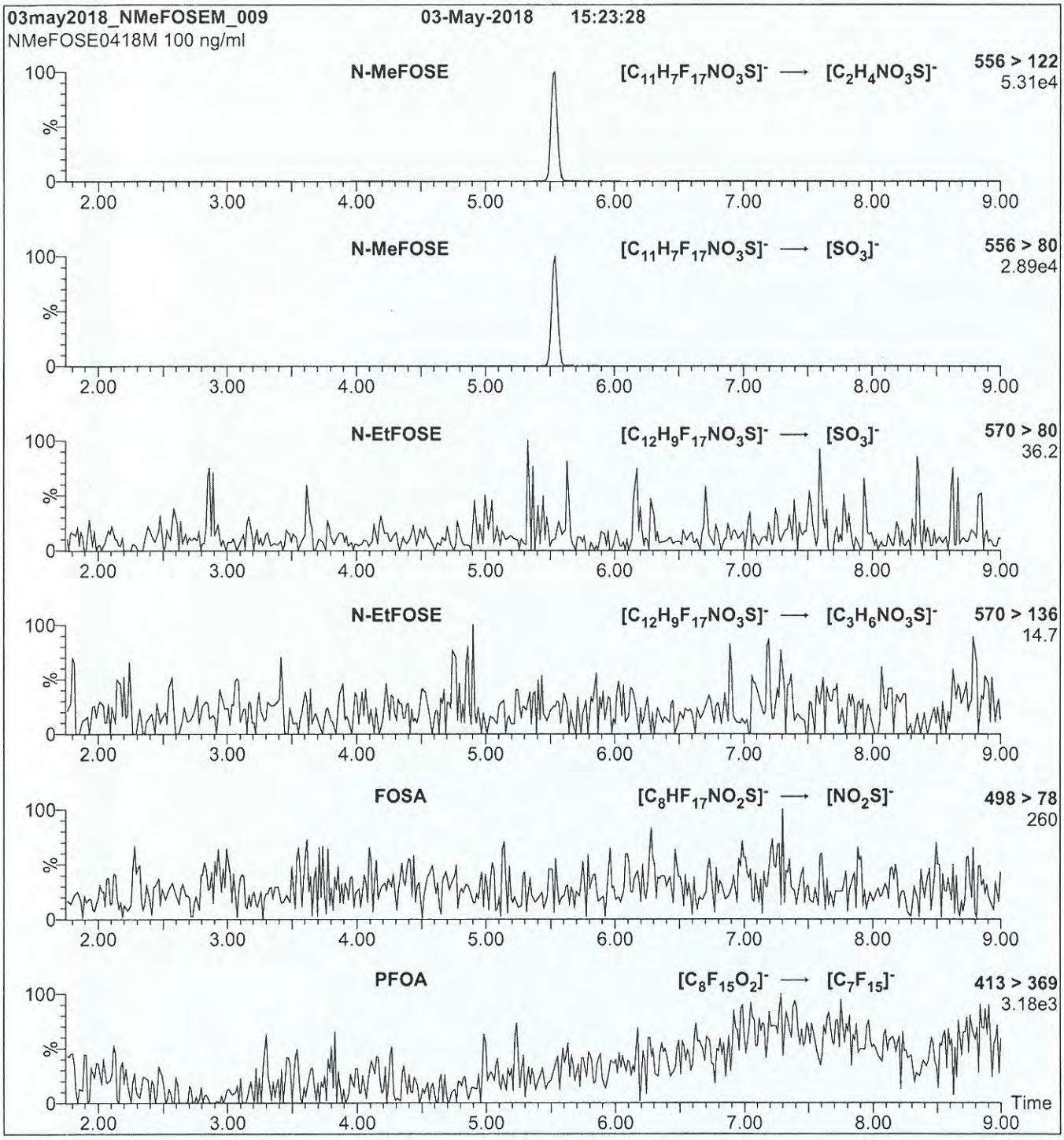
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (l/hr) = 750

1802062

Figure 3: **N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (N-MeFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.47e-3
Collision Energy (eV) = 36

1812063

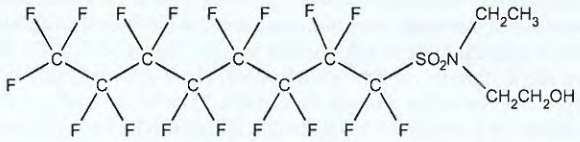
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE0518M

COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 1691-99-2



MOLECULAR FORMULA:	$C_{12}H_{10}F_{17}NO_3S$	**MOLECULAR WEIGHT:**	571.25
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	06/04/2018 (HRGC/LRMS) 05/30/2018 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	06/04/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/04/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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where x is expressed as a relative standard uncertainty of the individual parameter.

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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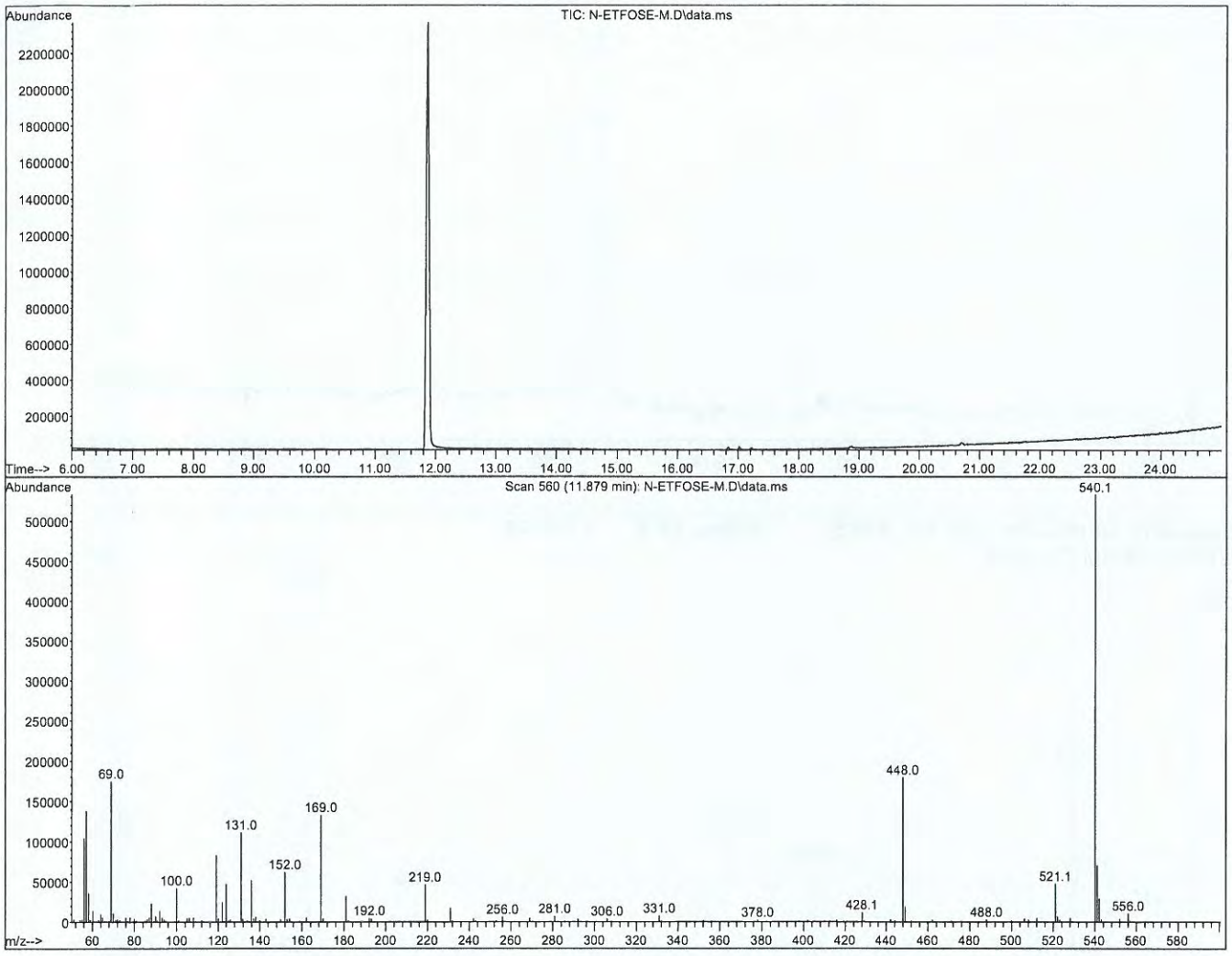
18L2063

Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (TIC and Mass Spectrum)**



HRGC/LRMS:

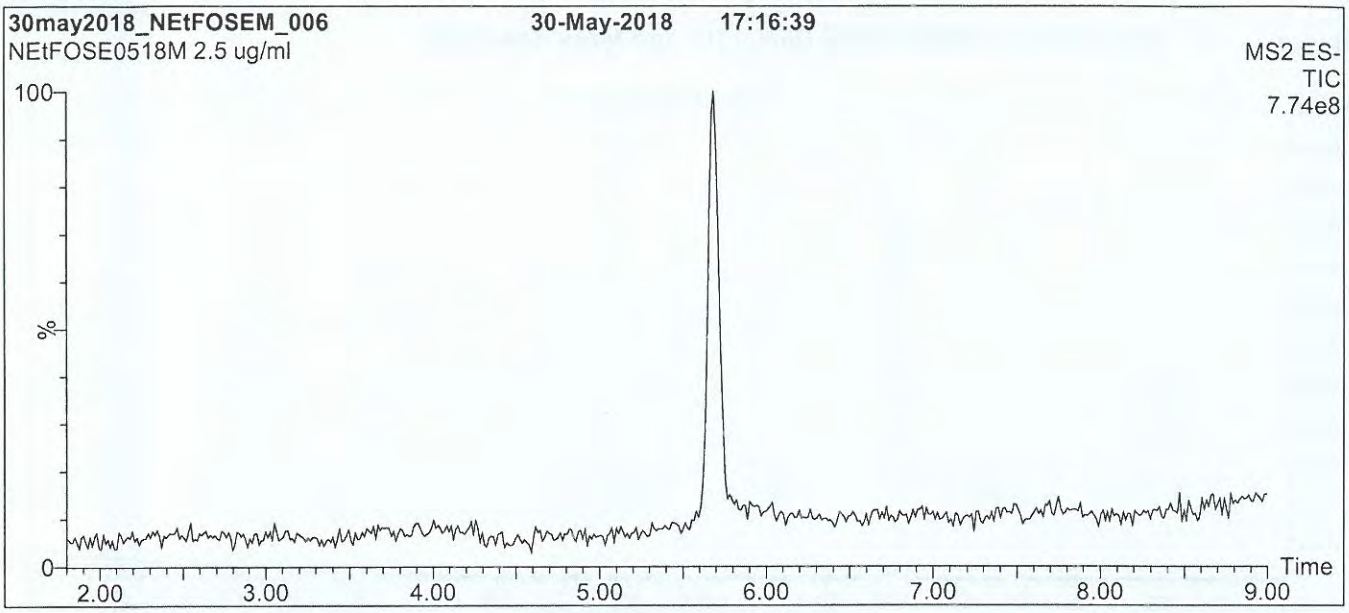
Agilent 7890A (HRGC)
Agilent 5975C (LRMS)

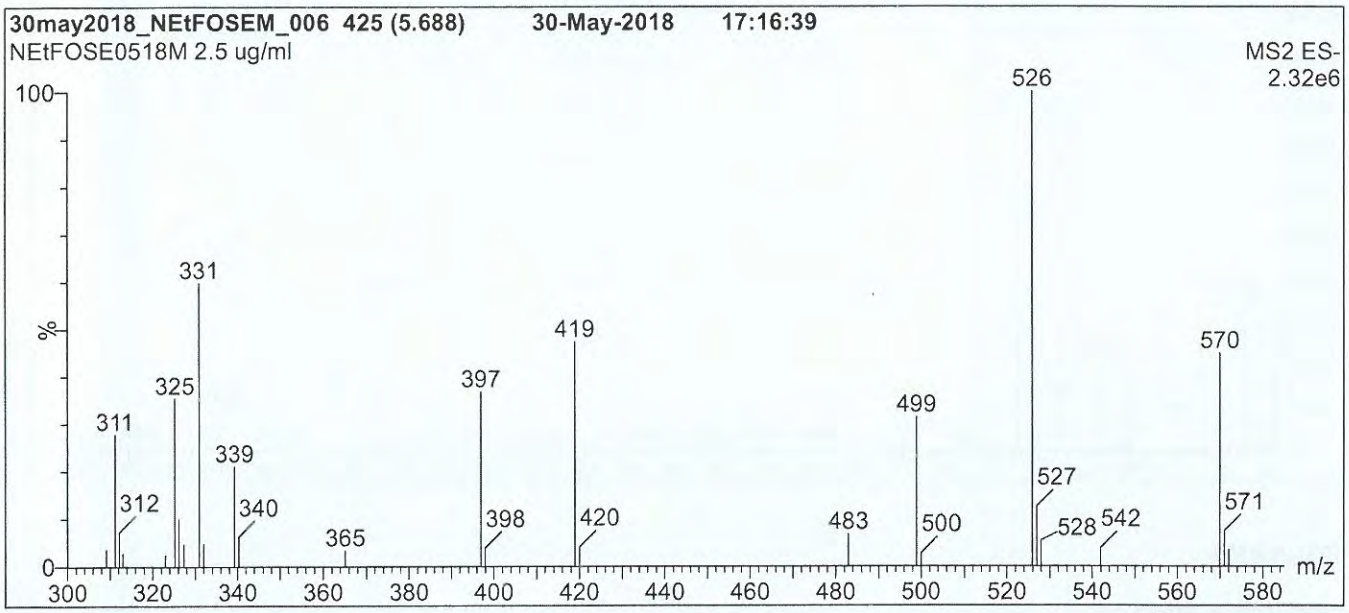
Chromatographic Conditions:

Column:	30 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Injector:	250 °C (Splitless Injection)
Oven:	100 °C (5 min) 10 °C/min to 325 °C 325 °C (20 min)
Ionization:	EI+
Detector:	250 °C Full Scan (50-1000 amu)

1812063

Figure 2: **N-EtFOSE-M; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH C_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 70% MeOH / 30% H_2O
Ramp to 85% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

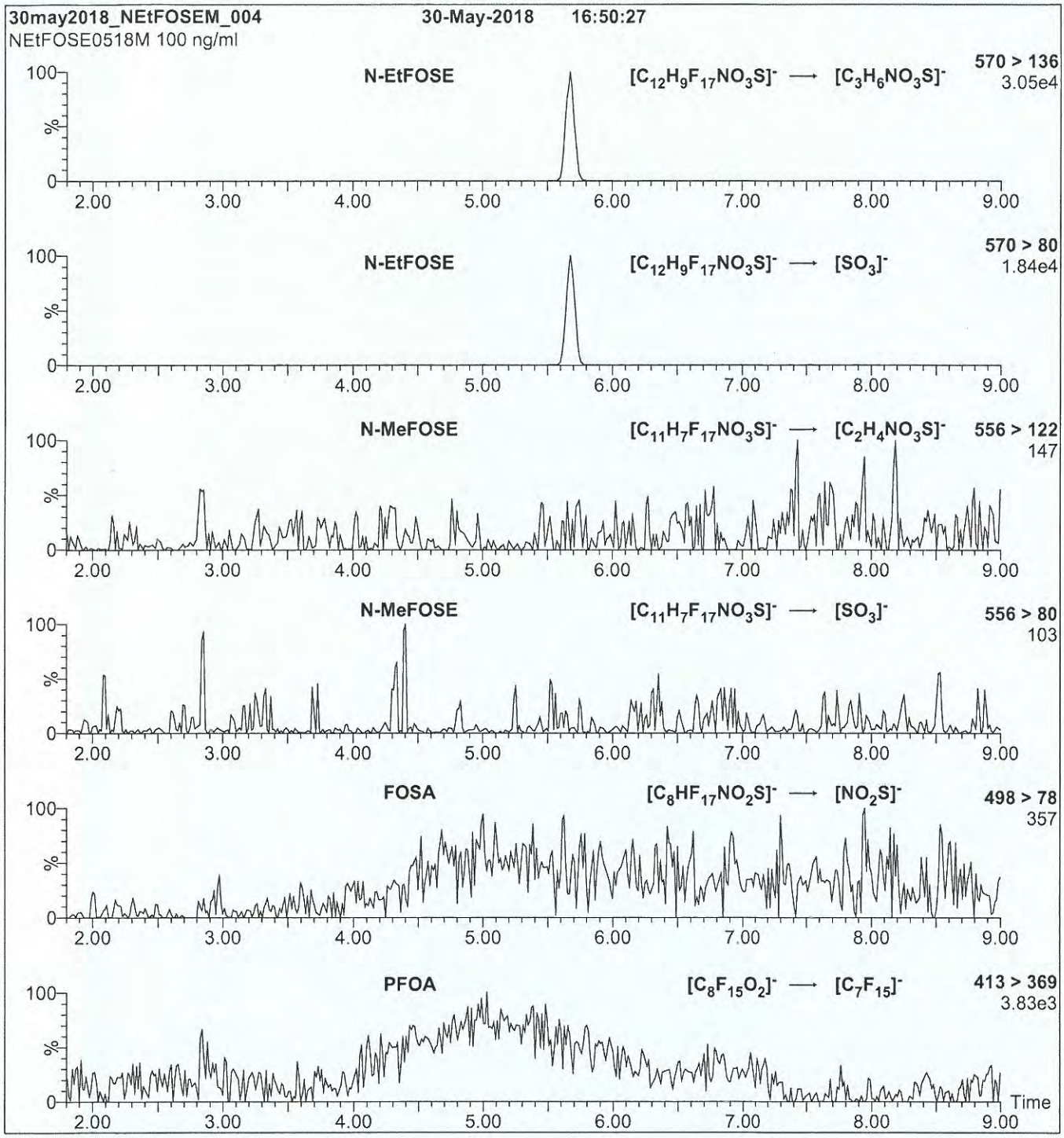
MS Parameters

Experiment: Full Scan (300 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (l/hr) = 750

18L2063

Figure 3: **N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 32

18L2071

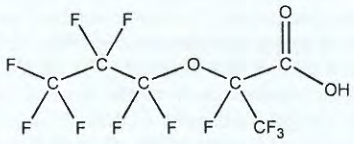
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: HFPO-DA **LOT NUMBER:** HFPODA1018

COMPOUND: 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid

STRUCTURE: **CAS #:** 13252-13-6



MOLECULAR FORMULA:	$C_6HF_{11}O_3$	**MOLECULAR WEIGHT:**	330.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/24/2018		
EXPIRY DATE: (mm/dd/yyyy)	10/24/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Product is commercially known as GenX.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/29/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812071

INTENDED USE:

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SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

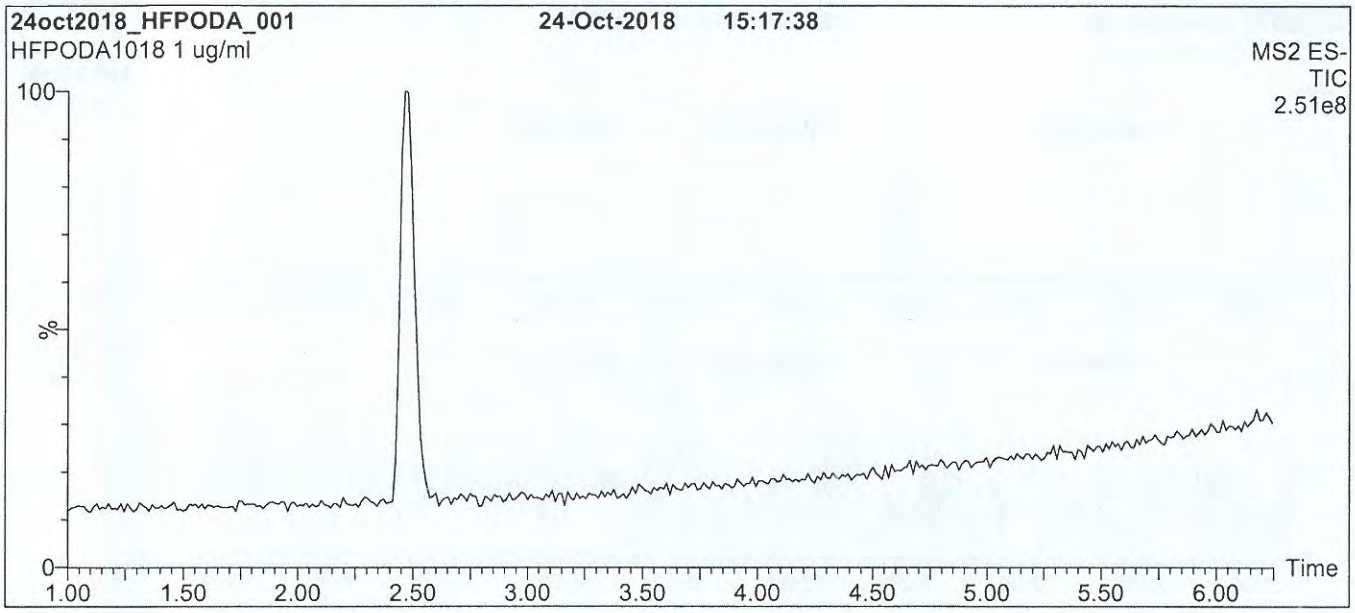
CALA Testing Accreditation No. A 1226

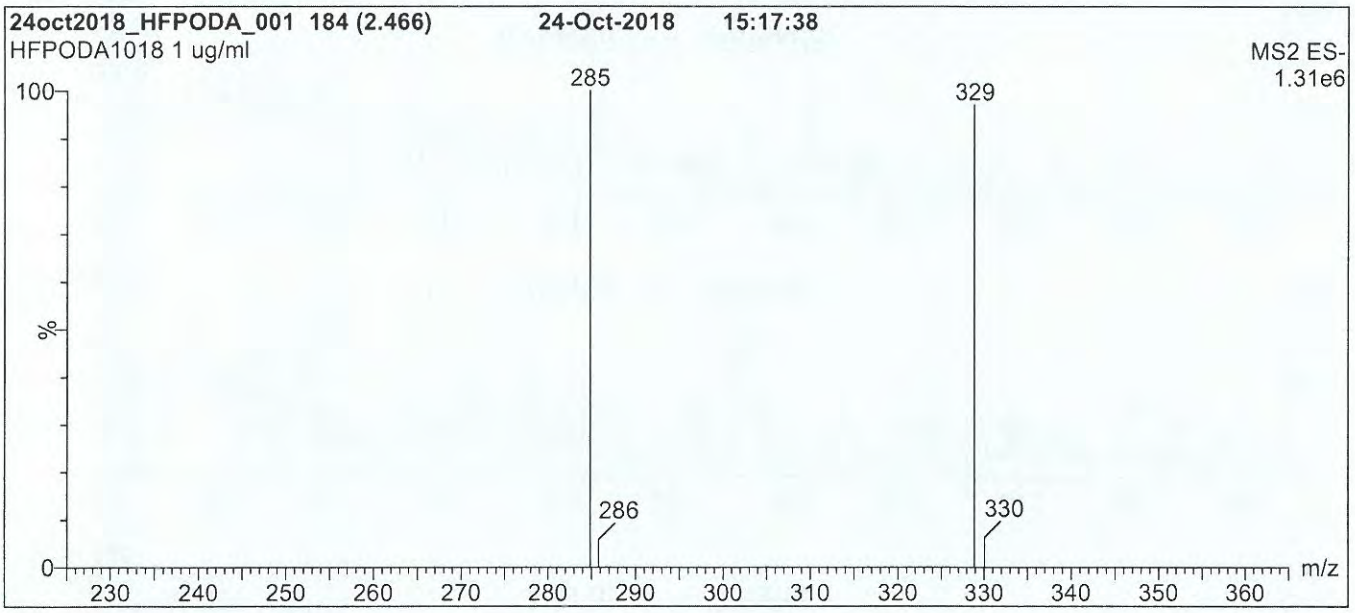
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2071

Figure 1: **HFPO-DA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

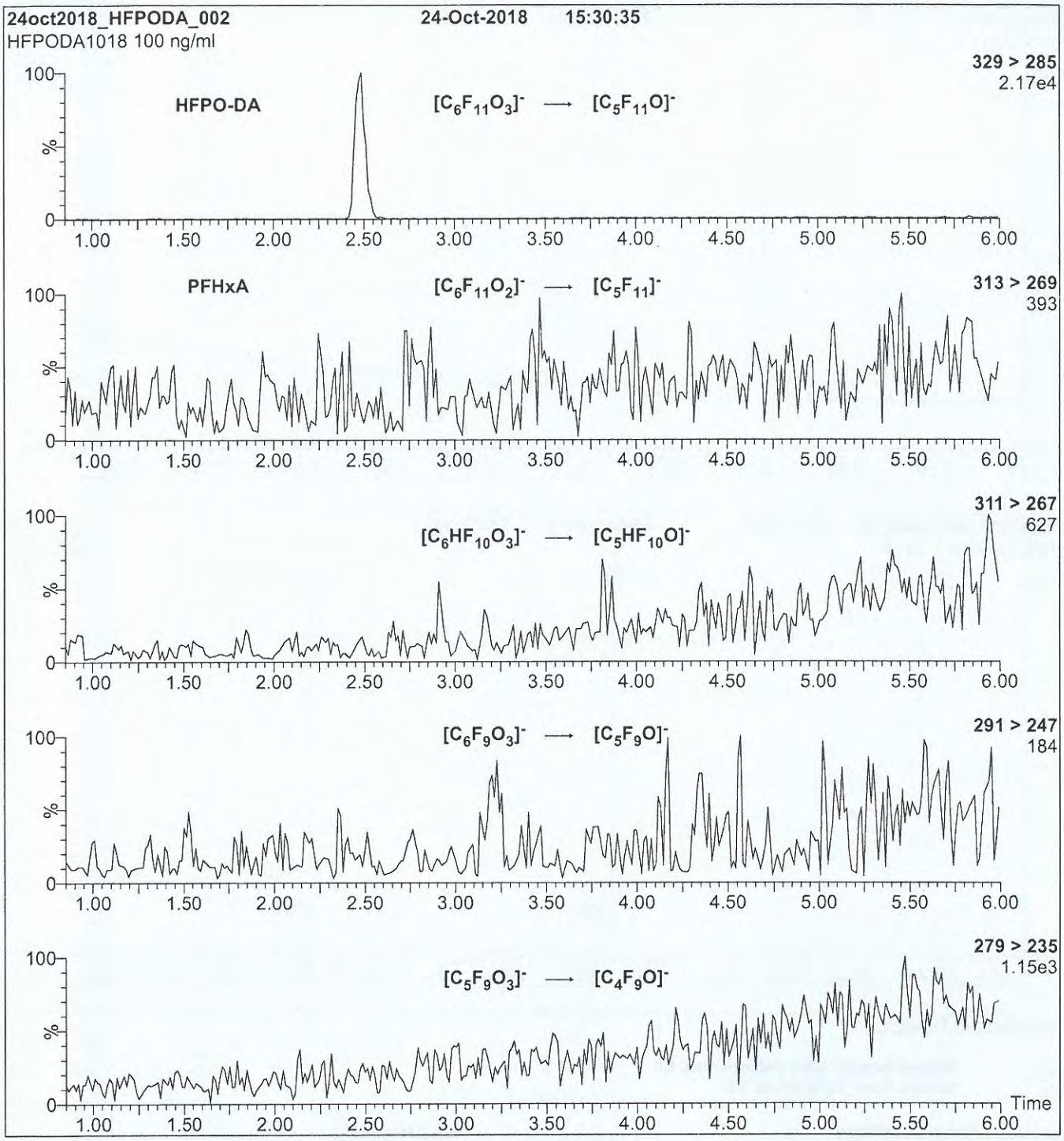
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (l/hr) = 1000

1812071

Figure 2: **HFPO-DA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (HFPO-DA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.02e-3
Collision Energy (eV) = 6

1812072

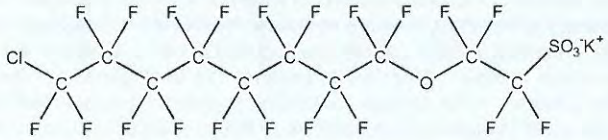
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 11Cl-PF3OUdS **LOT NUMBER:** 11ClPF3OUdS1118

COMPOUND: Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate

STRUCTURE: **CAS #:** 83329-89-9



MOLECULAR FORMULA: $C_{10}F_{20}ClSO_4K$ **MOLECULAR WEIGHT:** 670.69

CONCENTRATION: 50.0 ± 2.5 µg/ml (K Salt) **SOLVENT(S):** Methanol
47.1 ± 2.4 µg/ml (11Cl-PF3OUdS anion)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 11/23/2018

EXPIRY DATE: (mm/dd/yyyy) 11/23/2023

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This compound is a minor component of the commercial formulation known as F-53B.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/28/2018
(mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812072

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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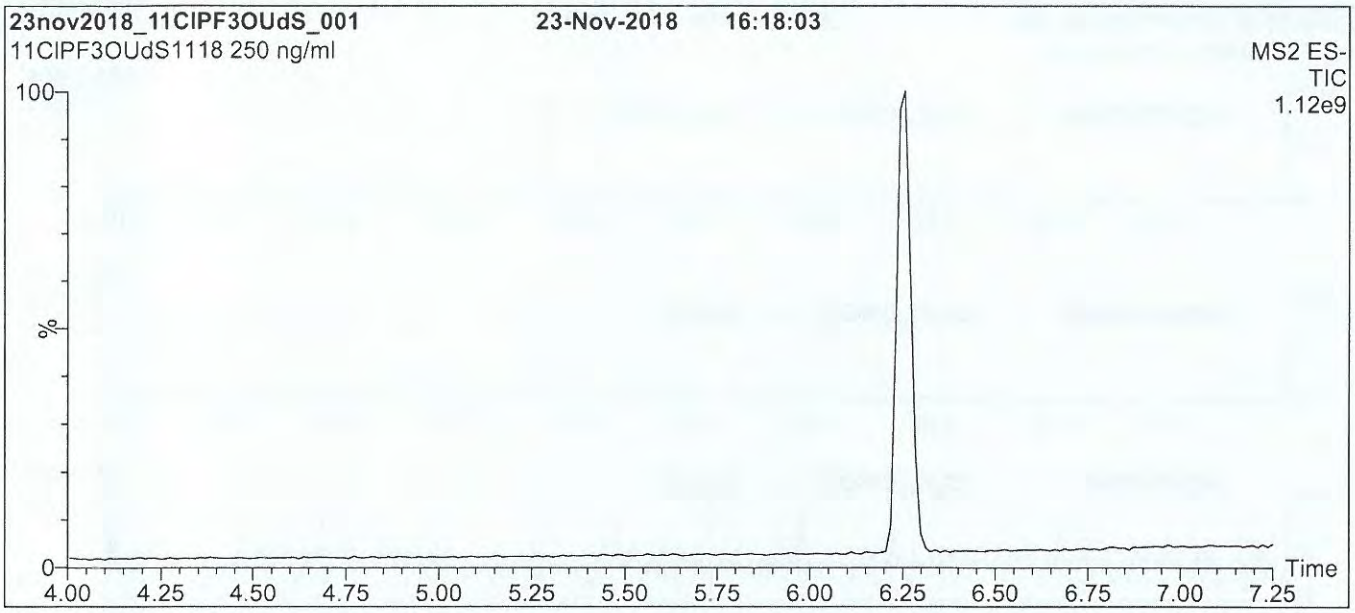
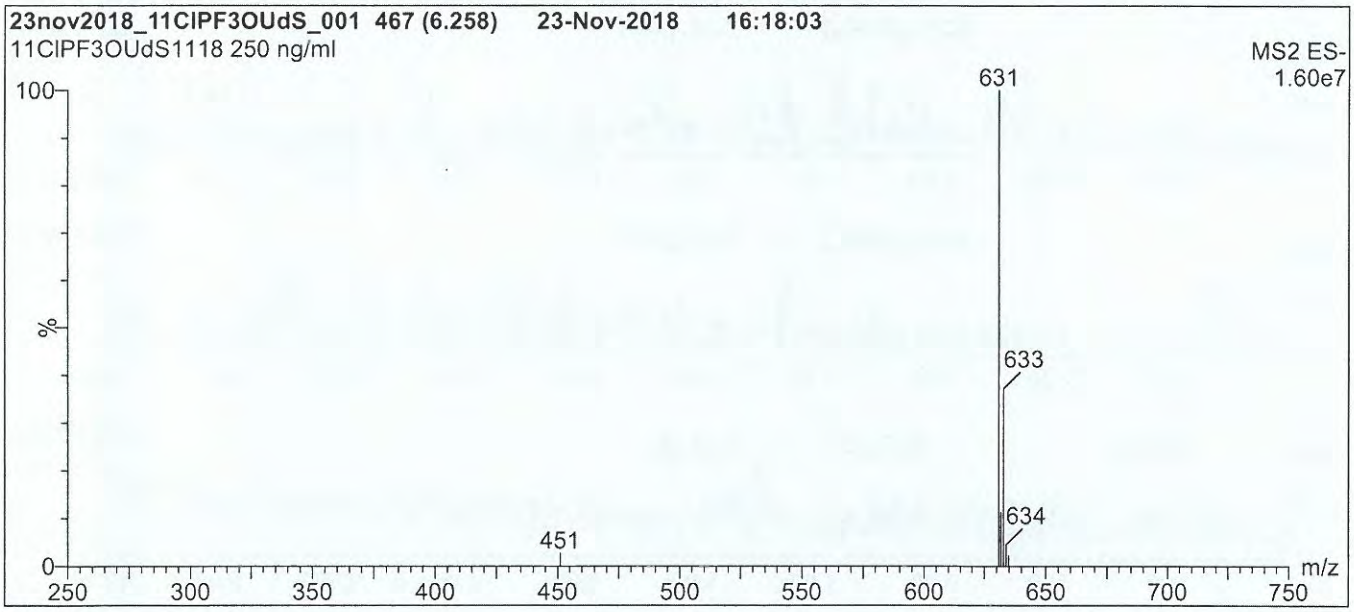
1812072

Figure 1: **11Cl-PF3OUdS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

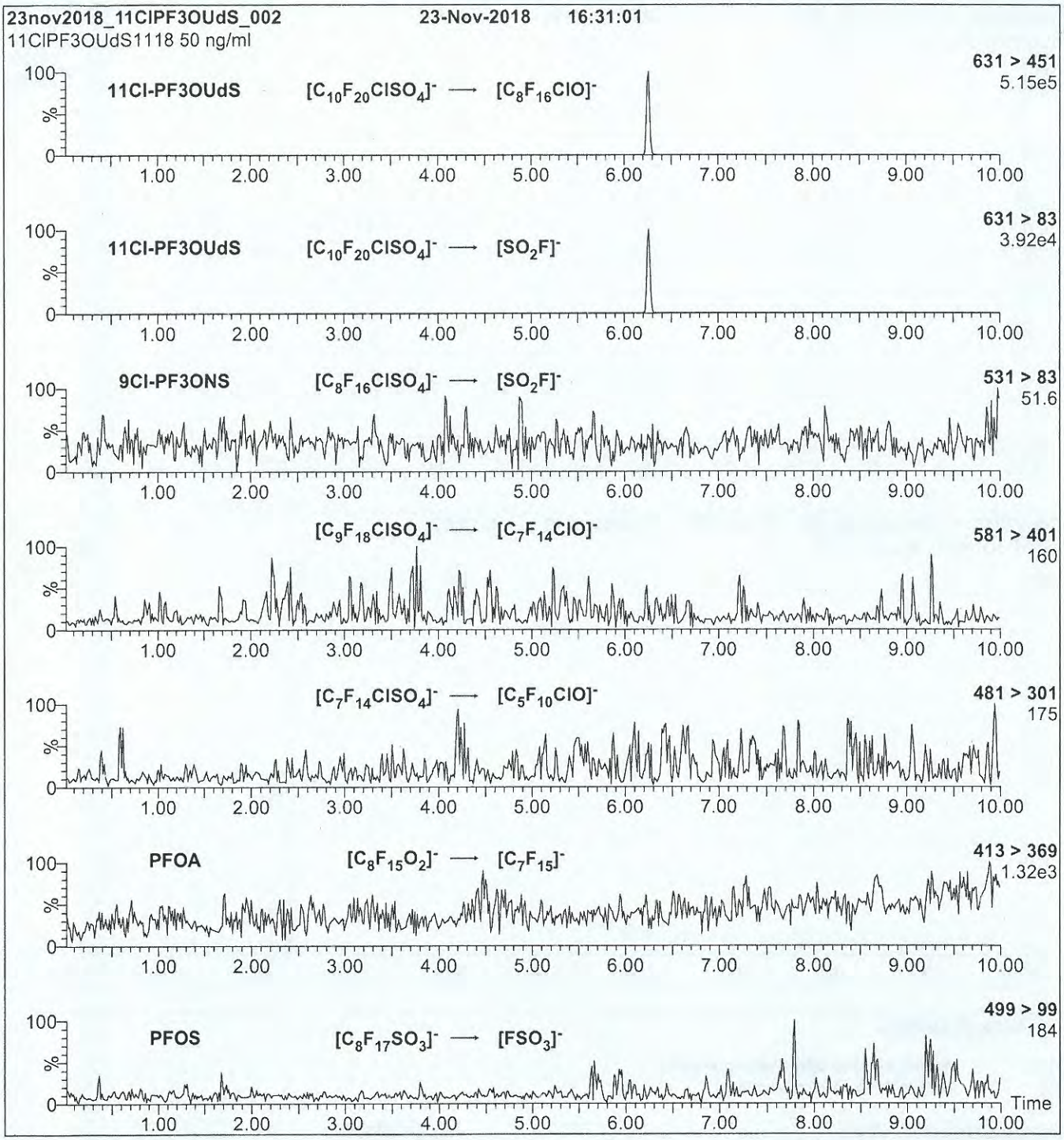
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 70.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

18L2072

Figure 2: **11Cl-PF3OUdS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (11Cl-PF3OUdS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

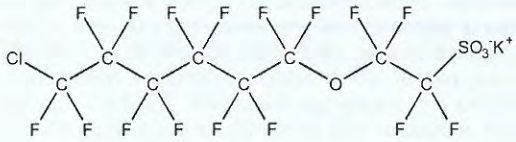
Collision Gas (mbar) = 2.84e-3
Collision Energy (eV) = 24

18L2073

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	9Cl-PF3ONS	**LOT NUMBER:**	9ClPF3ONS1118
COMPOUND:	Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate		
STRUCTURE:		**CAS #:**	73606-19-6



MOLECULAR FORMULA:	$C_8F_{16}ClSO_4K$	**MOLECULAR WEIGHT:**	570.67
CONCENTRATION:	50.0 ± 2.5 µg/ml (K Salt)	**SOLVENT(S):**	Methanol
	46.6 ± 2.3 µg/ml (9Cl-PF3ONS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/22/2018		
EXPIRY DATE: (mm/dd/yyyy)	11/22/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This compound is the major component of the commercial formulation known as F-53B.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/23/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812073

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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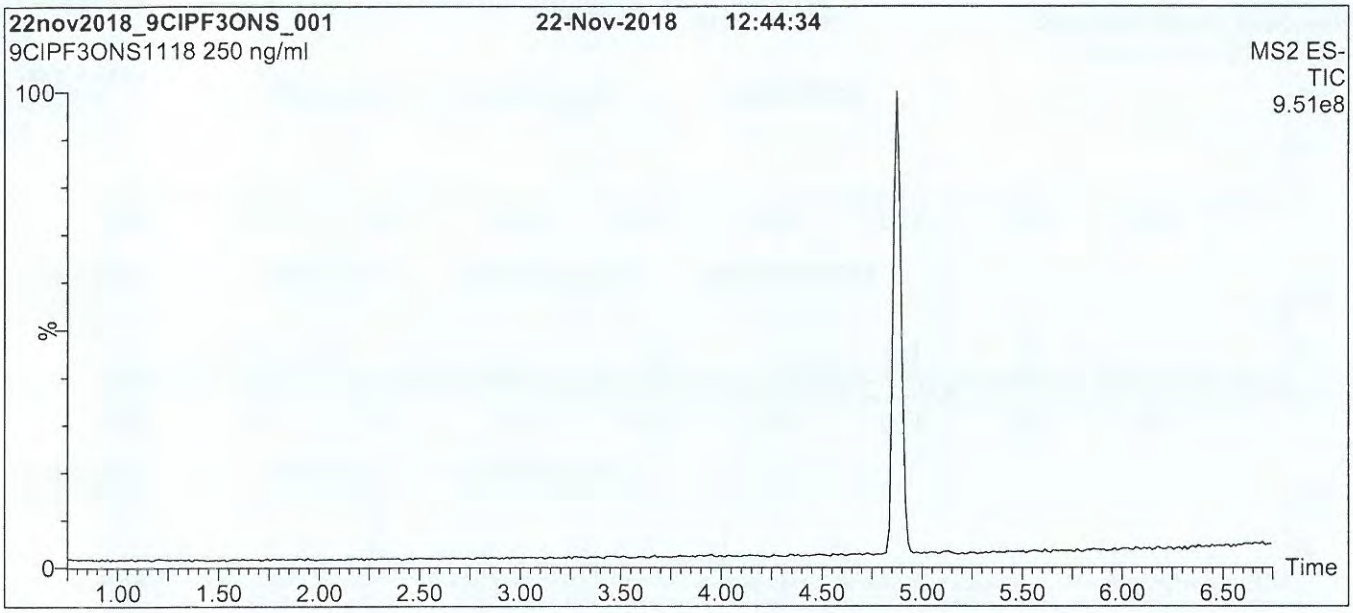
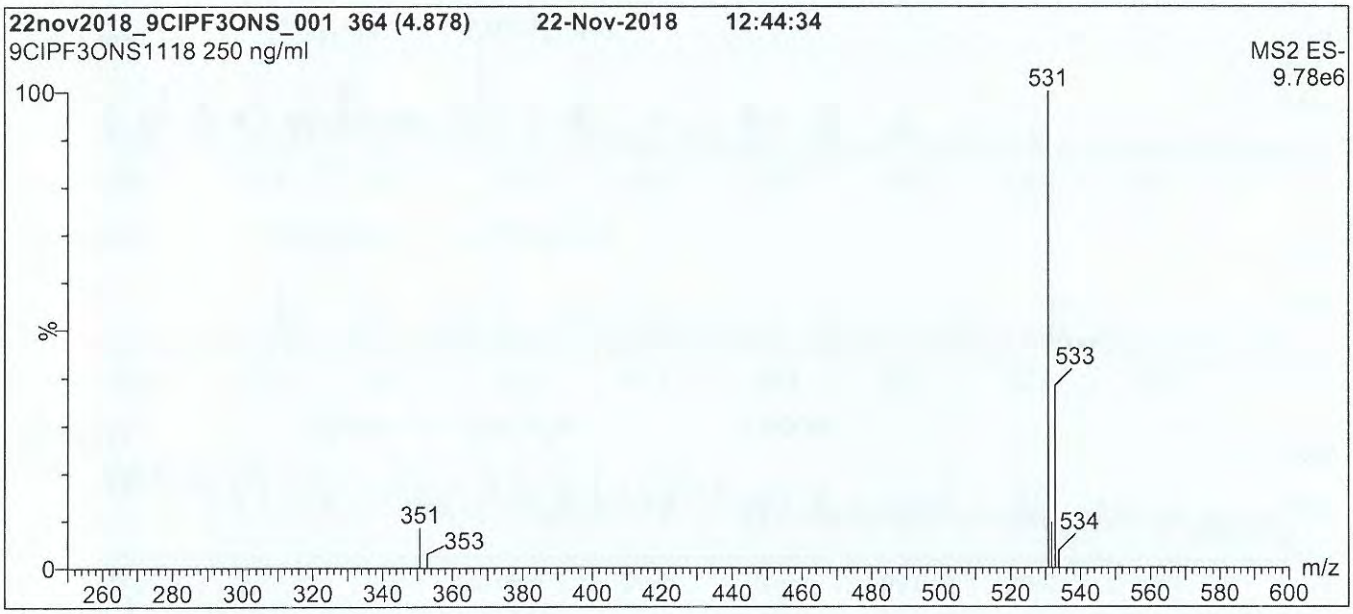
18L2073

Figure 1: **9Cl-PF3ONS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

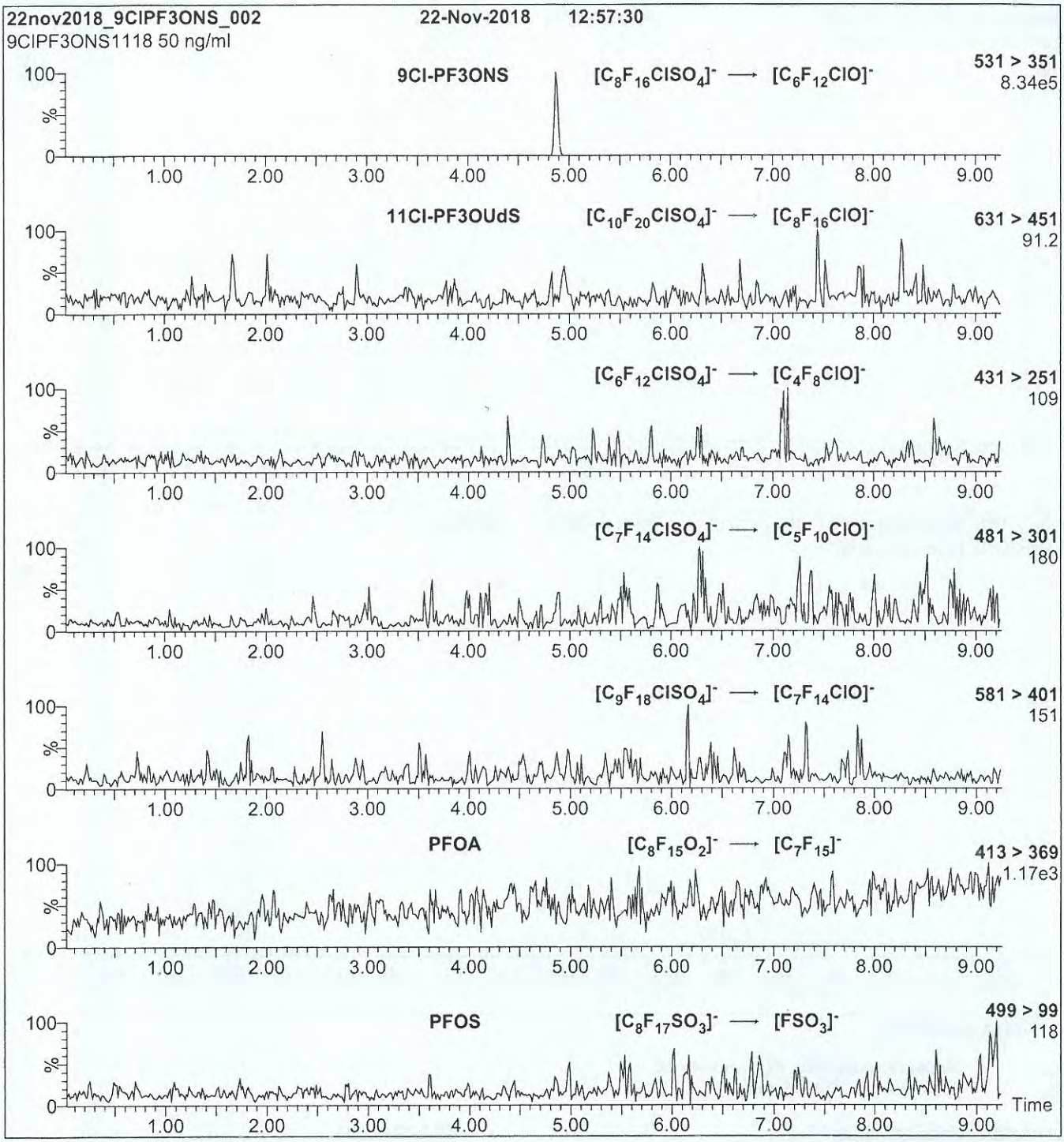
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 70.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812073

Figure 2: **9Cl-PF3ONS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (9Cl-PF3ONS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.16e-3
Collision Energy (eV) = 20

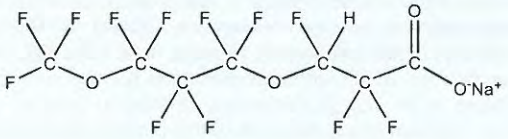
18L2074

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: NaDONA
LOT NUMBER: NaDONA0318
COMPOUND: Sodium dodecafluoro-3H-4,8-dioxanonanoate

STRUCTURE:



CAS #: 958445-44-8 (ammonium salt)

MOLECULAR FORMULA: $C_7HF_{12}O_4Na$
MOLECULAR WEIGHT: 400.05
CONCENTRATION: 50 ± 2.5 µg/ml (Na Salt)
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 03/26/2018
EXPIRY DATE: (mm/dd/yyyy) 03/26/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Product is commercially known as ADONA.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/27/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812074

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At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

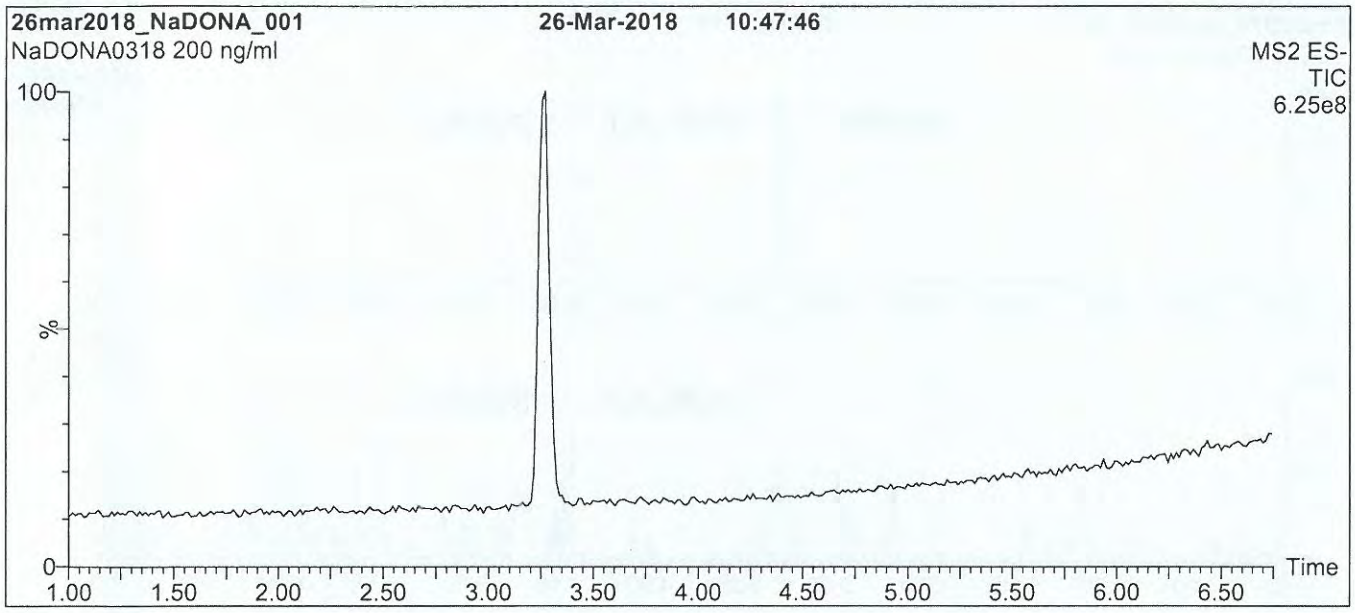
CALA Testing Accreditation No. A 1226

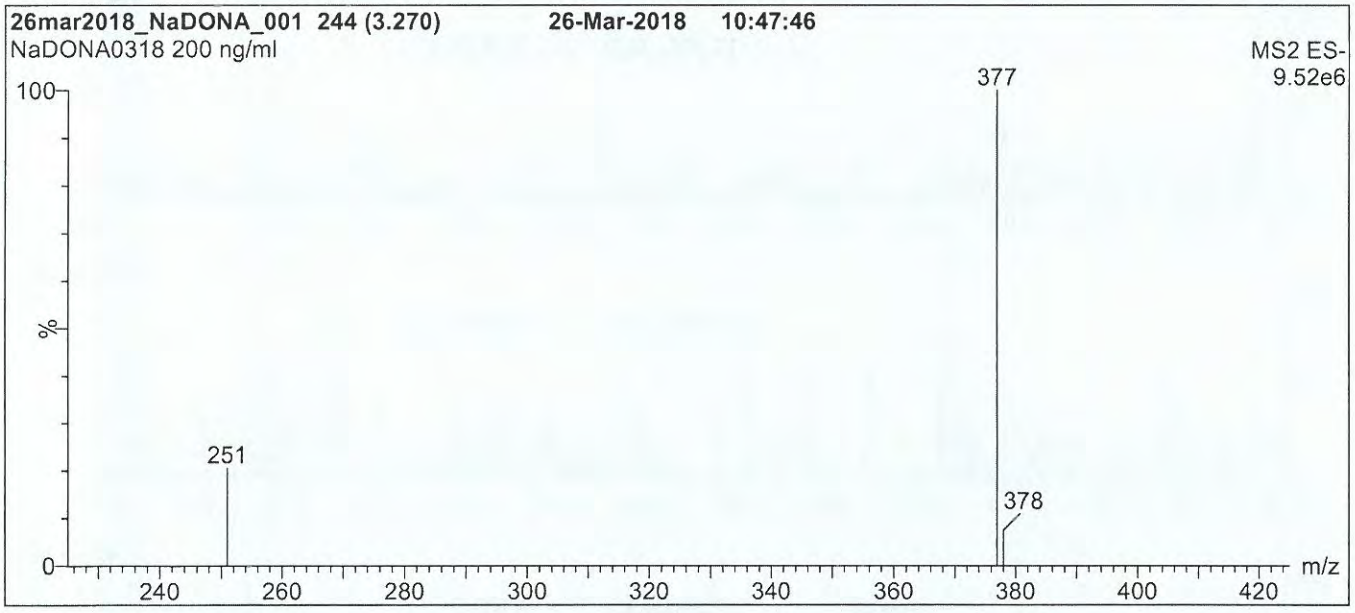
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2074

Figure 1: **NaDONA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

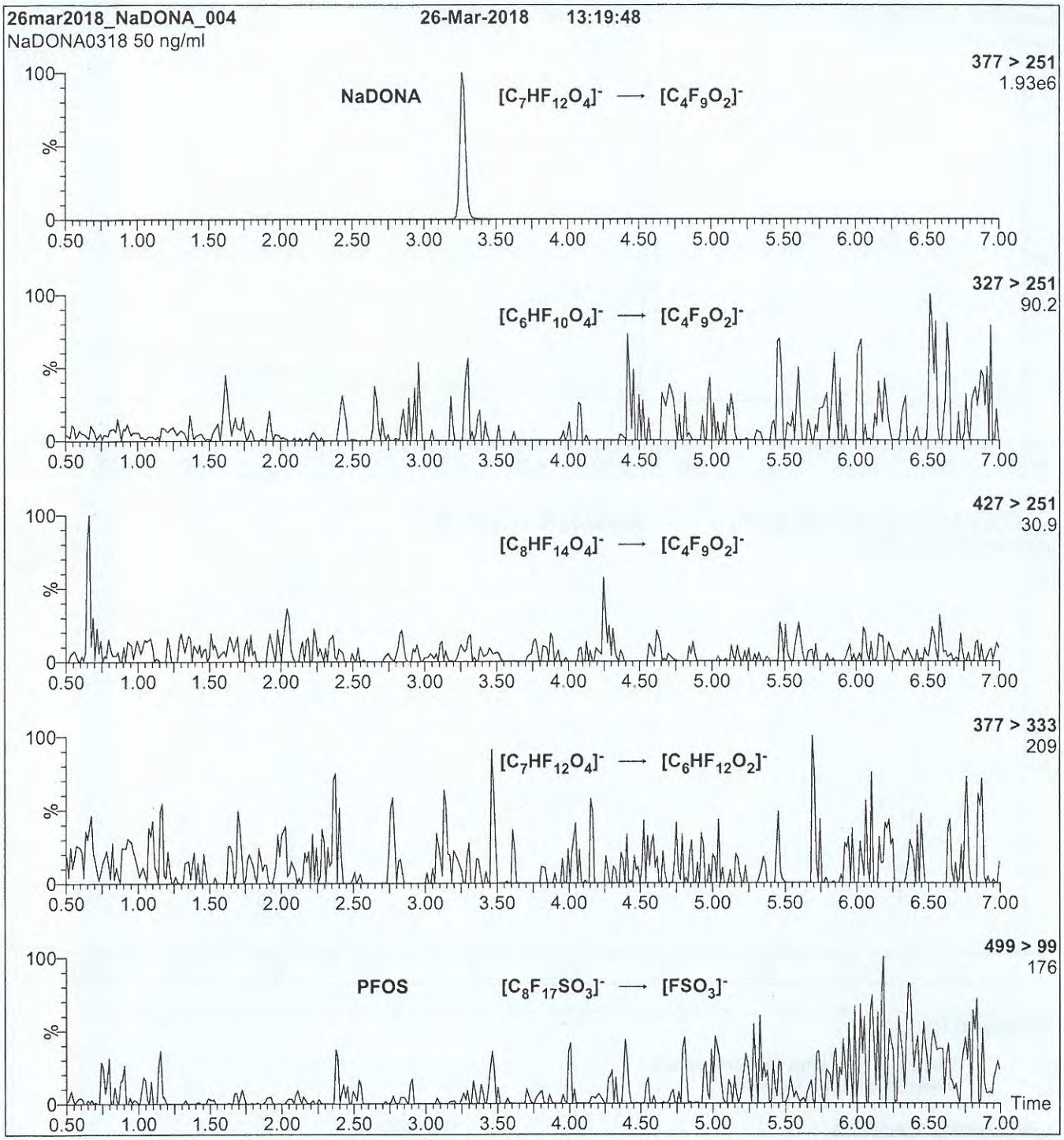
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.70
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812074

Figure 2: **NaDONA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (NaDONA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

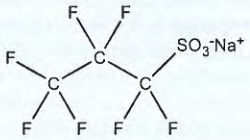
Collision Gas (mbar) = 3.65e-3
Collision Energy (eV) = 10

18L2076

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFPrS	**LOT NUMBER:**	LPFPrS1217
COMPOUND:	Sodium perfluoro-1-propanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_3F_7SO_3Na$	**MOLECULAR WEIGHT:**	272.07
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 45.8 ± 2.3 µg/ml (PFPrS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	12/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	12/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/18/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812076

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

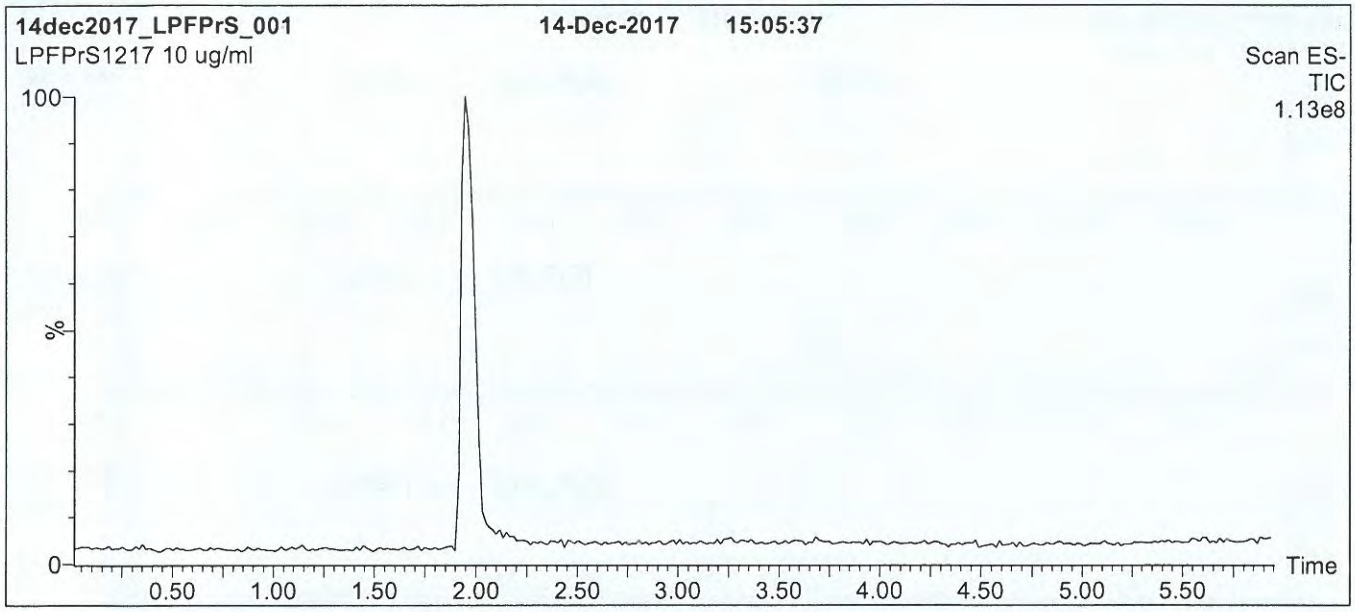
CALA Testing Accreditation No. A 1226

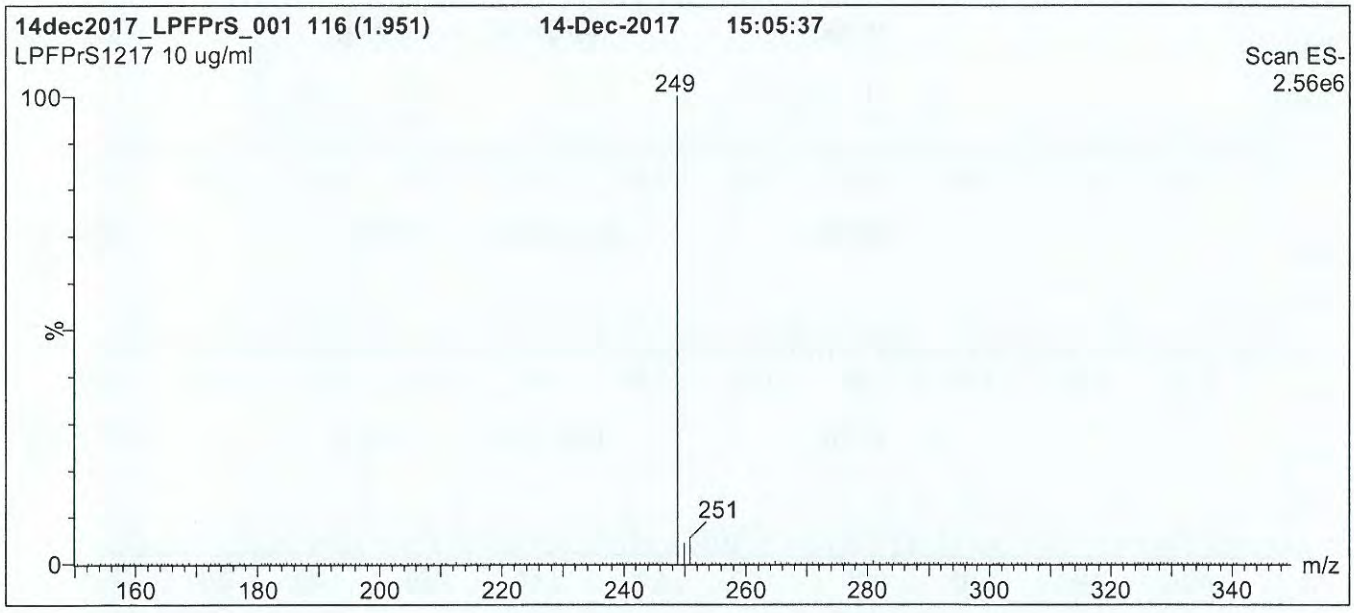
ANAB ACCREDITED Reference Material Producer

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1812076

Figure 1: **L-PFPrS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions over 0.5 min.
Time: 10 min

Flow: 300 µl/min

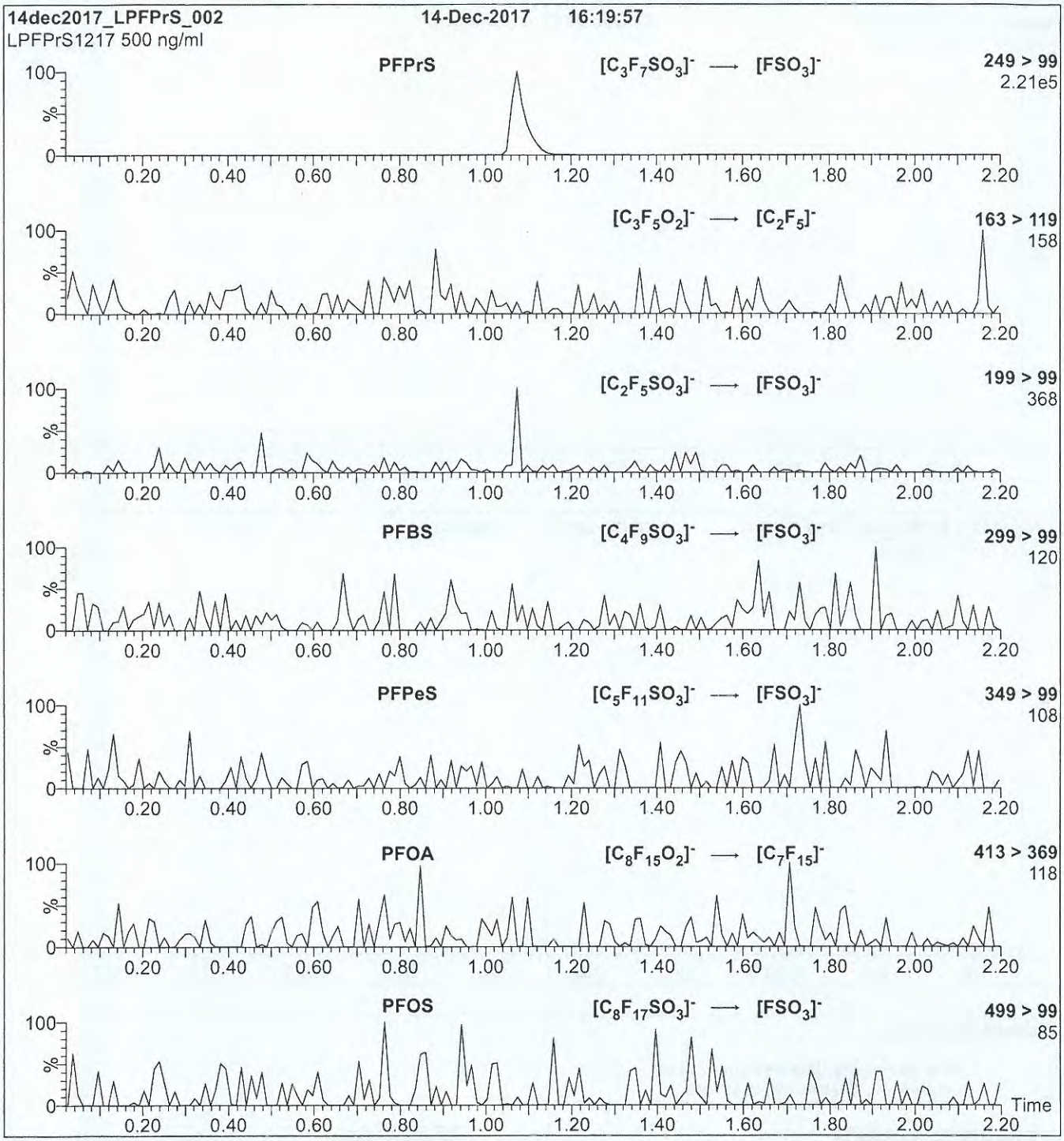
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

1812076

Figure 2: **L-PFPrS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml L-PFPrS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 25

18L2078

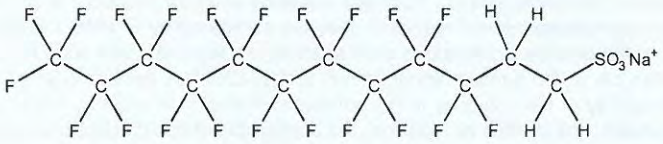
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 10:2FTS **LOT NUMBER:** 102FTS0718

COMPOUND: Sodium 1H,1H,2H,2H-perfluorododecane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{12}H_4F_{21}SO_3Na$		**MOLECULAR WEIGHT:**	650.18
CONCENTRATION:	50.0 ± 2.5 µg/ml	(Na salt)	**SOLVENT(S):**	Methanol
	48.2 ± 2.4 µg/ml	(10:2FTS anion)		
CHEMICAL PURITY:	>98%			
LAST TESTED: (mm/dd/yyyy)	07/13/2018			
EXPIRY DATE: (mm/dd/yyyy)	07/13/2021			
RECOMMENDED STORAGE:	Refrigerate ampoule			

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/16/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2078

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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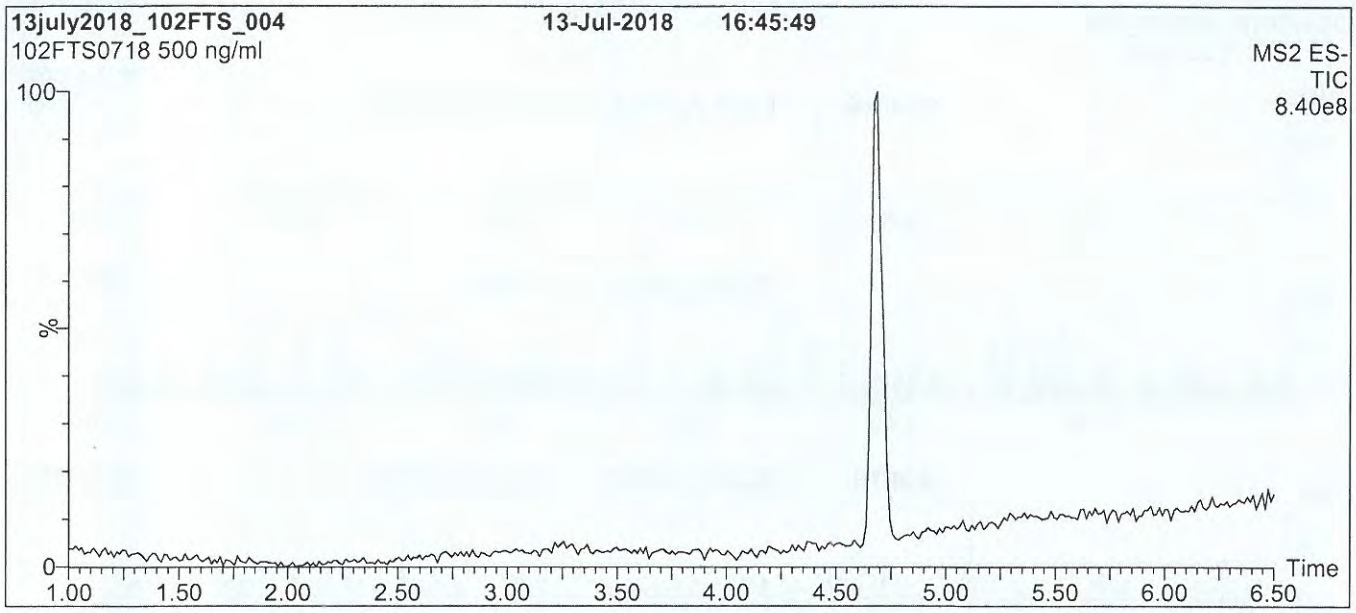
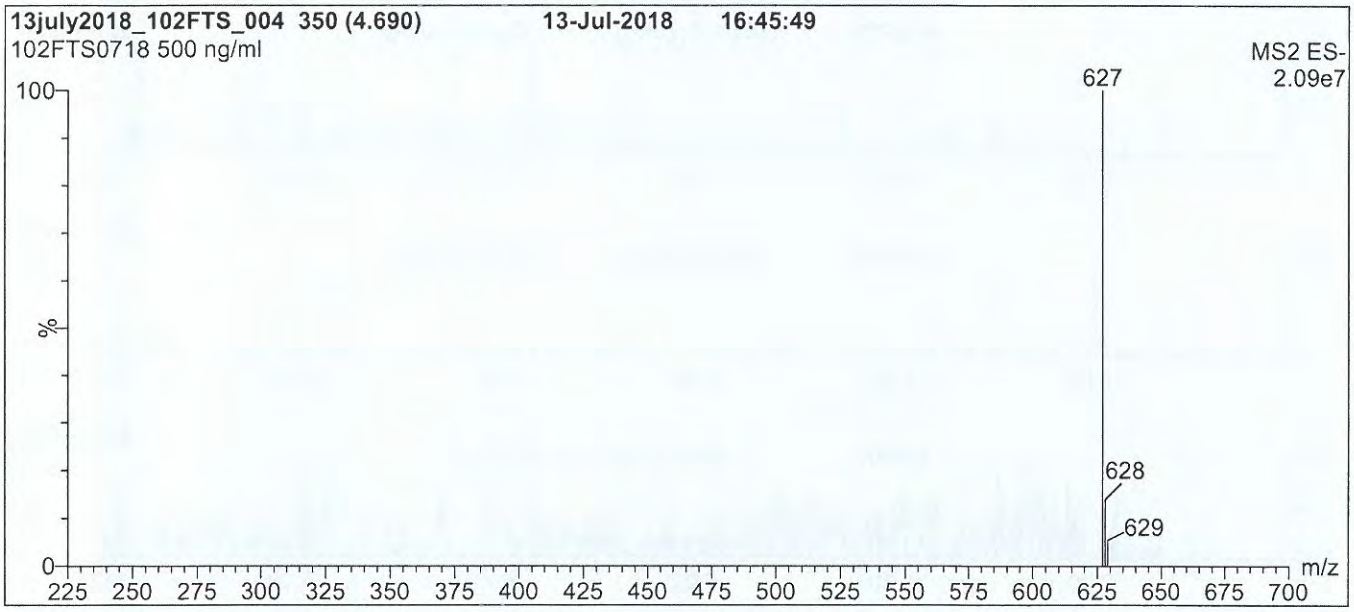
18L2078

Figure 1: **10:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

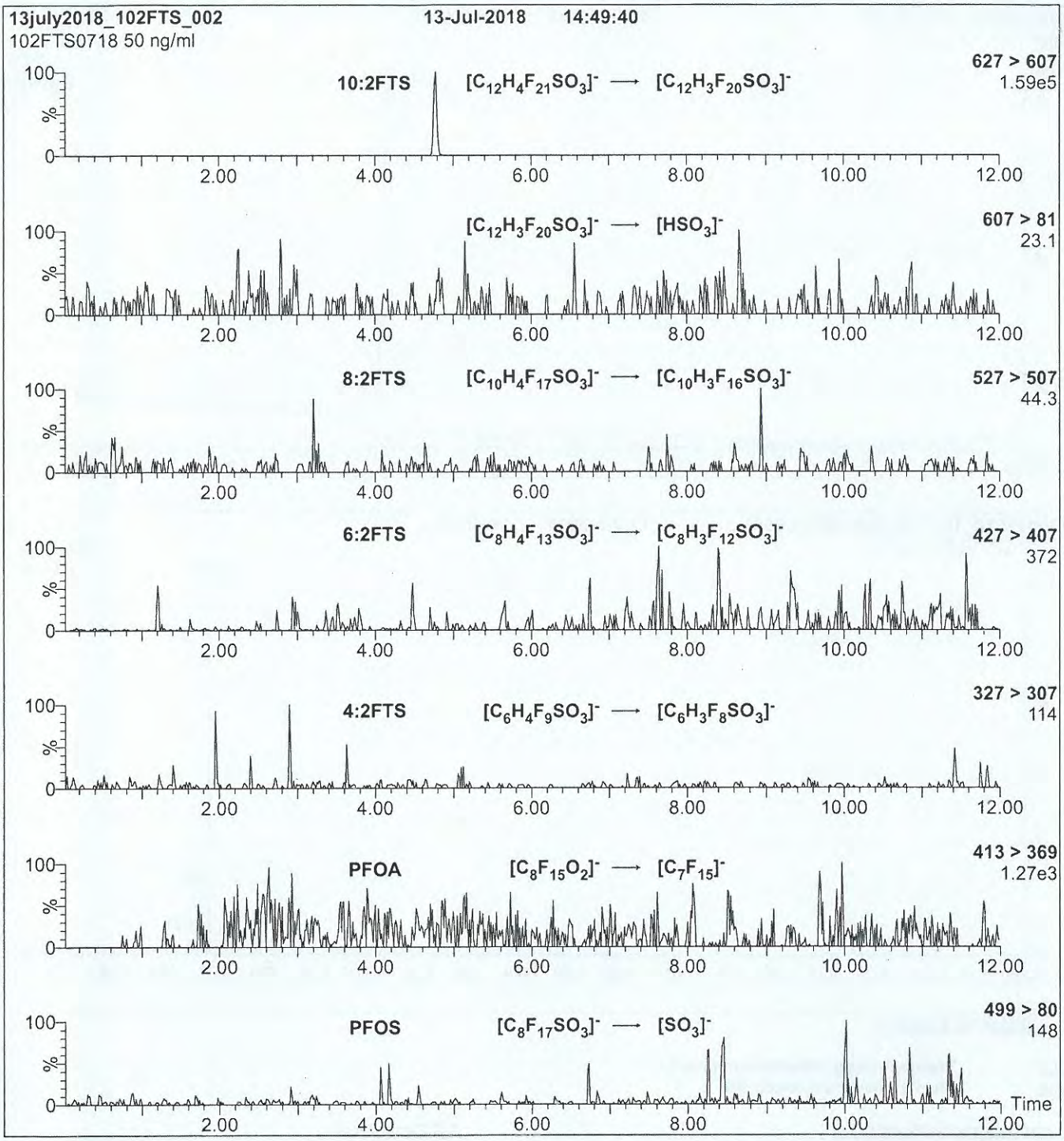
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812078

Figure 2: **10:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (10:2FTS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.47e-3
Collision Energy (eV) = 25

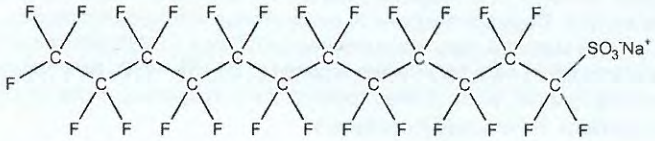
19B0712

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFDoS
LOT NUMBER: LPFDoS0916
COMPOUND: Sodium perfluoro-1-dodecanesulfonate

STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA:	$C_{12}F_{25}SO_3Na$	**MOLECULAR WEIGHT:**	722.14
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.4 ± 2.4 µg/ml (PFDoS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	98%		
LAST TESTED: (mm/dd/yyyy)	09/30/2016		
EXPIRY DATE: (mm/dd/yyyy)	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.7% of sodium perfluoro-1-tetradecanesulfonate and ~ 0.7% of perfluoro-n-dodecanoic acid (PFDoA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/17/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19B0712

INTENDED USE:

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The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

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QUALITY MANAGEMENT:

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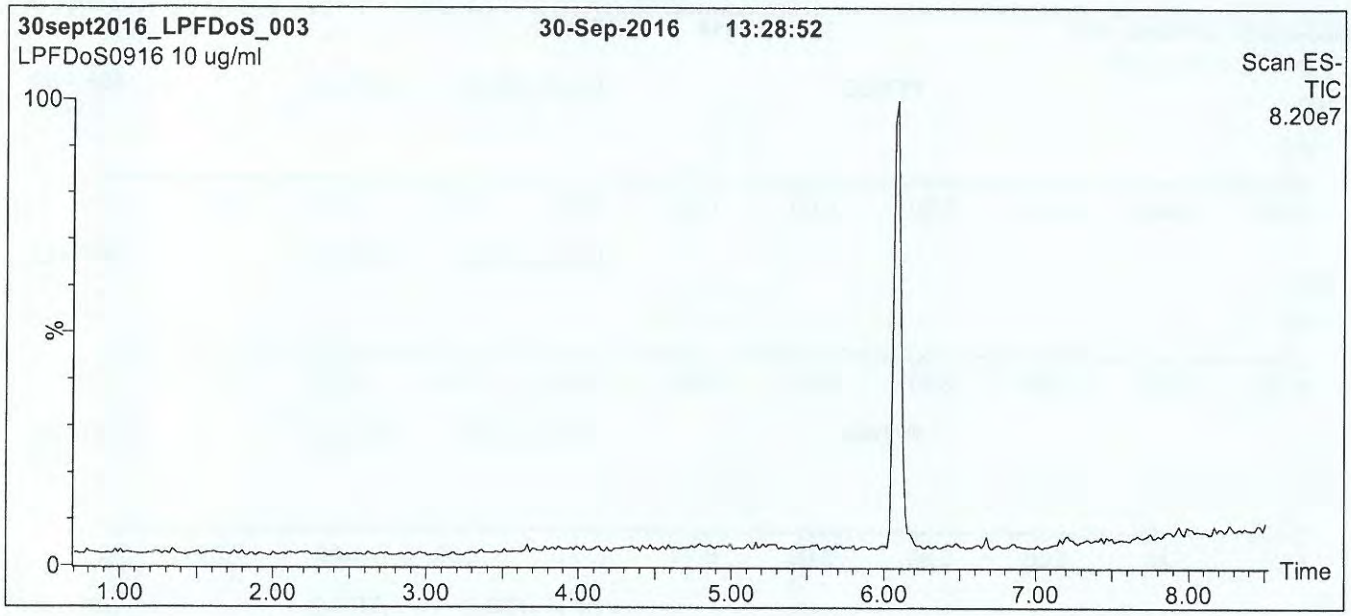
CALA Testing Accreditation No. A 1226

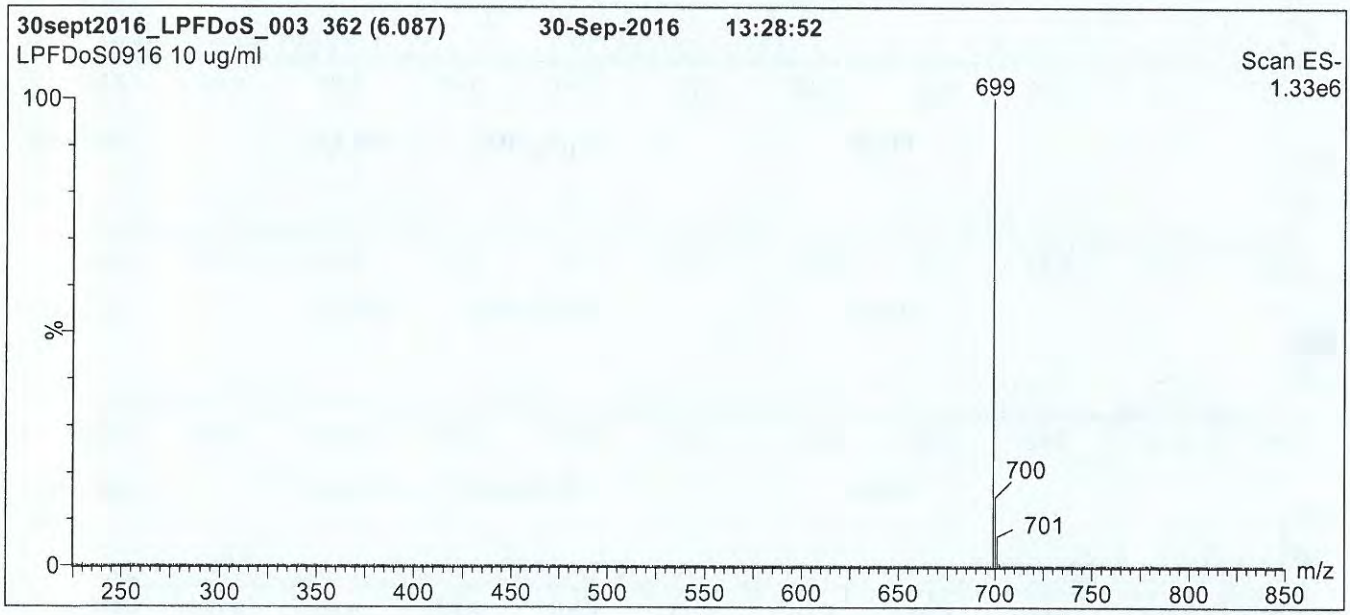
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19B0712

Figure 1: **L-PFDoS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% (80:20 MeOH:ACN) / 35% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

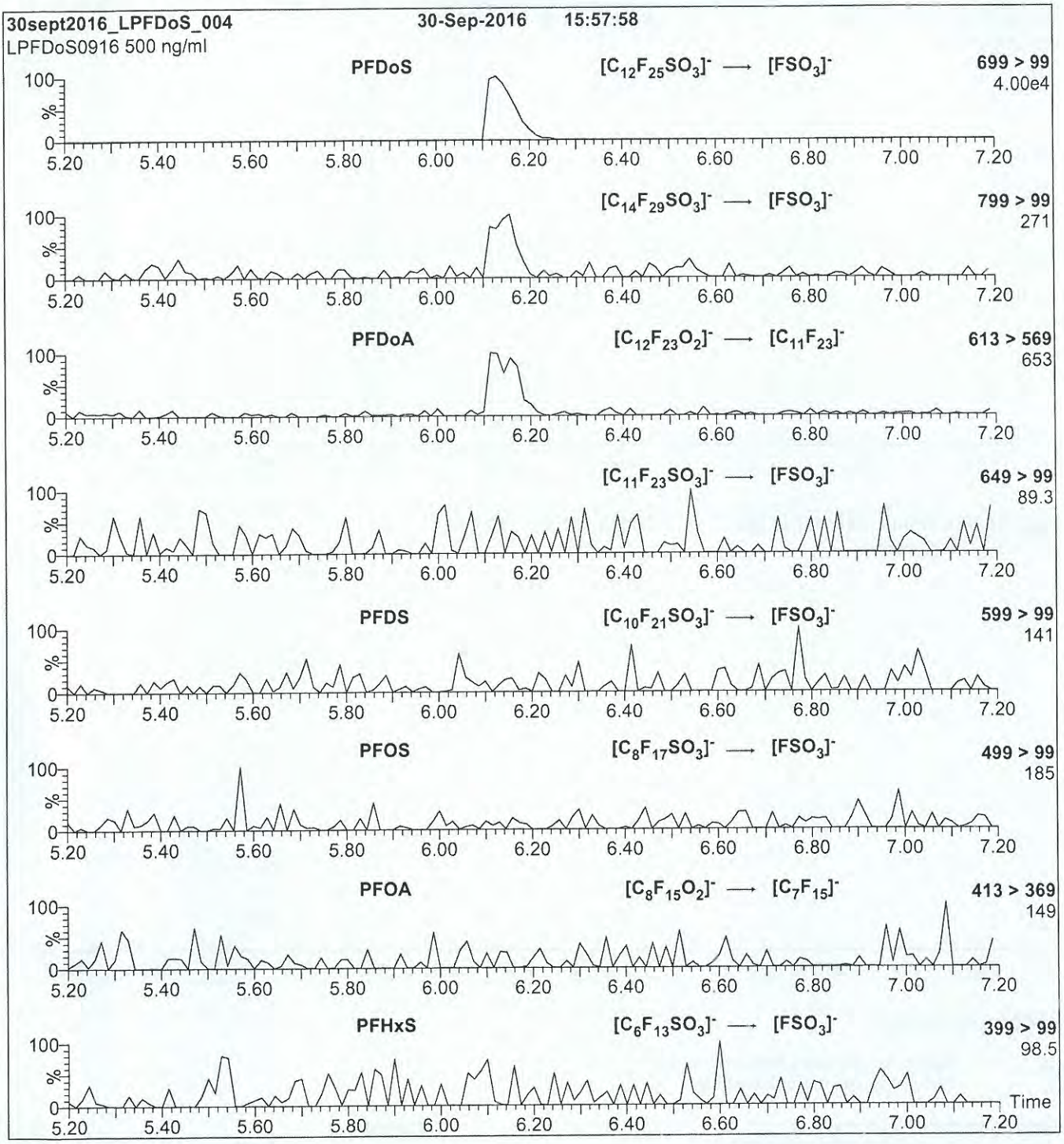
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 80.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

19B0712

Figure 2: **L-PFDoS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml L-PFDoS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 50

Analytical Standard Record

Vista Analytical Laboratory

19E2202

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	(mls)
18L2018	18O2-PFHxS	20-Dec-18	** Vendor **	22-Mar-23	1.06
18L2021	13C2-FOUEA	20-Dec-18	** Vendor **	14-Nov-19	1
18L2022	13C4-PFBA	20-Dec-18	** Vendor **	16-Feb-23	1
18L2023	13C6-PFDA	20-Dec-18	** Vendor **	20-Sep-23	1
18L2024	13C9-PFNA	20-Dec-18	** Vendor **	23-May-22	1
18L2025	13C7-PFUdA	20-Dec-18	** Vendor **	20-Sep-23	1
18L2026	13C5-PFHxA	20-Dec-18	** Vendor **	27-Sep-23	1
18L2028	13C4-PFOS	20-Dec-18	** Vendor **	11-Sep-23	1.05
18L2029	13C8-PFOA	20-Dec-18	** Vendor **	29-Jun-23	1.02

Description:	PFC-RS	Expires:	14-Nov-19
Standard Type:	Reagent	Prepared:	23-May-19
Solvent:	MeOH	Prepared By:	Giana R. Bilotta
Final Volume (mls):	40	Department:	LCMS
Vials:	1	Last Edit:	28-May-19 09:02 by GRB

Expiration date set to expiration date of standard being used to create this one. GRB 05/22/19
18L2021 13C2-FOUEA EXP. 11/14/19

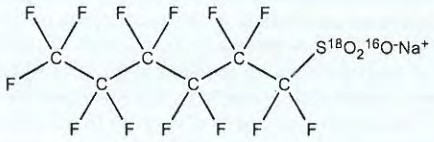
Analyte	CAS Number	Concentration	Units
18O2-PFHxS		1.25	ug/mL
13C9-PFNA		1.25	ug/mL
13C8-PFOA		1.25	ug/mL
13C7-PFUnA		1.25	ug/mL
13C6-PFDA		1.25	ug/mL
13C5-PFHxA		1.25	ug/mL
13C4-PFOS		1.25	ug/mL
13C4-PFBA		1.25	ug/mL
13C2-FOUEA		1.25	ug/mL

18L2018

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFHxS	**LOT NUMBER:**	MPFHxS0318
COMPOUND:	Sodium perfluoro-1-hexane[$^{18}O_2$]sulfonate		
STRUCTURE:		**CAS #:**	1585941-14-5



MOLECULAR FORMULA:	$C_6F_{13}S^{18}O_2{}^{16}ONa$	**MOLECULAR WEIGHT:**	426.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (MPFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>94% ($^{18}O_2$)
LAST TESTED: (mm/dd/yyyy)	03/22/2018		
EXPIRY DATE: (mm/dd/yyyy)	03/22/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The response factor for MPFHxS ($C_6F_{13}S^{18}O_2{}^{16}O^-$) has been observed to be up to 10% lower than for PFHxS ($C_6F_{13}S^{16}O_3^-$) when both compounds are injected together. This difference may vary between instruments.
- Contains ~ 1.0% of sodium perfluoro-1-octane[$^{18}O_2$]sulfonate ($^{18}O_2$-PFOS) and ~ 0.3% of sodium perfluoro-1-heptane[$^{18}O_2$]sulfonate ($^{18}O_2$-PFHpS).
- Due to the isotopic purity of the starting material ($^{18}O_2$ >94%), MPFHxS contains ~ 0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/07/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2018

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

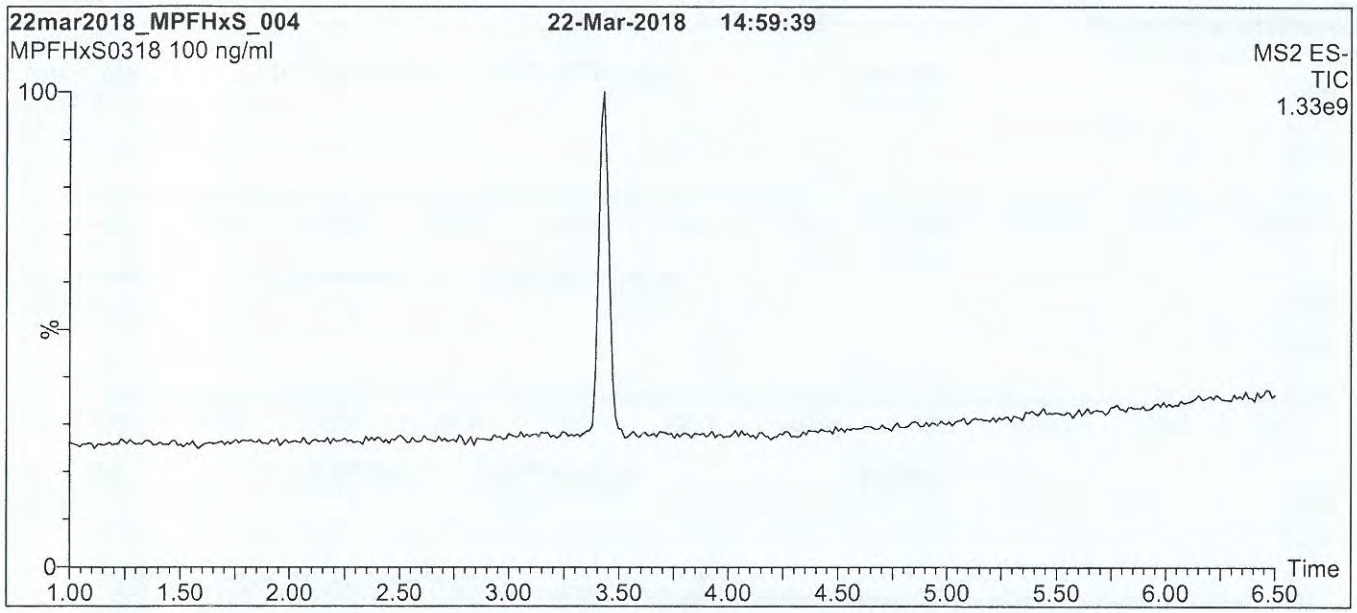
CALA Testing Accreditation No. A-1226

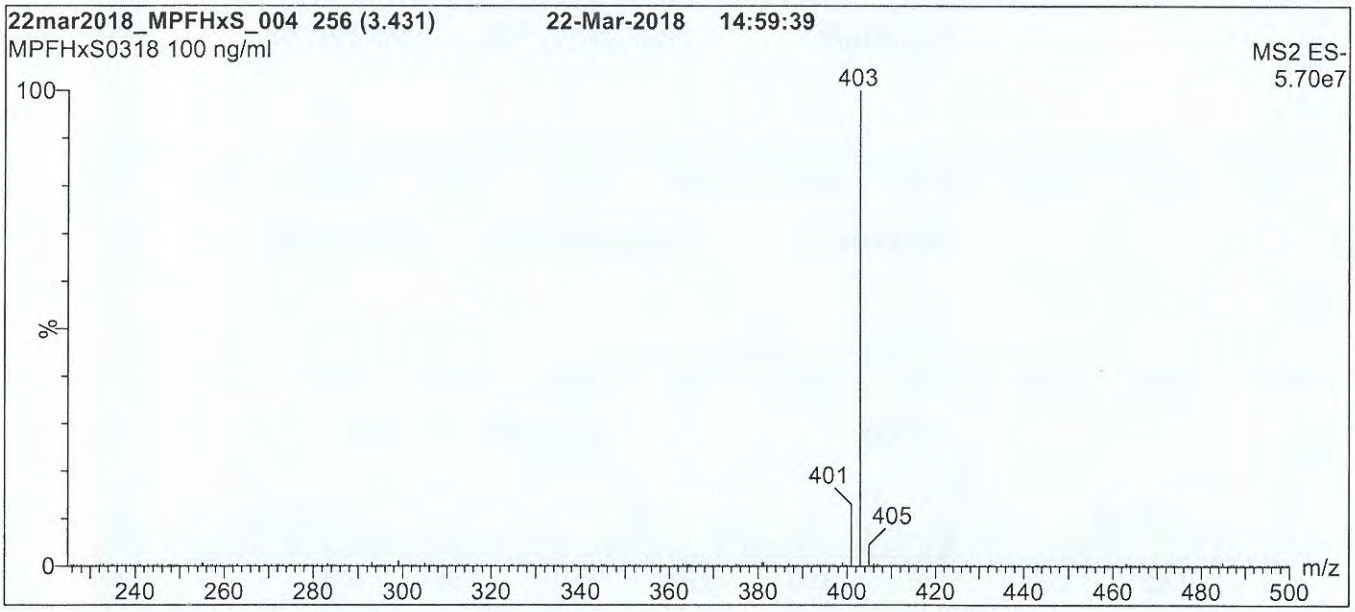
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2018

Figure 1: **MPFHxS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 7 min and hold for 3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

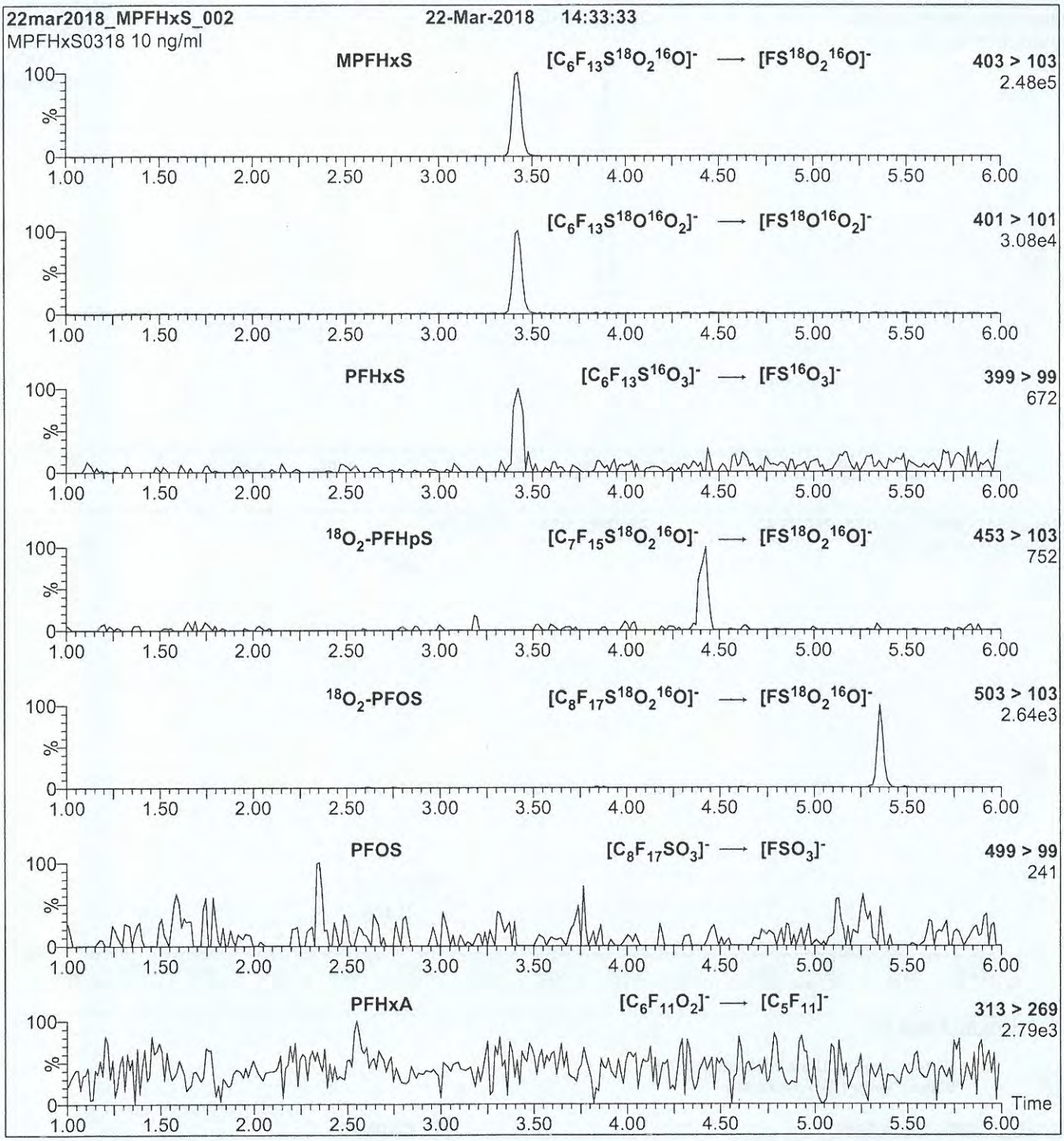
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 5.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

18L2018

Figure 2: **MPFHxS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFHxS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.64e-3

Collision Energy (eV) = 32

18L2021

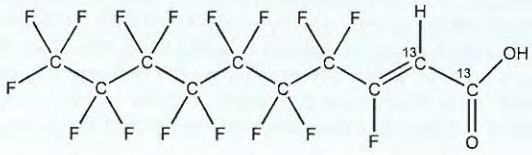
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MFOUEA
LOT NUMBER: MFOUEA1117
COMPOUND: 2H-Perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_2F_{16}O_2$	**MOLECULAR WEIGHT:**	460.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Anhydrous Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	11/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	11/14/2019		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Dilution of this standard in methanol may lead to the formation of 2H-3-methoxy-perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid. This reaction can be catalyzed by the presence of acid or base. All dilutions should be routinely checked for degradation.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/15/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812021

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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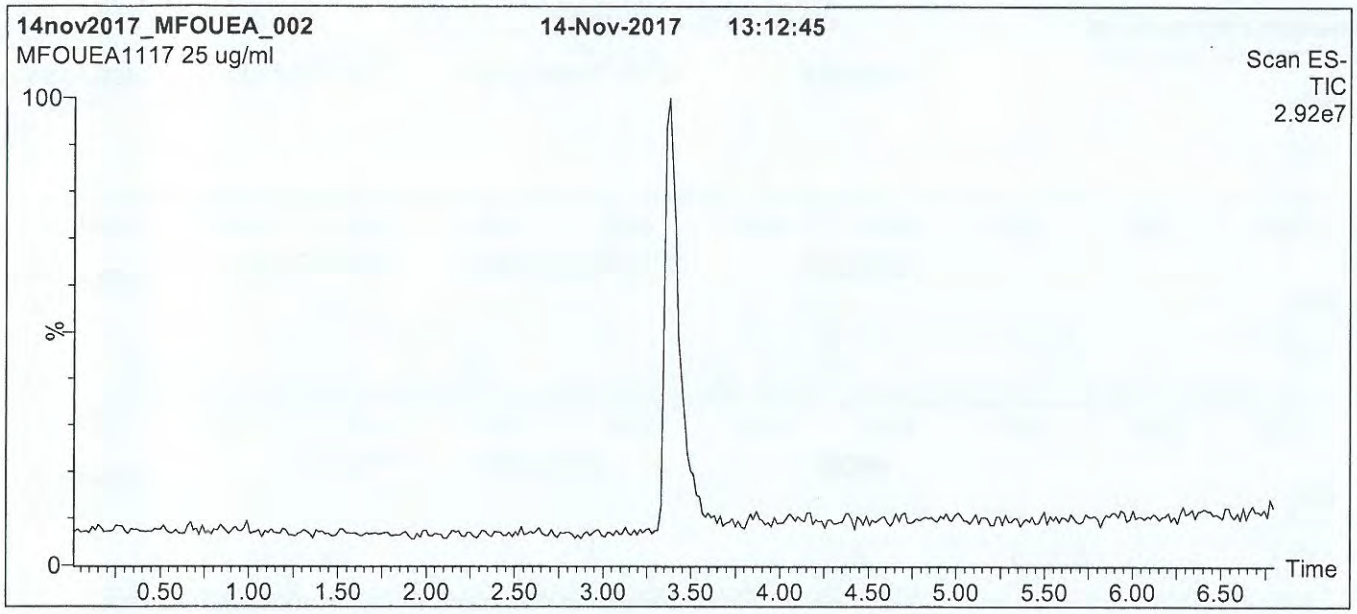
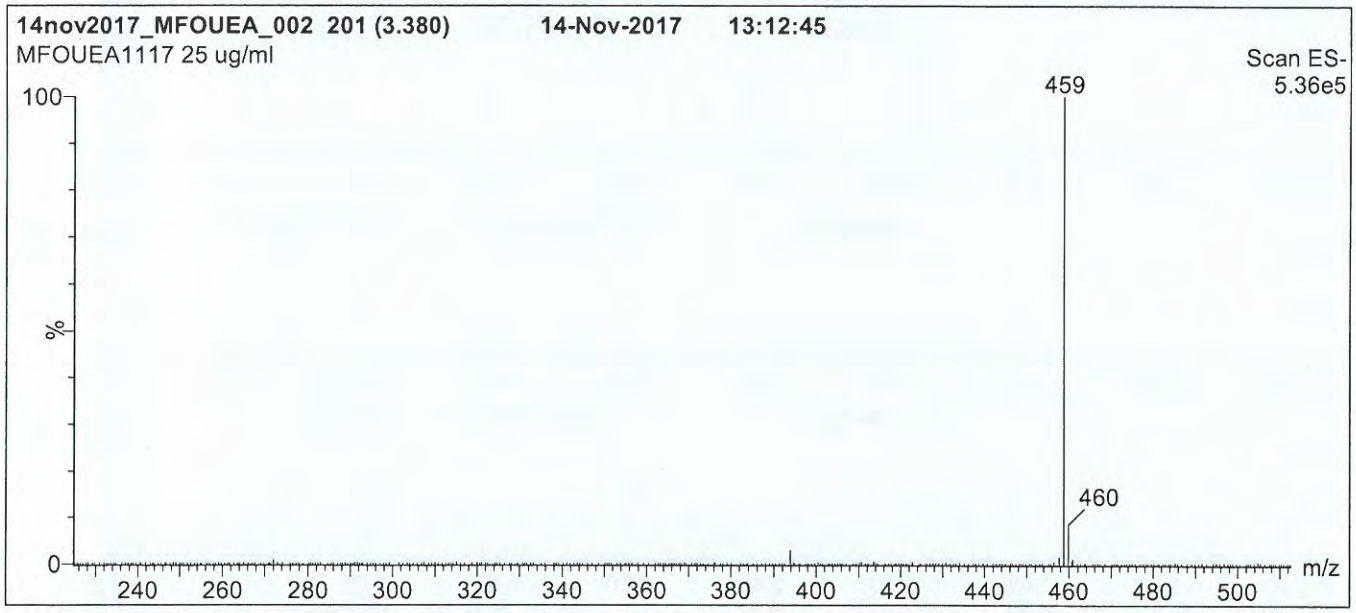
18L2021

Figure 1: **MFOUEA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold
for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

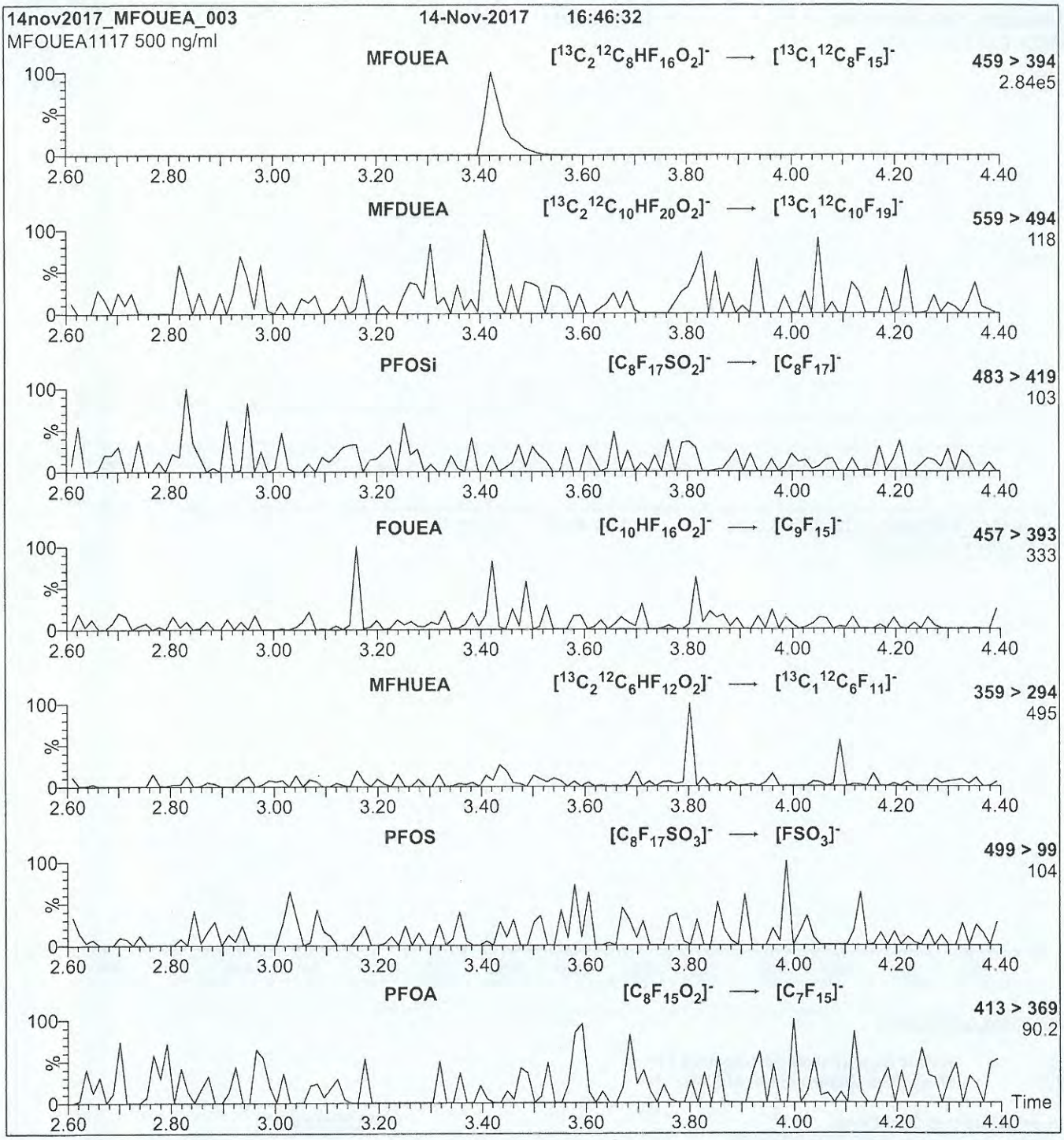
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 14.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

1/8/2021

Figure 2: **MFOUEA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MFOUEA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

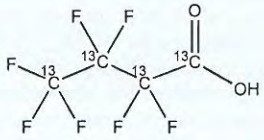
Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 21

18L2022

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFBA	**LOT NUMBER:**	MPFBA0218
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4HF_7O_2$	**MOLECULAR WEIGHT:**	218.01
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/22/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2022

INTENDED USE:

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QUALITY MANAGEMENT:

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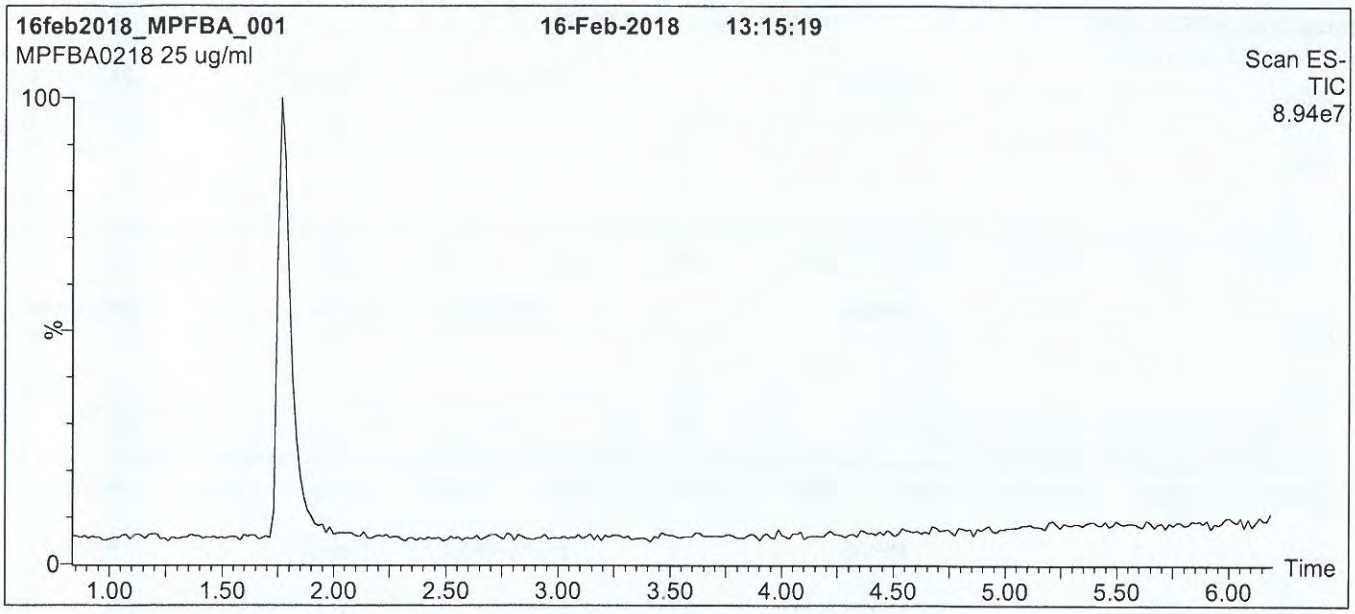
CALA Testing Accreditation No. A 1226

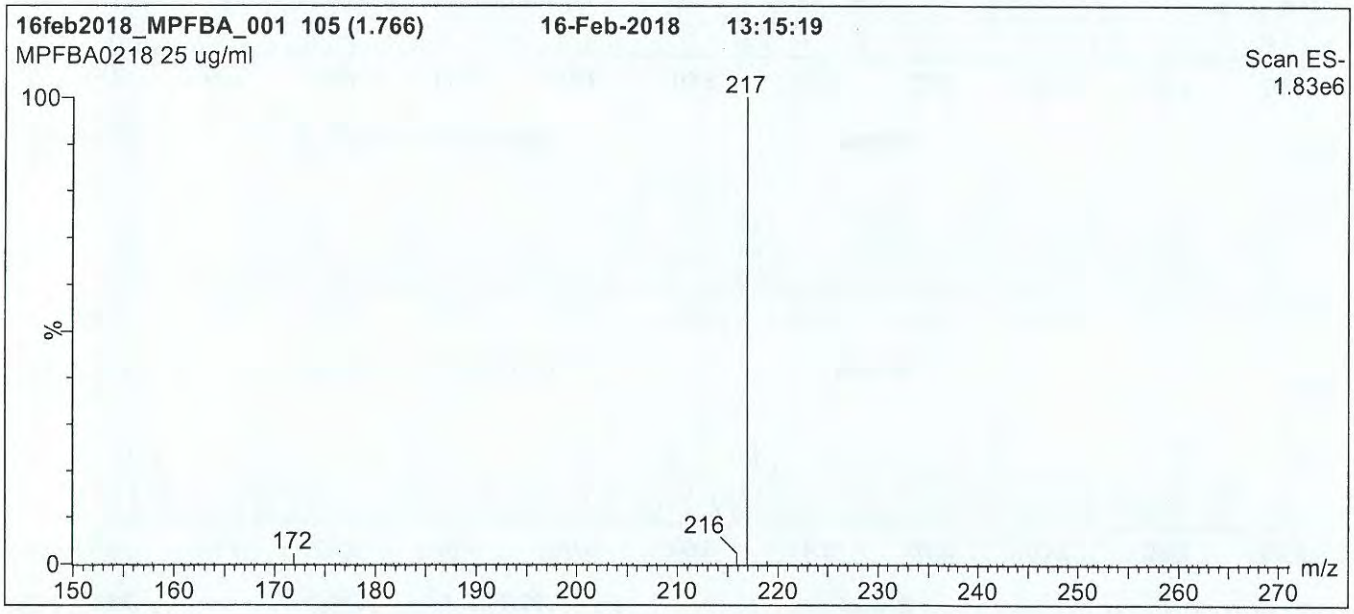
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2022

Figure 1: **MPFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

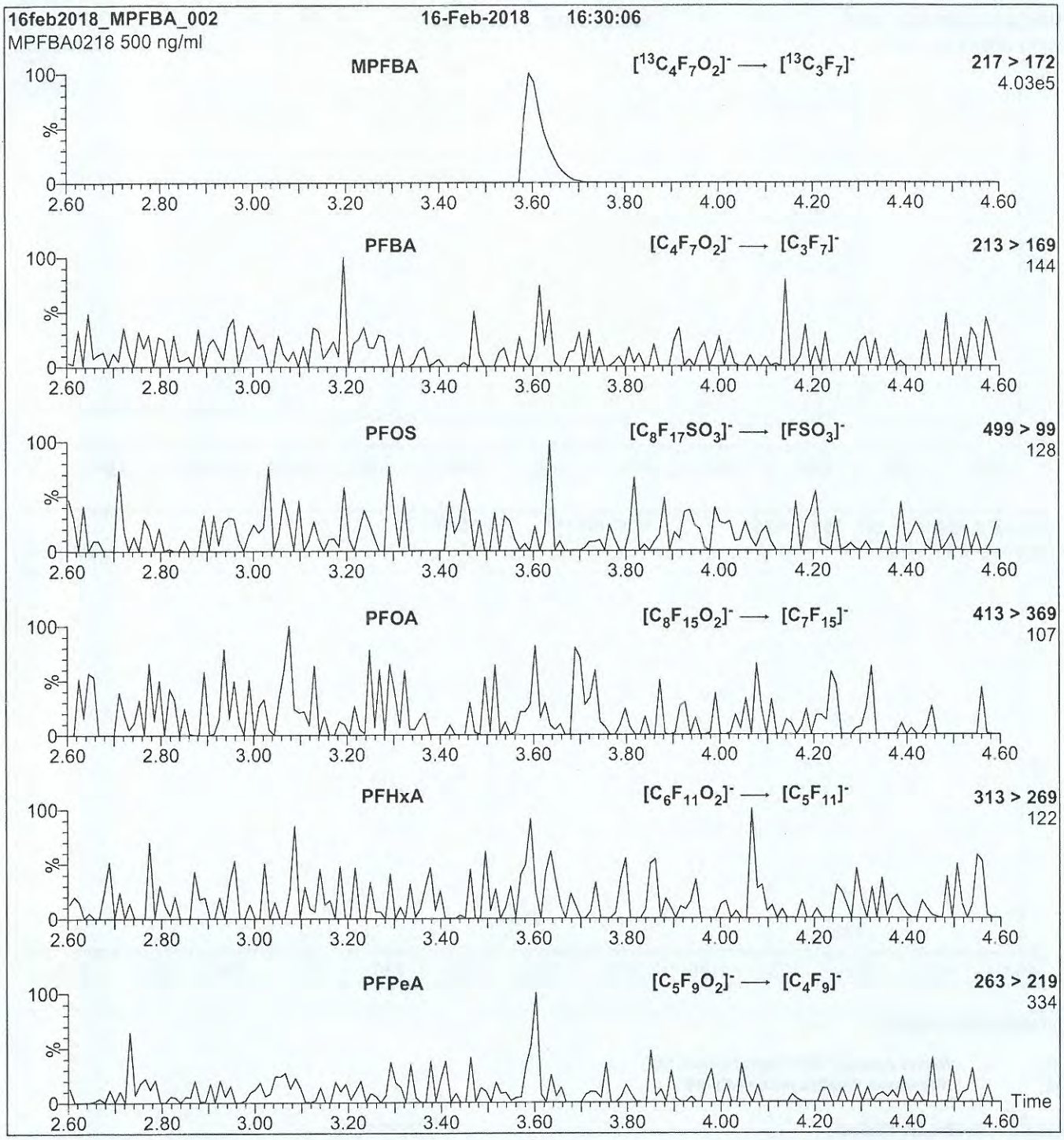
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

1812022

Figure 2: **MPFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFBA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

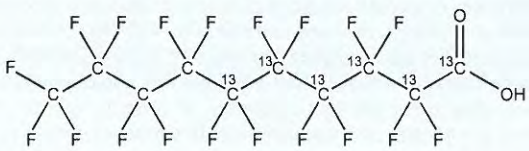
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 10

18L2023

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M6PFDA	**LOT NUMBER:**	M6PFDA0918
COMPOUND:	Perfluoro-n-[1,2,3,4,5,6-$^{13}C_6$]decanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_6{}^{12}C_4HF_{19}O_2$	**MOLECULAR WEIGHT:**	520.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C
LAST TESTED: (mm/dd/yyyy)	09/20/2018		(1,2,3,4,5,6-$^{13}C_6$)
EXPIRY DATE: (mm/dd/yyyy)	09/20/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/03/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2023

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

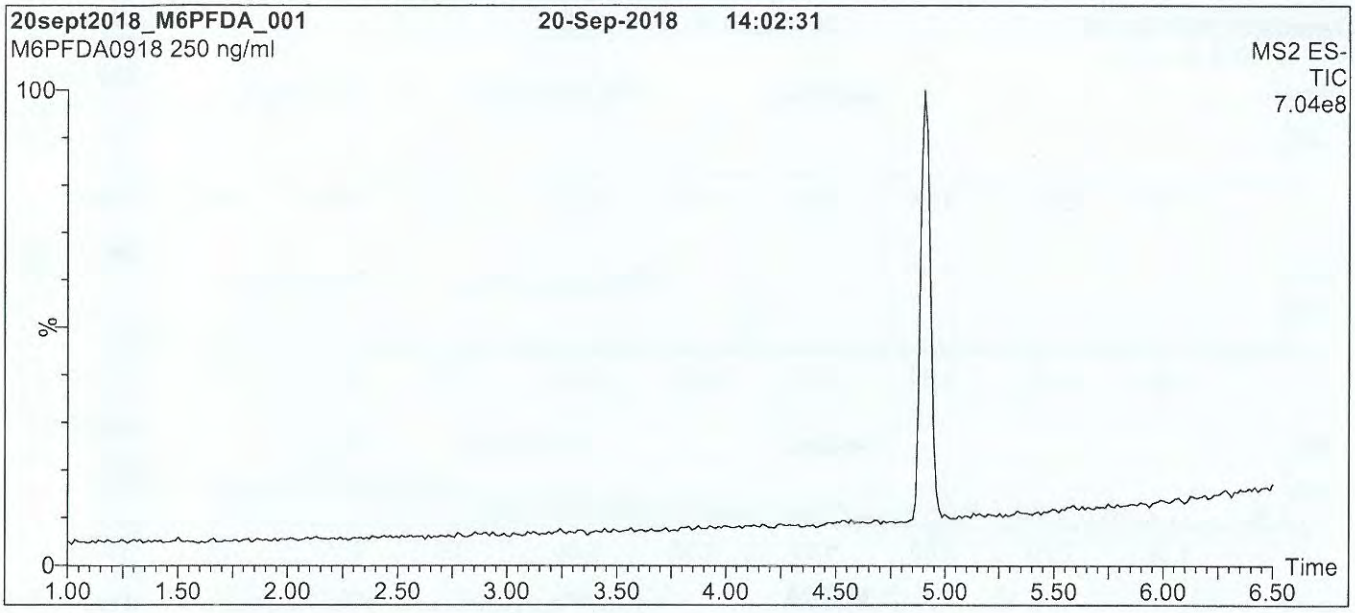
CALA Testing Accreditation No. A1226

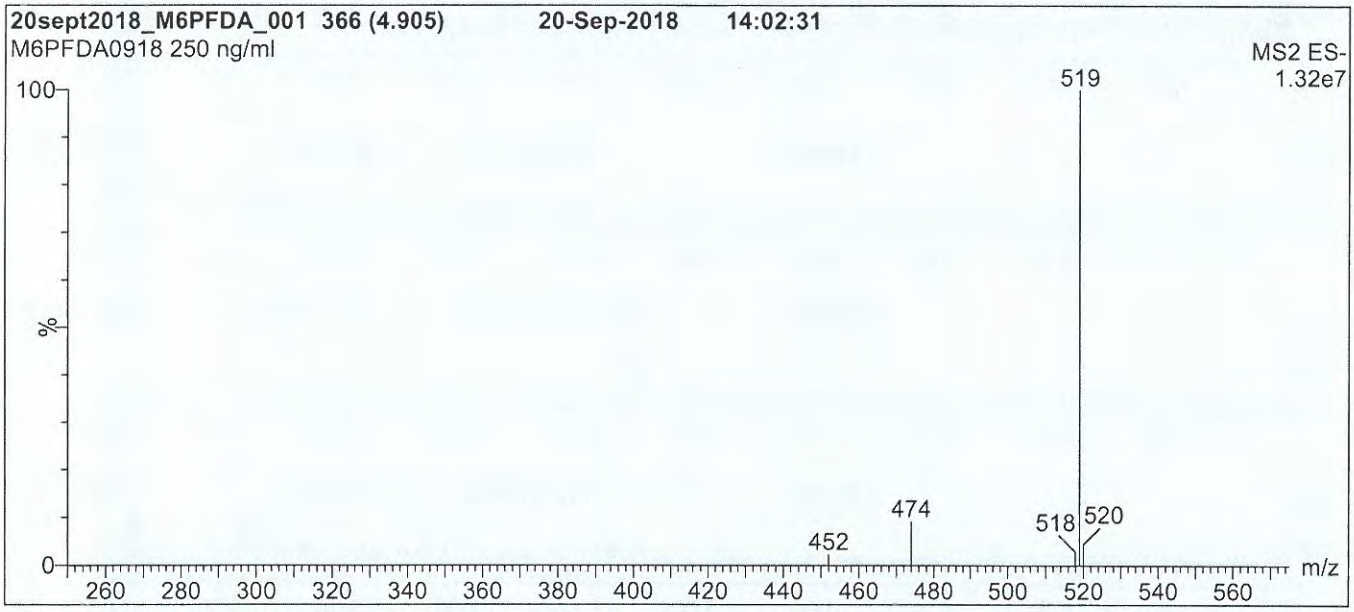
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2023

Figure 1: **M6PFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

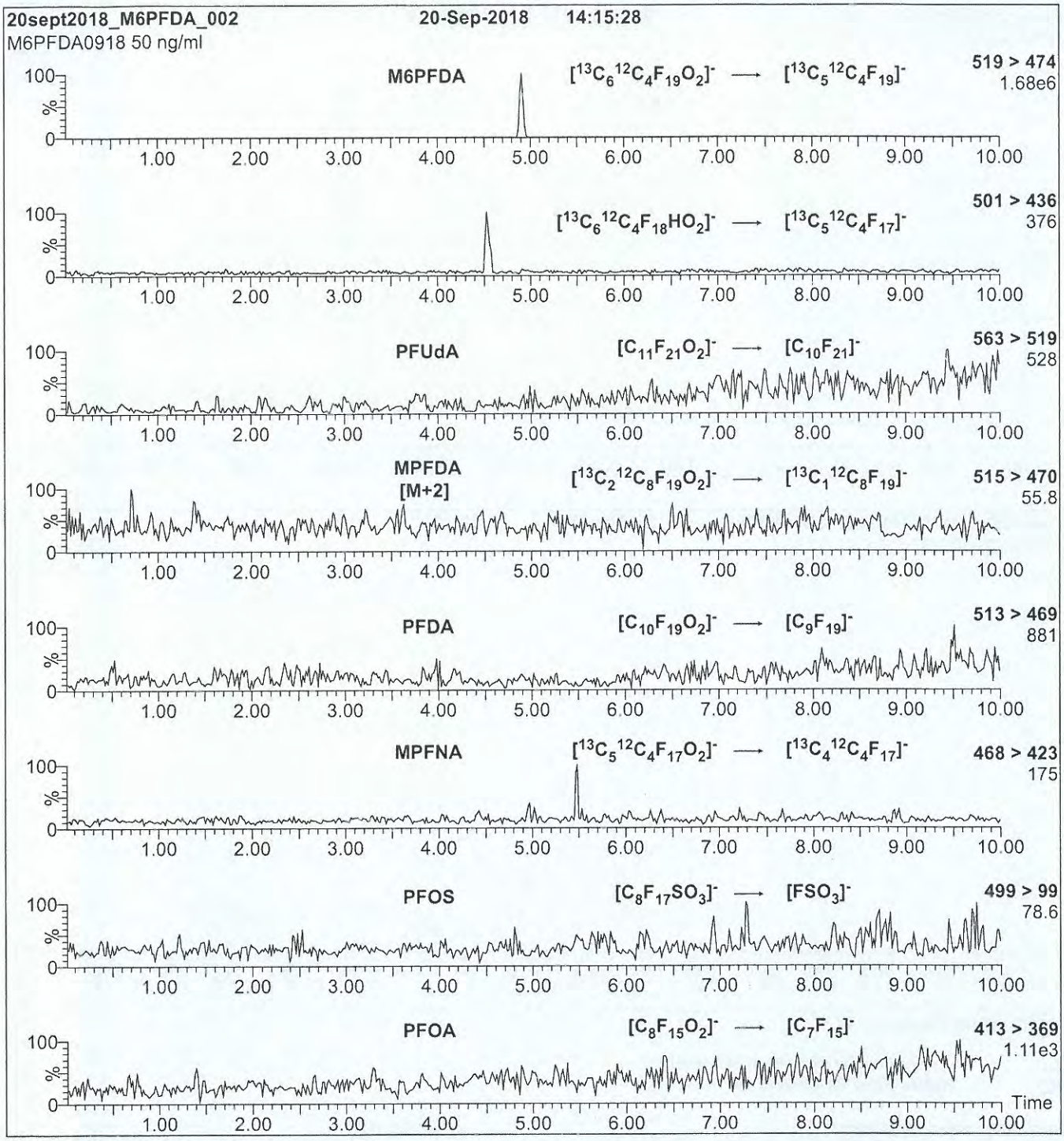
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1862023

Figure 2: **M6PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M6PFDA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 10

18L2024

WELLINGTON LABORATORIES

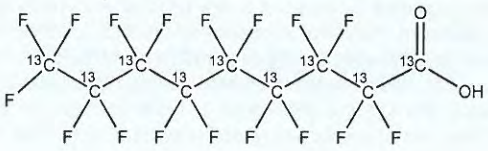
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M9PFNA
COMPOUND: Perfluoro-n-[$^{13}C_9$]nonanoic acid

LOT NUMBER: M9PFNA0517

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_9HF_{17}O_2$	**MOLECULAR WEIGHT:**	473.01
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_9$)
LAST TESTED: (mm/dd/yyyy)	05/23/2017		
EXPIRY DATE: (mm/dd/yyyy)	05/23/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.9% of $^{13}C_5{}^{12}C_4HF_{17}O_2$ (MPFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/25/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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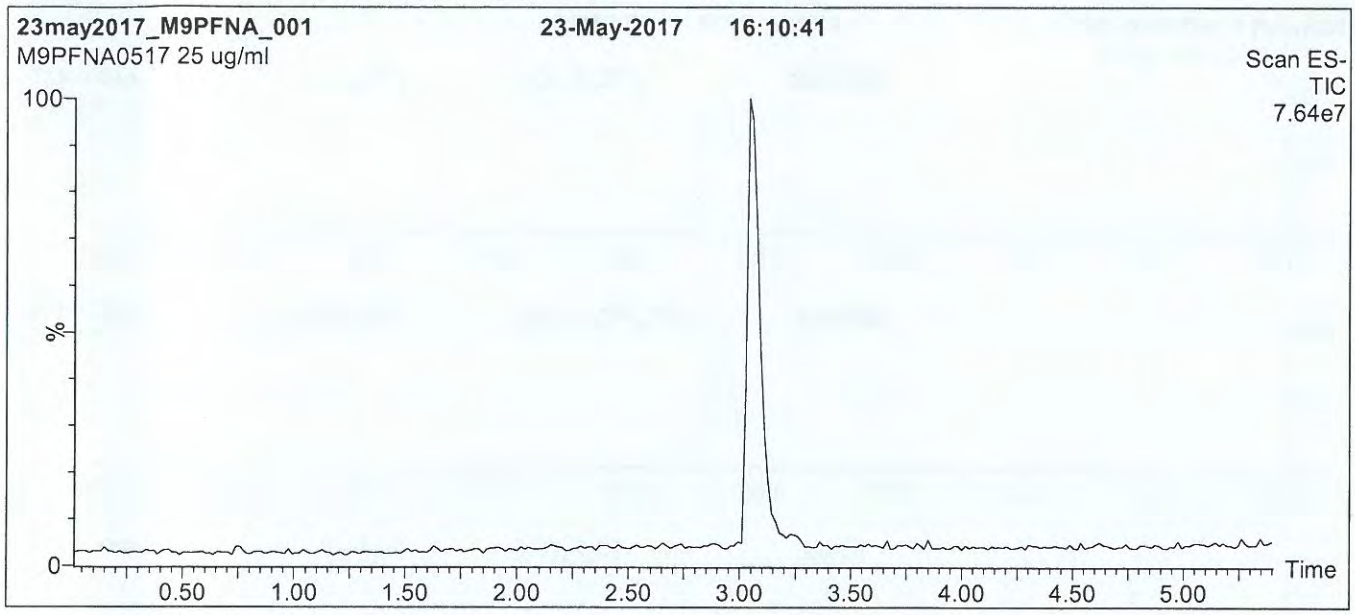
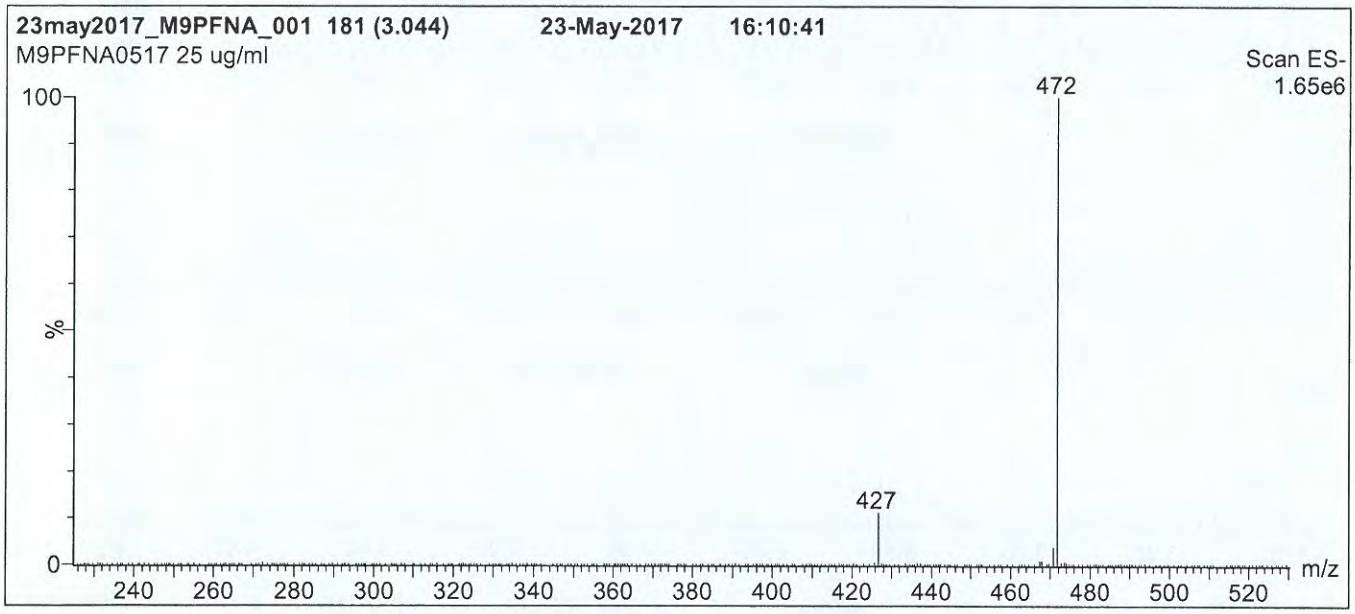
18L2024

Figure 1: **M9PFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

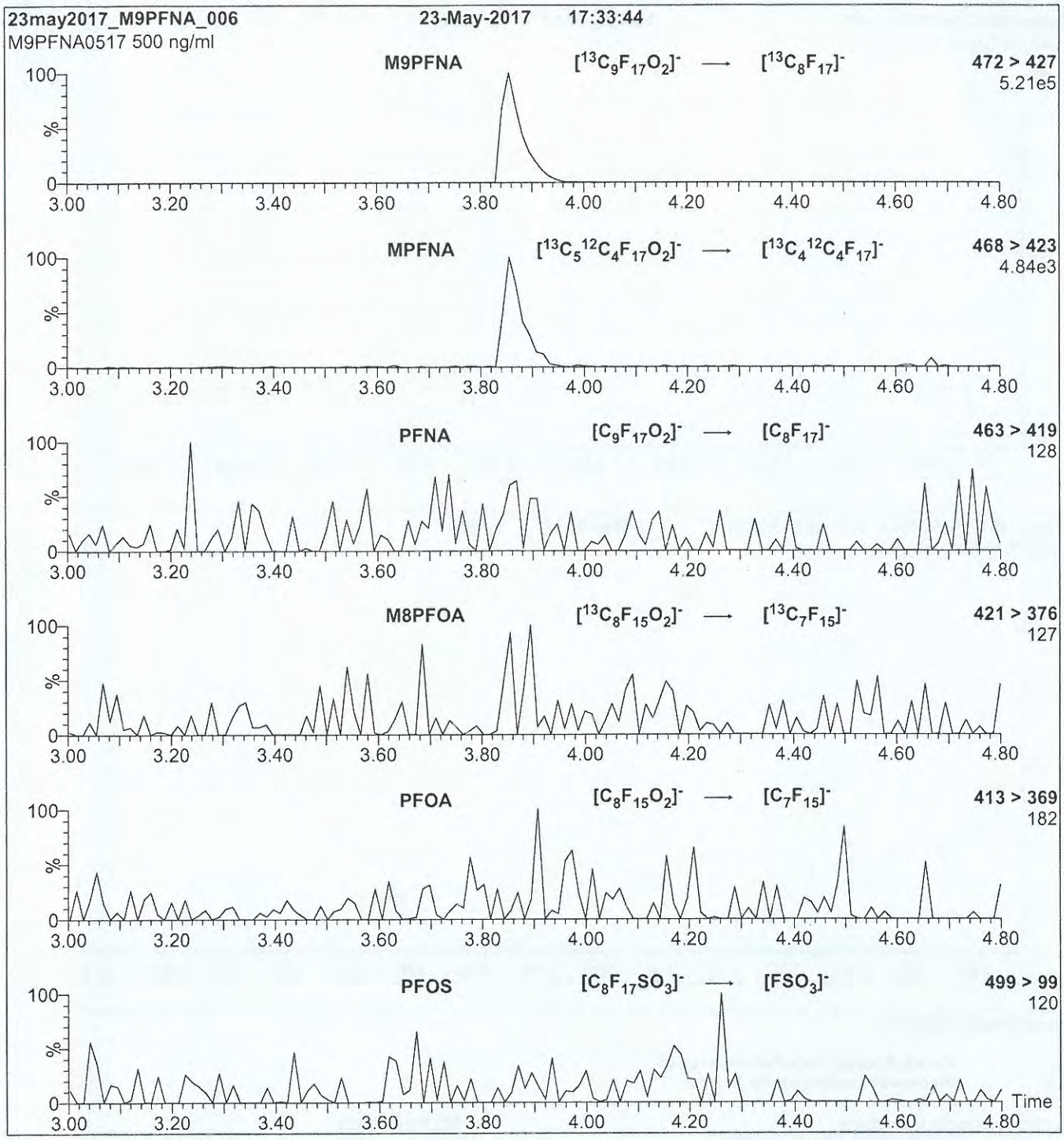
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

18L2024

Figure 2: **M9PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml M9PFNA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

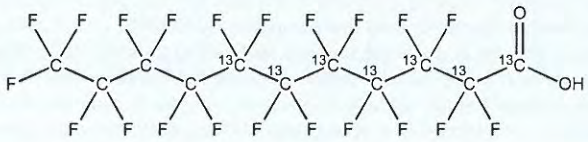
Collision Gas (mbar) = 3.20e-3
Collision Energy (eV) = 11

18L2025

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M7PFUdA	**LOT NUMBER:**	M7PFUdA0918
COMPOUND:	Perfluoro-n-[1,2,3,4,5,6,7-$^{13}C_7$]undecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_7{}^{12}C_4HF_{21}O_2$	**MOLECULAR WEIGHT:**	571.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5,6,7-$^{13}C_7$)
LAST TESTED: (mm/dd/yyyy)	09/20/2018		
EXPIRY DATE: (mm/dd/yyyy)	09/20/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/27/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2025

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where x is expressed as a relative standard uncertainty of the individual parameter.

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QUALITY MANAGEMENT:

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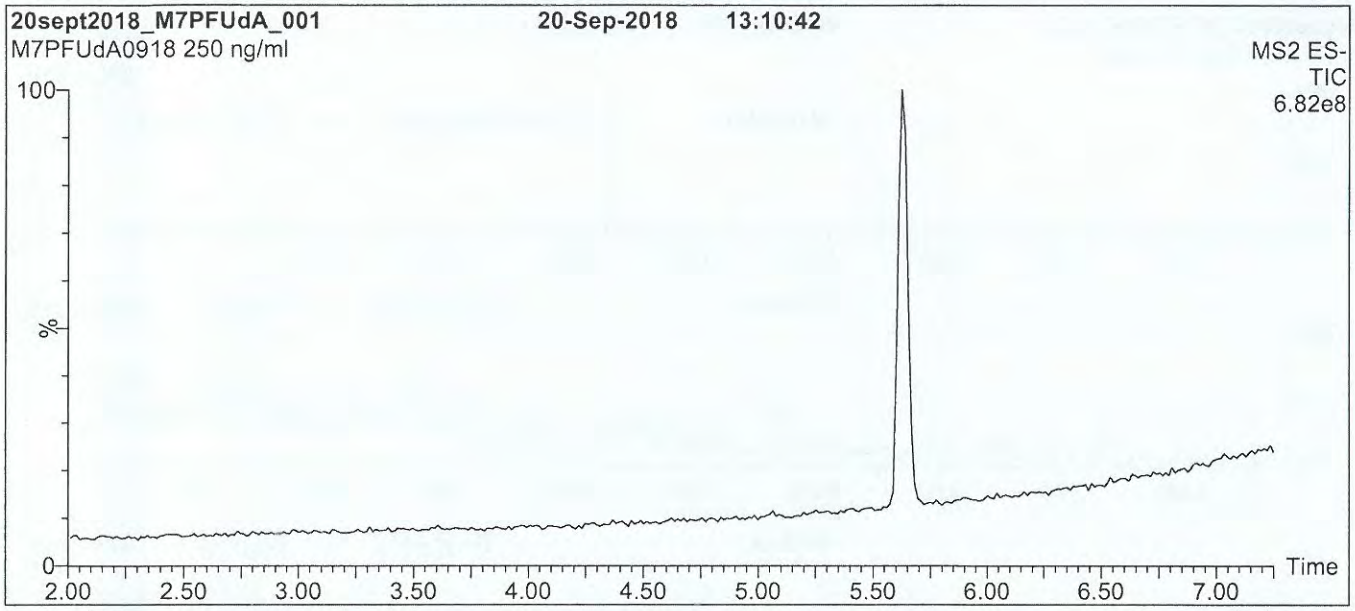
CALA Testing Accreditation No. A 1226

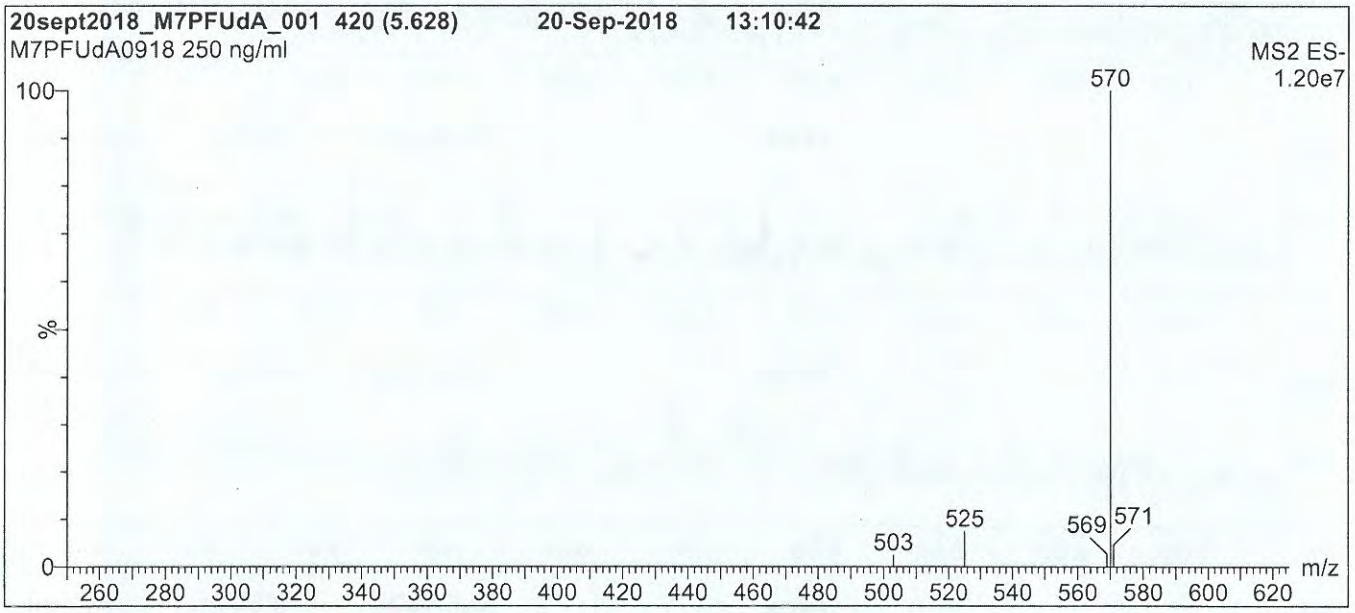
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2025

Figure 1: **M7PFUdA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

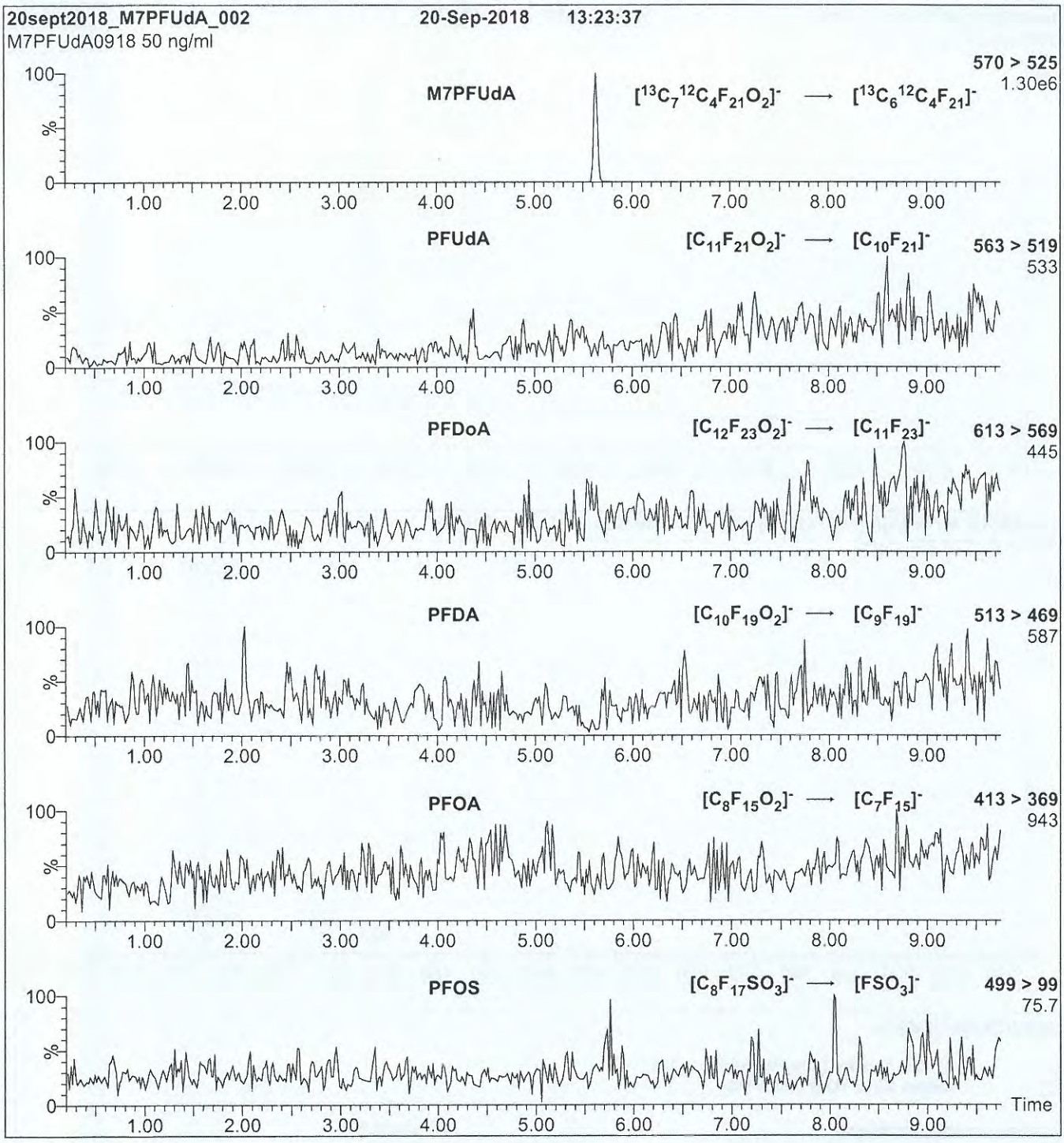
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

18L2025

Figure 2: **M7PFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M7PFUdA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

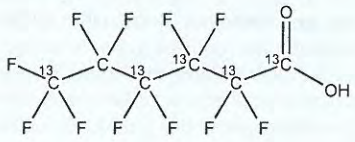
Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 12

18L2026

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M5PFHxA	**LOT NUMBER:**	M5PFHxA0918
COMPOUND:	Perfluoro-n-[1,2,3,4,6-$^{13}C_5$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_1HF_{11}O_2$	**MOLECULAR WEIGHT:**	319.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4,6\text{-}^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	09/27/2018		
EXPIRY DATE: (mm/dd/yyyy)	09/27/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/01/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2026

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

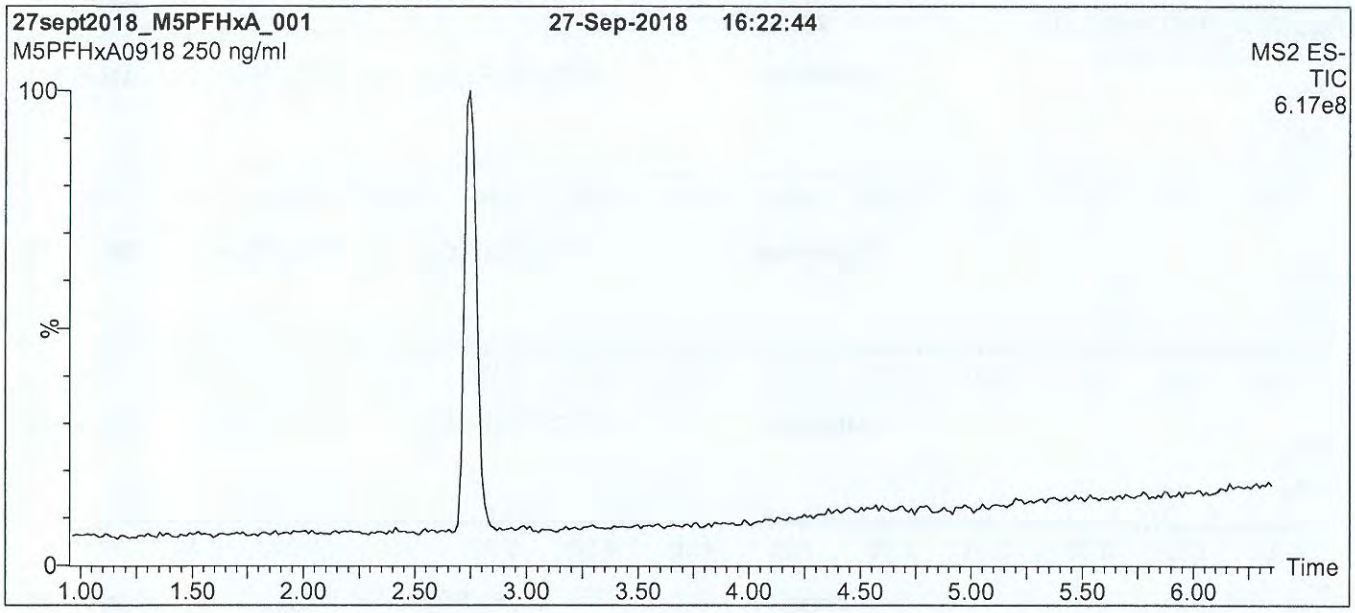
CALA Testing Accreditation No. A 1226

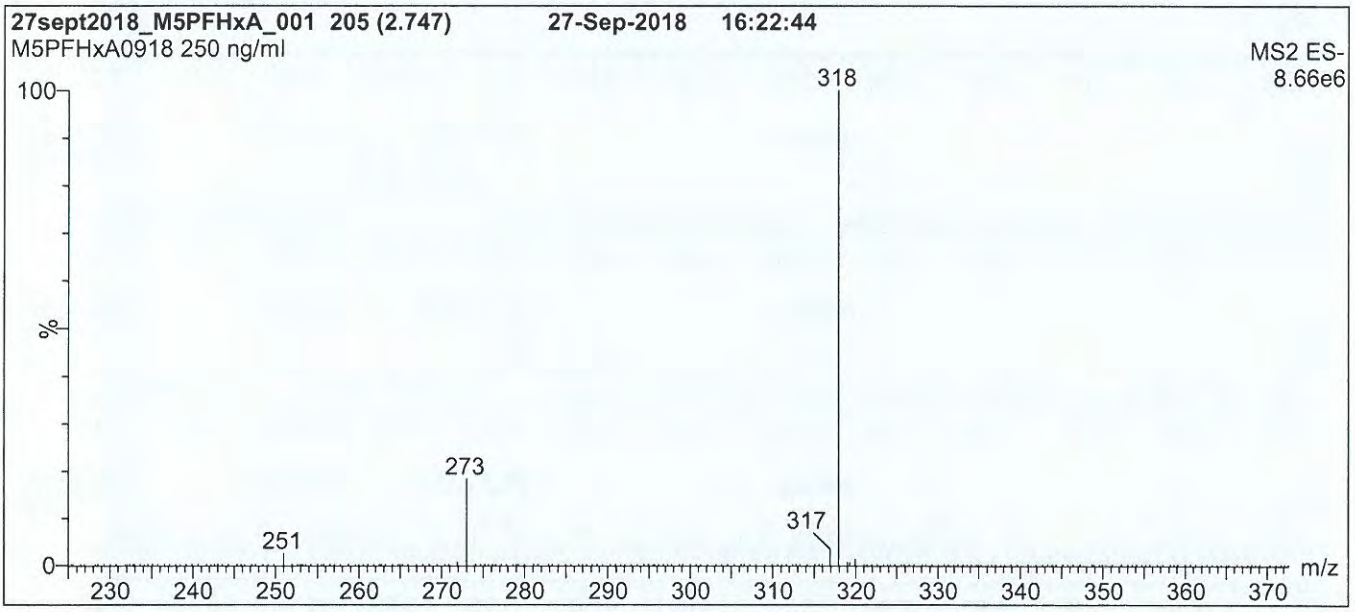
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

18L2026

Figure 1: **M5PFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

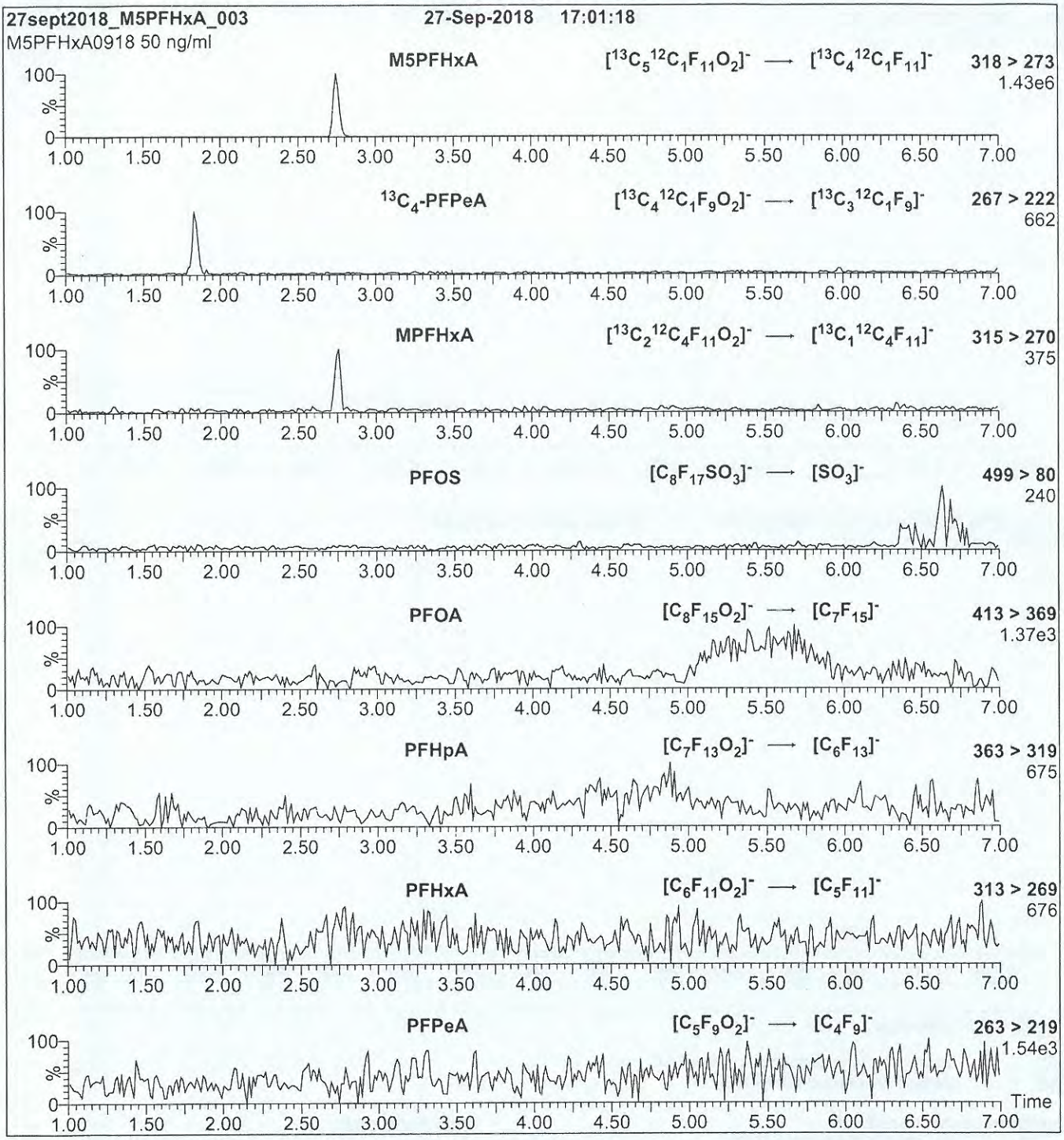
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812026

Figure 2: **M5PFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M5PFHxA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 8

18L2028

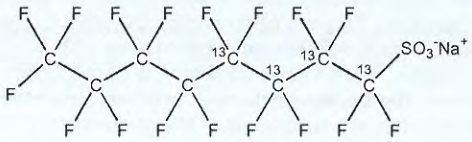
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0918

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4\text{-}^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	09/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	09/11/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.3% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/14/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2028

INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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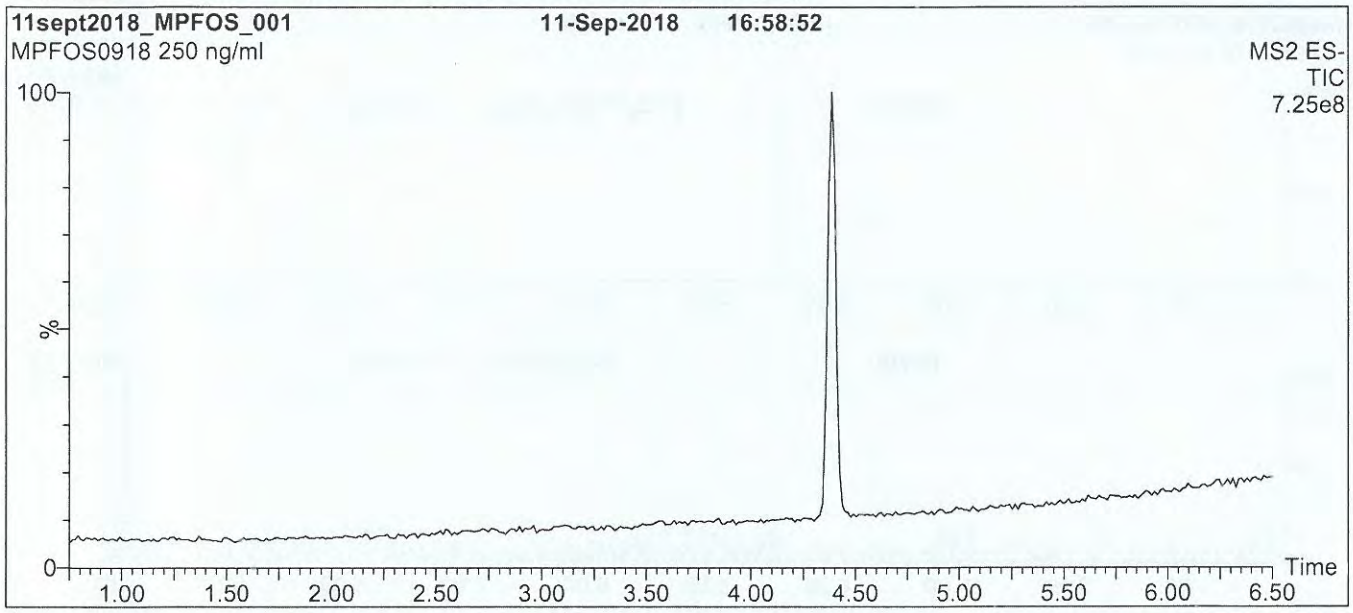
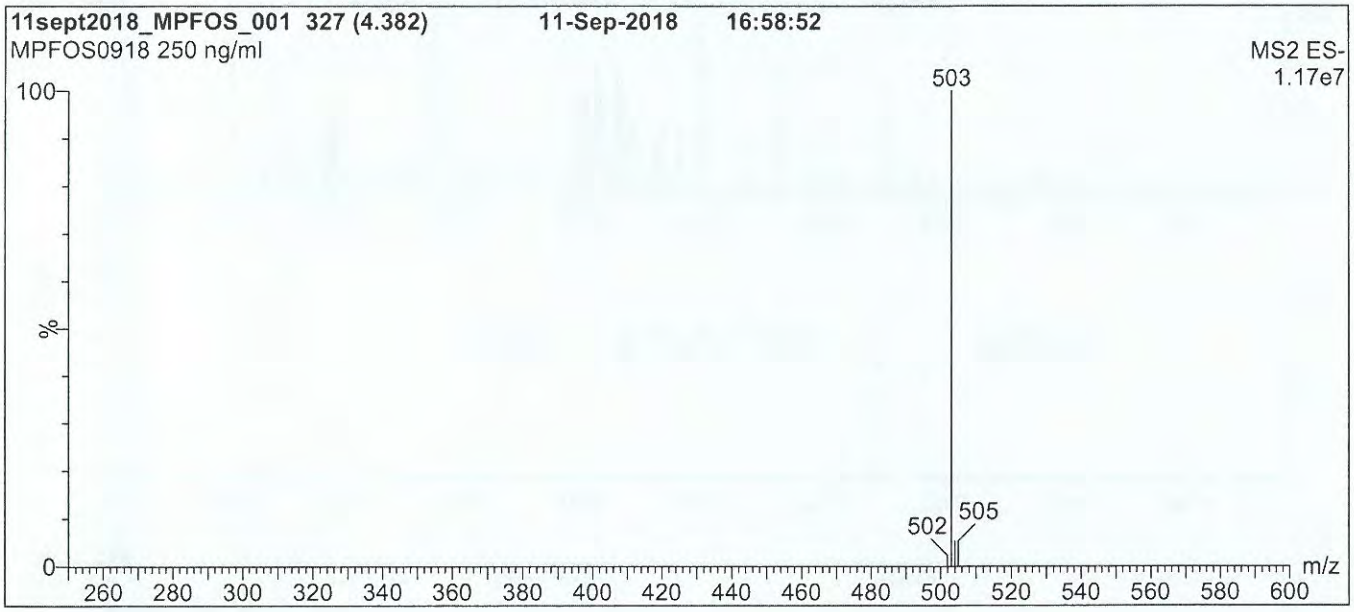
18L2028

Figure 1: **MPFOS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

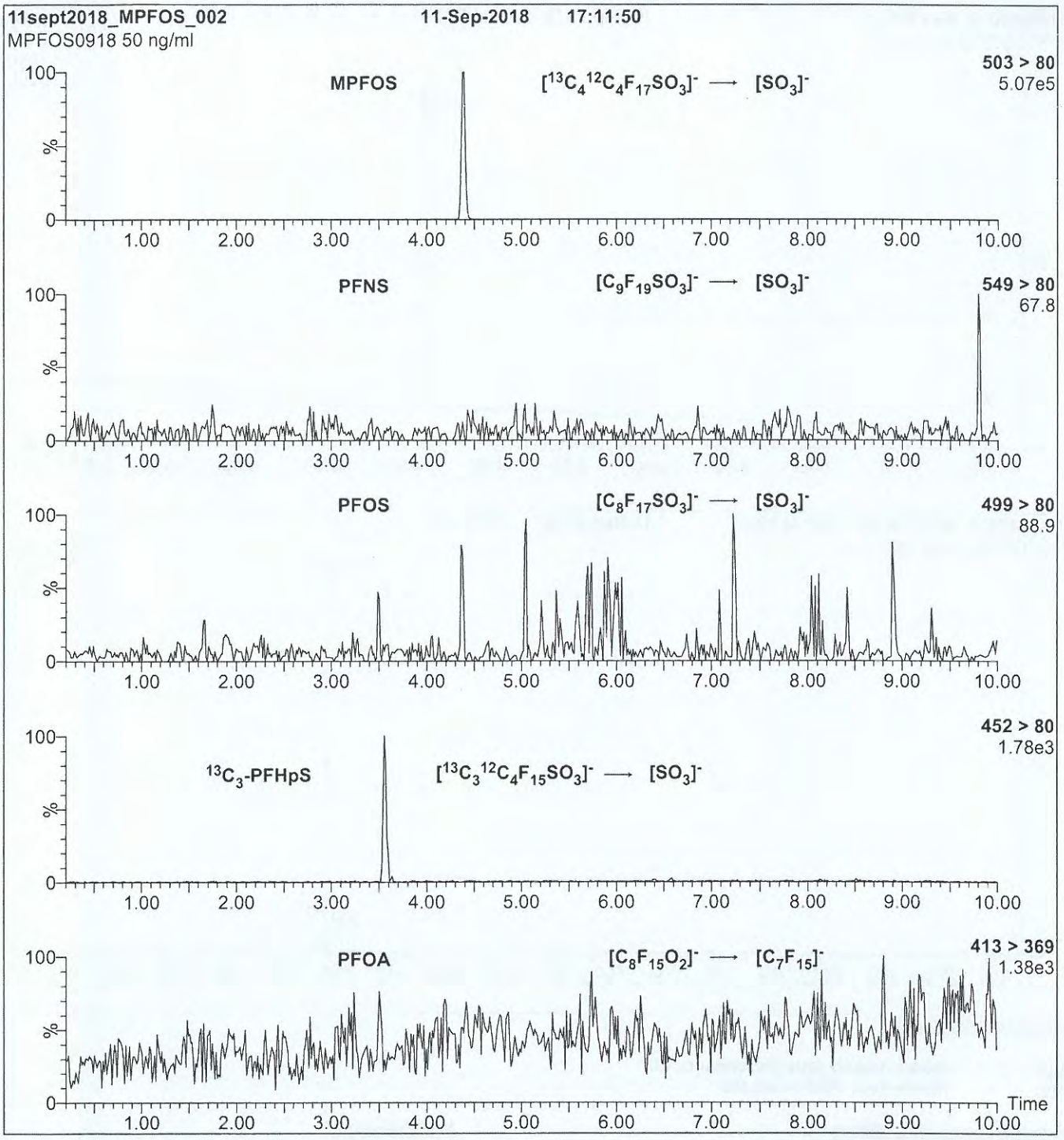
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1812028

Figure 2: **MPFOS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFOS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

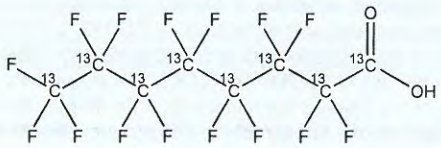
Collision Gas (mbar) = 2.99e-3
Collision Energy (eV) = 42

1812029

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M8PFOA	**LOT NUMBER:**	M8PFOA0618
COMPOUND:	Perfluoro-n-[$^{13}C_8$]octanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_8HF_{15}O_2$	**MOLECULAR WEIGHT:**	422.01
CONCENTRATION:	49 ± 2.45 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	97.9% (M8PFOA) 2.1% (MPFOA [M+4])	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	06/29/2018		
EXPIRY DATE: (mm/dd/yyyy)	06/29/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of native perfluoro-n-octanoic acid (PFOA) and ~ 1.9% of [M+4] perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/03/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1812029

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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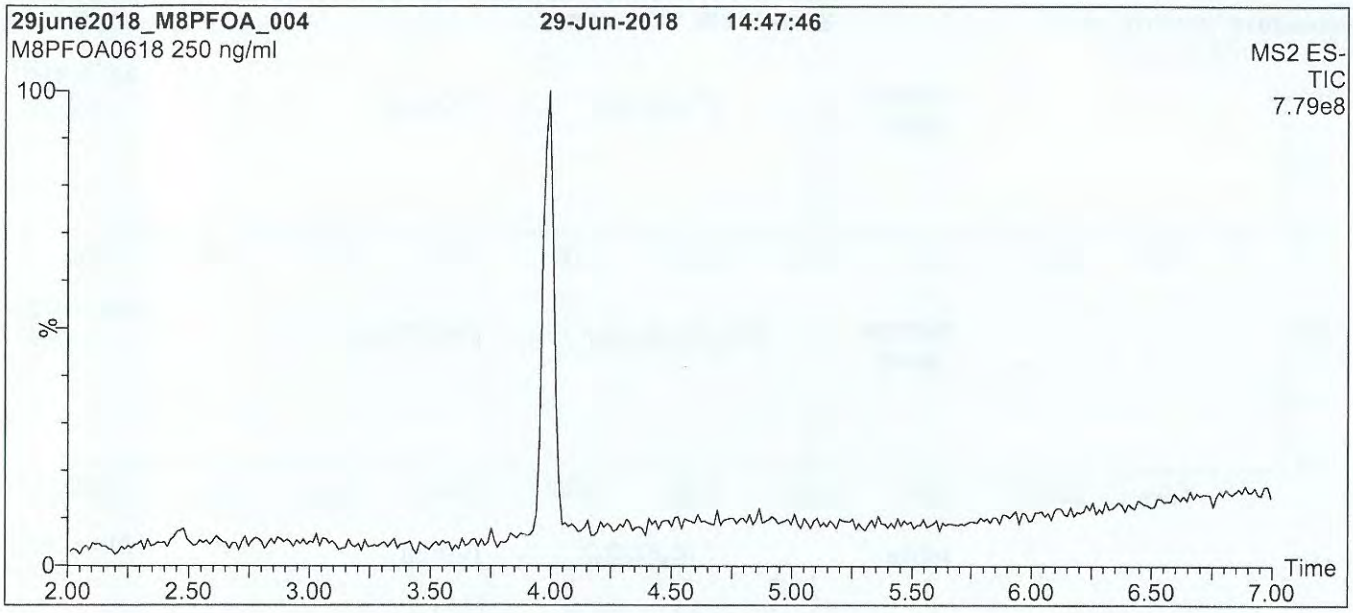
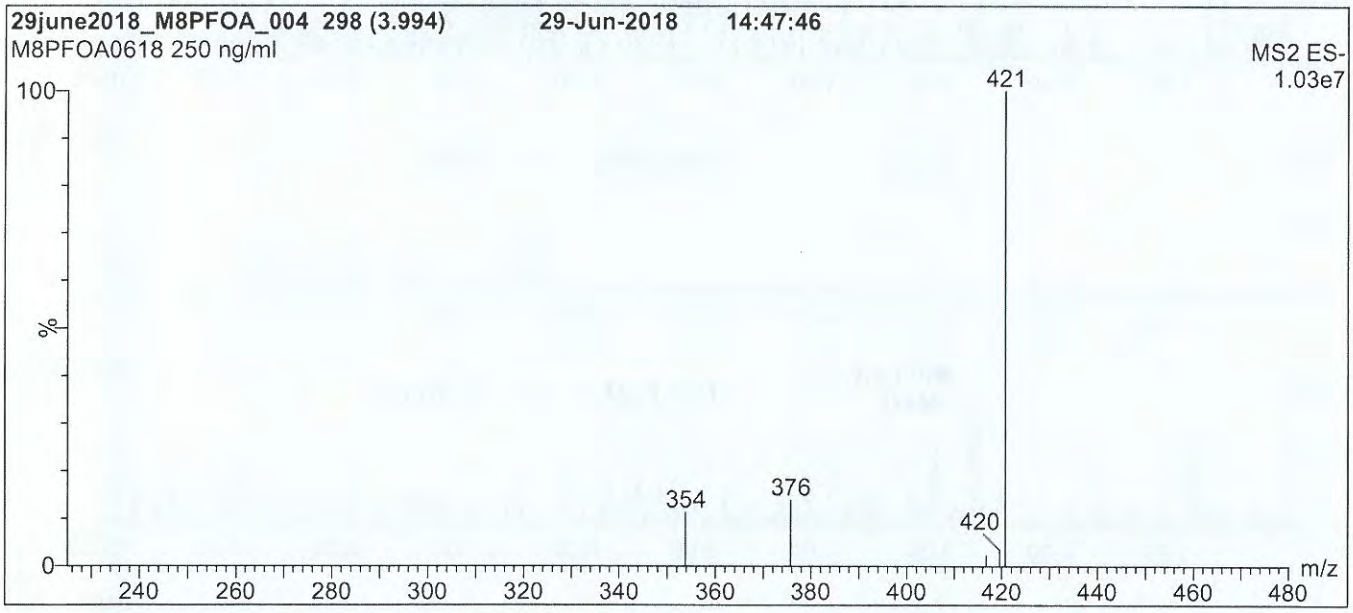
1812029

Figure 1: **M8PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

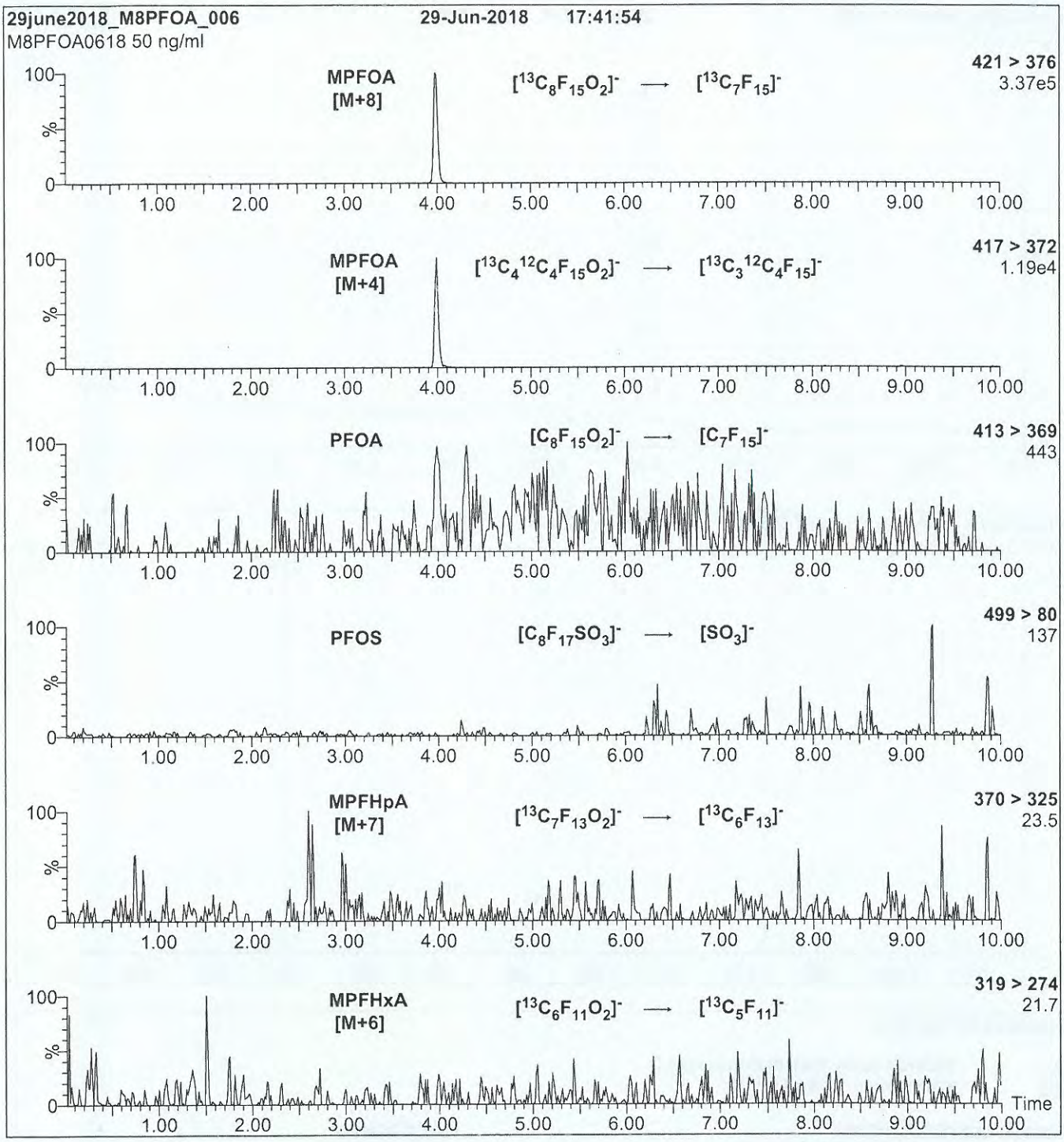
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 14.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

1812029

Figure 2: **M8PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M8PFOA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 8

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"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","355-46-4","PFHxS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","335-67-1","PFOA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","375-95-1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
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"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","335-76-2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","2355-31-9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","2991-50-6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","2058-94-8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","307-55-1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","72629-94-8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","376-06-7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C3-PFBS","13C3-PFBS","89.8","%R","","","CRDL","","IS","89.8","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C2-PFHxA","13C2-PFHxA","92.7","%R","","","CRDL","","IS","92.7","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C4-PFHpA","13C4-PFHpA","89.6","%R","","","CRDL","","IS","89.6","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C3-PFHxS","13C3-PFHxS","92.8","%R","","","CRDL","","IS","92.8","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C2-PFOA","13C2-PFOA","85.7","%R","","","CRDL","","IS","85.7","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C5-PFNA","13C5-PFNA","80.3","%R","","","CRDL","","IS","80.3","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C8-PFOS","13C8-PFOS","84.0","%R","","","CRDL","","IS","84.0","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C2-PFDA","13C2-PFDA","69.6","%R","","","CRDL","","IS","69.6","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","d3-MeFOSAA","d3-MeFOSAA","56.1","%R","","","CRDL","","IS","56.1","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","d5-EtFOSAA","d5-EtFOSAA","51.6","%R","","","CRDL","","IS","51.6","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C2-PFUnA","13C2-PFUnA","59.3","%R","","","CRDL","","IS","59.3","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C2-PFDoA","13C2-PFDoA","57.9","%R","","","CRDL","","IS","57.9","","","CRDL","",""
"SAOA-B08-SO-30-30.5","537 MOD","RES","1901920-01","Vista","13C2-PFTeDA","13C2-

PFTeDA","67.5","%R","","","CRDL","","IS","67.5","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","375-73-
5","PFBS","0.0104","ug/L","","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","307-24-
4","PFHxA","0.0391","ug/L","","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","375-85-
9","PFHpA","0.0104","ug/L","","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","355-46-
4","PFHxS","0.0532","ug/L","","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","335-67-
1","PFOA","0.0175","ug/L","","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","375-95-
1","PFNA","0.00376","ug/L","U","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","1763-23-
1","PFOS","0.144","ug/L","","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","335-76-
2","PFDA","0.00298","ug/L","J","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","2355-31-
9","NMeFOSAA","0.00376","ug/L","U","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","2991-50-
6","NEtFOSAA","0.00376","ug/L","U","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","2058-94-
8","PFUnA","0.00376","ug/L","U","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","307-55-
1","PFDoA","0.00376","ug/L","U","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","72629-94-
8","PFTrDA","0.00376","ug/L","U","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","376-06-
7","PFTeDA","0.00376","ug/L","U","0.00376","CRDL","","TRG","","","0.00751","CRDL","YES","0.00257"
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C3-PFBS","13C3-
PFBS","90.6","%R","","","CRDL","","IS","90.6","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C2-PFHxA","13C2-
PFHxA","90.8","%R","","","CRDL","","IS","90.8","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C4-PFHpA","13C4-
PFHpA","83.0","%R","","","CRDL","","IS","83.0","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C3-PFHxS","13C3-
PFHxS","75.3","%R","","","CRDL","","IS","75.3","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C2-PFOA","13C2-
PFOA","87.6","%R","","","CRDL","","IS","87.6","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C5-PFNA","13C5-
PFNA","77.9","%R","","","CRDL","","IS","77.9","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C8-PFOS","13C8-
PFOS","96.7","%R","","","CRDL","","IS","96.7","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C2-PFDA","13C2-
PFDA","80.2","%R","","","CRDL","","IS","80.2","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","d3-MeFOSAA","d3-
MeFOSAA","63.7","%R","","","CRDL","","IS","63.7","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","d5-EtFOSAA","d5-
EtFOSAA","58.1","%R","","","CRDL","","IS","58.1","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C2-PFUnA","13C2-
PFUnA","77.3","%R","","","CRDL","","IS","77.3","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C2-PFDoA","13C2-
PFDoA","54.5","%R","","","CRDL","","IS","54.5","","","CRDL","",""
"SAOA-B08-GW","537 MOD","RES","1901920-02","Vista","13C2-PFTeDA","13C2-

PFTeDA","44.1","%R","H","","CRDL","","IS","44.1","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","375-73-
5","PFBS","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","307-24-
4","PFHxA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","375-85-
9","PFHpA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","355-46-
4","PFHxS","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","335-67-
1","PFOA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","375-95-
1","PFNA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","1763-23-
1","PFOS","0.0103","ug/L","Q","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","335-76-2","PFDA","0.00428","ug/L","J,
Q","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","2355-31-
9","NMeFOSAA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","2991-50-
6","NEtFOSAA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","2058-94-
8","PFUnA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","307-55-
1","PFDoA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","72629-94-
8","PFTrDA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","376-06-
7","PFTeDA","0.00439","ug/L","U","0.00439","CRDL","","TRG","","","0.00875","CRDL","YES","0.00300"
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C3-PFBS","13C3-
PFBS","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C2-PFHxA","13C2-
PFHxA","92.9","%R","","","CRDL","","IS","92.9","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C4-PFHpA","13C4-
PFHpA","88.8","%R","","","CRDL","","IS","88.8","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C3-PFHxS","13C3-
PFHxS","97.0","%R","","","CRDL","","IS","97.0","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C2-PFOA","13C2-
PFOA","91.6","%R","","","CRDL","","IS","91.6","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C5-PFNA","13C5-
PFNA","84.5","%R","","","CRDL","","IS","84.5","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C8-PFOS","13C8-
PFOS","83.9","%R","","","CRDL","","IS","83.9","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C2-PFDA","13C2-
PFDA","80.7","%R","","","CRDL","","IS","80.7","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","d3-MeFOSAA","d3-
MeFOSAA","71.1","%R","","","CRDL","","IS","71.1","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","d5-EtFOSAA","d5-
EtFOSAA","71.3","%R","","","CRDL","","IS","71.3","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C2-PFUnA","13C2-
PFUnA","78.2","%R","","","CRDL","","IS","78.2","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C2-PFDoA","13C2-
PFDoA","76.9","%R","","","CRDL","","IS","76.9","","","CRDL","",""
"EB-06272019-GW","537 MOD","RES","1901920-03","Vista","13C2-PFTeDA","13C2-

PFTeDA","75.5","%R","","","CRDL","","IS","75.5","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","375-73-
5","PFBS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","307-24-
4","PFHxA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","375-85-
9","PFHpA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","355-46-
4","PFHxS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","335-67-
1","PFOA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","375-95-
1","PFNA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","1763-23-
1","PFOS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","335-76-
2","PFDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","2355-31-
9","NMeFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","2991-50-
6","NEtFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","2058-94-
8","PFUnA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","307-55-
1","PFDoA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","72629-94-
8","PFTrDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","376-06-
7","PFTeDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00864","CRDL","YES","0.00296"
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C3-PFBS","13C3-
PFBS","94.7","%R","","","CRDL","","IS","94.7","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C2-PFHxA","13C2-
PFHxA","91.5","%R","","","CRDL","","IS","91.5","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C4-PFHpA","13C4-
PFHpA","88.9","%R","","","CRDL","","IS","88.9","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C3-PFHxS","13C3-
PFHxS","86.8","%R","","","CRDL","","IS","86.8","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C2-PFOA","13C2-
PFOA","82.2","%R","","","CRDL","","IS","82.2","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C5-PFNA","13C5-
PFNA","78.8","%R","","","CRDL","","IS","78.8","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C8-PFOS","13C8-
PFOS","83.7","%R","","","CRDL","","IS","83.7","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C2-PFDA","13C2-
PFDA","76.2","%R","","","CRDL","","IS","76.2","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","d3-MeFOSAA","d3-
MeFOSAA","67.5","%R","","","CRDL","","IS","67.5","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","d5-EtFOSAA","d5-
EtFOSAA","69.6","%R","","","CRDL","","IS","69.6","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C2-PFUnA","13C2-
PFUnA","78.7","%R","","","CRDL","","IS","78.7","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C2-PFDoA","13C2-
PFDoA","73.5","%R","","","CRDL","","IS","73.5","","","CRDL","",""
"FRB-06282019","537 MOD","RES","1901920-04","Vista","13C2-PFTeDA","13C2-

PFTeDA","83.2","%R","","","CRDL","","IS","83.2","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","375-73-
5","PFBS","0.00758","ug/L","J","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","307-24-
4","PFHxA","0.0178","ug/L","","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","375-85-
9","PFHpA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","355-46-
4","PFHxS","0.00478","ug/L","J","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","335-67-
1","PFOA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","375-95-
1","PFNA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","1763-23-
1","PFOS","0.0127","ug/L","","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","335-76-
2","PFDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","2355-31-
9","NMeFOSAA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","2991-50-
6","NEtFOSAA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","2058-94-
8","PFUnA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","307-55-
1","PFDoA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","72629-94-
8","PFTrDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","376-06-
7","PFTeDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00819","CRDL","YES","0.00281"
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C3-PFBS","13C3-
PFBS","117","%R","","","CRDL","","IS","117","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C2-PFHxA","13C2-
PFHxA","94.1","%R","","","CRDL","","IS","94.1","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C4-PFHpA","13C4-
PFHpA","98.8","%R","","","CRDL","","IS","98.8","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C3-PFHxS","13C3-
PFHxS","105","%R","","","CRDL","","IS","105","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C2-PFOA","13C2-
PFOA","99.9","%R","","","CRDL","","IS","99.9","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C5-PFNA","13C5-
PFNA","92.4","%R","","","CRDL","","IS","92.4","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C8-PFOS","13C8-
PFOS","87.7","%R","","","CRDL","","IS","87.7","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C2-PFDA","13C2-
PFDA","87.3","%R","","","CRDL","","IS","87.3","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","d3-MeFOSAA","d3-
MeFOSAA","78.0","%R","","","CRDL","","IS","78.0","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","d5-EtFOSAA","d5-
EtFOSAA","80.3","%R","","","CRDL","","IS","80.3","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C2-PFUnA","13C2-
PFUnA","84.3","%R","","","CRDL","","IS","84.3","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C2-PFDoA","13C2-
PFDoA","69.2","%R","","","CRDL","","IS","69.2","","","CRDL","",""
"SAOA-B12-GW","537 MOD","RES","1901920-05","Vista","13C2-PFTeDA","13C2-

PFTeDA","53.6","%R","","","CRDL","","IS","53.6","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","375-73-
5","PFBS","0.00664","ug/L","J","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","307-24-
4","PFHxA","0.0203","ug/L","","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","375-85-
9","PFHpA","0.00361","ug/L","J","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","355-46-
4","PFHxS","0.0157","ug/L","","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","335-67-
1","PFOA","0.00635","ug/L","J","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","375-95-1","PFNA","0.00302","ug/L","J,
Q","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","1763-23-
1","PFOS","0.0904","ug/L","","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","335-76-2","PFDA","0.00407","ug/L","J,
Q","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","2355-31-
9","NMeFOSAA","0.00397","ug/L","U","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","2991-50-
6","NEtFOSAA","0.00397","ug/L","U","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","2058-94-
8","PFUnA","0.00397","ug/L","U","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","307-55-
1","PFDoA","0.00397","ug/L","U","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","72629-94-
8","PFTrDA","0.00397","ug/L","U","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","376-06-
7","PFTeDA","0.00397","ug/L","U","0.00397","CRDL","","TRG","","","0.00791","CRDL","YES","0.00271"
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C3-PFBS","13C3-
PFBS","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C2-PFHxA","13C2-
PFHxA","96.2","%R","","","CRDL","","IS","96.2","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C4-PFHpA","13C4-
PFHpA","97.2","%R","","","CRDL","","IS","97.2","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C3-PFHxS","13C3-
PFHxS","83.7","%R","","","CRDL","","IS","83.7","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C2-PFOA","13C2-
PFOA","96.0","%R","","","CRDL","","IS","96.0","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C5-PFNA","13C5-
PFNA","89.4","%R","","","CRDL","","IS","89.4","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C8-PFOS","13C8-
PFOS","104","%R","","","CRDL","","IS","104","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C2-PFDA","13C2-
PFDA","99.9","%R","","","CRDL","","IS","99.9","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","d3-MeFOSAA","d3-
MeFOSAA","68.1","%R","","","CRDL","","IS","68.1","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","d5-EtFOSAA","d5-
EtFOSAA","65.0","%R","","","CRDL","","IS","65.0","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C2-PFUnA","13C2-
PFUnA","76.5","%R","","","CRDL","","IS","76.5","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C2-PFDoA","13C2-
PFDoA","63.3","%R","","","CRDL","","IS","63.3","","","CRDL","",""
"SAOA-B12-GW-D","537 MOD","RES","1901920-06","Vista","13C2-PFTeDA","13C2-

PFTeDA","30.7","%R","H","","CRDL","","IS","30.7","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","375-73-
5","PFBS","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","307-24-
4","PFHxA","3.40","ug/kg","","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","375-85-
9","PFHpA","2.43","ug/kg","","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","355-46-
4","PFHxS","8.07","ug/kg","","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","335-67-
1","PFOA","4.59","ug/kg","","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","375-95-
1","PFNA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","1763-23-
1","PFOS","27.2","ug/kg","","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","335-76-
2","PFDA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","2355-31-
9","NMeFOSAA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","2991-50-
6","NEtFOSAA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","2058-94-
8","PFUnA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","307-55-
1","PFDoA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","72629-94-
8","PFTrDA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","376-06-
7","PFTeDA","0.985","ug/kg","U","0.985","CRDL","","TRG","","","1.97","CRDL","YES","0.833"
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C3-PFBS","13C3-
PFBS","99.8","%R","","","CRDL","","IS","99.8","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C2-PFHxA","13C2-
PFHxA","96.0","%R","","","CRDL","","IS","96.0","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C4-PFHpA","13C4-
PFHpA","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C3-PFHxS","13C3-
PFHxS","91.5","%R","","","CRDL","","IS","91.5","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C2-PFOA","13C2-
PFOA","92.3","%R","","","CRDL","","IS","92.3","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C5-PFNA","13C5-
PFNA","91.3","%R","","","CRDL","","IS","91.3","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C8-PFOS","13C8-
PFOS","96.7","%R","","","CRDL","","IS","96.7","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C2-PFDA","13C2-
PFDA","77.7","%R","","","CRDL","","IS","77.7","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","d3-MeFOSAA","d3-
MeFOSAA","59.5","%R","","","CRDL","","IS","59.5","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","d5-EtFOSAA","d5-
EtFOSAA","63.2","%R","","","CRDL","","IS","63.2","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C2-PFUnA","13C2-
PFUnA","68.3","%R","","","CRDL","","IS","68.3","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C2-PFDoA","13C2-
PFDoA","66.6","%R","","","CRDL","","IS","66.6","","","CRDL","",""
"NAOA-B08-SO-1-1.5","537 MOD","RES","1901920-07","Vista","13C2-PFTeDA","13C2-

PFTeDA","73.2","%R","","","CRDL","","IS","73.2","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","307-24-
4","PFHxA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","355-46-
4","PFHxS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","335-67-
1","PFOA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","1763-23-
1","PFOS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C3-PFBS","13C3-
PFBS","98.1","%R","","","CRDL","","IS","98.1","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C2-PFHxA","13C2-
PFHxA","90.9","%R","","","CRDL","","IS","90.9","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C4-PFHpA","13C4-
PFHpA","93.9","%R","","","CRDL","","IS","93.9","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C3-PFHxS","13C3-
PFHxS","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C2-PFOA","13C2-
PFOA","87.1","%R","","","CRDL","","IS","87.1","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C5-PFNA","13C5-
PFNA","82.4","%R","","","CRDL","","IS","82.4","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C8-PFOS","13C8-
PFOS","81.3","%R","","","CRDL","","IS","81.3","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C2-PFDA","13C2-
PFDA","71.3","%R","","","CRDL","","IS","71.3","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","d3-MeFOSAA","d3-
MeFOSAA","62.7","%R","","","CRDL","","IS","62.7","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","d5-EtFOSAA","d5-
EtFOSAA","58.9","%R","","","CRDL","","IS","58.9","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C2-PFUnA","13C2-
PFUnA","64.4","%R","","","CRDL","","IS","64.4","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C2-PFDoA","13C2-
PFDoA","64.4","%R","","","CRDL","","IS","64.4","","","CRDL","",""
"NAOA-B08-SO-20-20.5","537 MOD","RES","1901920-08","Vista","13C2-PFTeDA","13C2-

PFTeDA","71.3","%R","","","CRDL","","IS","71.3","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","375-73-
5","PFBS","0.853","ug/kg","J","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","307-24-
4","PFHxA","11.0","ug/kg","","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","375-85-
9","PFHpA","1.16","ug/kg","J","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","355-46-
4","PFHxS","7.54","ug/kg","","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","335-67-
1","PFOA","2.64","ug/kg","","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","375-95-
1","PFNA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","1763-23-
1","PFOS","14.3","ug/kg","","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","335-76-
2","PFDA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","2355-31-
9","NMeFOSAA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","2991-50-
6","NEtFOSAA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","2058-94-
8","PFUnA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","307-55-
1","PFDoA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","72629-94-
8","PFTrDA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","376-06-
7","PFTeDA","0.950","ug/kg","U","0.950","CRDL","","TRG","","","1.90","CRDL","YES","0.803"
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C3-PFBS","13C3-
PFBS","93.5","%R","","","CRDL","","IS","93.5","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C2-PFHxA","13C2-
PFHxA","97.3","%R","","","CRDL","","IS","97.3","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C4-PFHpA","13C4-
PFHpA","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C3-PFHxS","13C3-
PFHxS","96.5","%R","","","CRDL","","IS","96.5","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C2-PFOA","13C2-
PFOA","97.7","%R","","","CRDL","","IS","97.7","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C5-PFNA","13C5-
PFNA","87.7","%R","","","CRDL","","IS","87.7","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C8-PFOS","13C8-
PFOS","88.9","%R","","","CRDL","","IS","88.9","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C2-PFDA","13C2-
PFDA","74.4","%R","","","CRDL","","IS","74.4","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","d3-MeFOSAA","d3-
MeFOSAA","60.0","%R","","","CRDL","","IS","60.0","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","d5-EtFOSAA","d5-
EtFOSAA","62.9","%R","","","CRDL","","IS","62.9","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C2-PFUnA","13C2-
PFUnA","60.5","%R","","","CRDL","","IS","60.5","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C2-PFDoA","13C2-
PFDoA","58.9","%R","","","CRDL","","IS","58.9","","","CRDL","",""
"NAOA-B09-SO-1-1.5","537 MOD","RES","1901920-09","Vista","13C2-PFTeDA","13C2-

PFTeDA","69.7","%R","","","CRDL","","IS","69.7","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","375-73-
5","PFBS","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","307-24-
4","PFHxA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","375-85-
9","PFHpA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","355-46-
4","PFHxS","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","335-67-
1","PFOA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","375-95-
1","PFNA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","1763-23-
1","PFOS","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","335-76-
2","PFDA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","2355-31-
9","NMeFOSAA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","2991-50-
6","NEtFOSAA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","2058-94-
8","PFUnA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","307-55-
1","PFDoA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","72629-94-
8","PFTrDA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","376-06-
7","PFTeDA","0.954","ug/kg","U","0.954","CRDL","","TRG","","","1.91","CRDL","YES","0.806"
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C3-PFBS","13C3-
PFBS","91.3","%R","","","CRDL","","IS","91.3","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C2-PFHxA","13C2-
PFHxA","89.3","%R","","","CRDL","","IS","89.3","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C4-PFHpA","13C4-
PFHpA","86.9","%R","","","CRDL","","IS","86.9","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C3-PFHxS","13C3-
PFHxS","90.4","%R","","","CRDL","","IS","90.4","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C2-PFOA","13C2-
PFOA","86.3","%R","","","CRDL","","IS","86.3","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C5-PFNA","13C5-
PFNA","77.9","%R","","","CRDL","","IS","77.9","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C8-PFOS","13C8-
PFOS","77.6","%R","","","CRDL","","IS","77.6","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C2-PFDA","13C2-
PFDA","66.4","%R","","","CRDL","","IS","66.4","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","d3-MeFOSAA","d3-
MeFOSAA","62.3","%R","","","CRDL","","IS","62.3","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","d5-EtFOSAA","d5-
EtFOSAA","63.3","%R","","","CRDL","","IS","63.3","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C2-PFUnA","13C2-
PFUnA","58.7","%R","","","CRDL","","IS","58.7","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C2-PFDoA","13C2-
PFDoA","59.9","%R","","","CRDL","","IS","59.9","","","CRDL","",""
"NAOA-B09-SO-20-20.5","537 MOD","RES","1901920-10","Vista","13C2-PFTeDA","13C2-

PFTeDA","75.0","%R","","","CRDL","","IS","75.0","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","375-73-
5","PFBS","0.0664","ug/L","","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","307-24-
4","PFHxA","0.245","ug/L","","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","375-85-
9","PFHpA","0.0408","ug/L","","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","355-46-
4","PFHxS","0.359","ug/L","","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","335-67-
1","PFOA","0.0679","ug/L","","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","375-95-
1","PFNA","0.00442","ug/L","J","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","1763-23-
1","PFOS","0.862","ug/L","","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","335-76-
2","PFDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","2355-31-
9","NMeFOSAA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","2991-50-
6","NEtFOSAA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","2058-94-
8","PFUnA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","307-55-
1","PFDoA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","72629-94-
8","PFTrDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","376-06-
7","PFTeDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00820","CRDL","YES","0.00281"
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C3-PFBS","13C3-
PFBS","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C2-PFHxA","13C2-
PFHxA","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C4-PFHpA","13C4-
PFHpA","110","%R","","","CRDL","","IS","110","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C3-PFHxS","13C3-
PFHxS","98.6","%R","","","CRDL","","IS","98.6","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C2-PFOA","13C2-
PFOA","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C5-PFNA","13C5-
PFNA","95.8","%R","","","CRDL","","IS","95.8","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C8-PFOS","13C8-
PFOS","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C2-PFDA","13C2-
PFDA","84.6","%R","","","CRDL","","IS","84.6","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","d3-MeFOSAA","d3-
MeFOSAA","71.2","%R","","","CRDL","","IS","71.2","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","d5-EtFOSAA","d5-
EtFOSAA","68.8","%R","","","CRDL","","IS","68.8","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C2-PFUnA","13C2-
PFUnA","75.6","%R","","","CRDL","","IS","75.6","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C2-PFDoA","13C2-
PFDoA","60.0","%R","","","CRDL","","IS","60.0","","","CRDL","",""
"NAOA-B02-GW","537 MOD","RES","1901920-11","Vista","13C2-PFTeDA","13C2-

PFTeDA","45.7","%R","H","","CRDL","","IS","45.7","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","375-73-
5","PFBS","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","307-24-
4","PFHxA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","375-85-
9","PFHpA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","355-46-
4","PFHxS","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","335-67-
1","PFOA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","375-95-
1","PFNA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","1763-23-
1","PFOS","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","335-76-
2","PFDA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","2355-31-
9","NMeFOSAA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","2991-50-
6","NEtFOSAA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","2058-94-
8","PFUnA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","307-55-
1","PFDoA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","72629-94-
8","PFTrDA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","376-06-
7","PFTeDA","0.00446","ug/L","U","0.00446","CRDL","","TRG","","","0.00896","CRDL","YES","0.00307"
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C3-PFBS","13C3-
PFBS","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C2-PFHxA","13C2-
PFHxA","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C4-PFHpA","13C4-
PFHpA","95.1","%R","","","CRDL","","IS","95.1","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C3-PFHxS","13C3-
PFHxS","84.8","%R","","","CRDL","","IS","84.8","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C2-PFOA","13C2-
PFOA","95.7","%R","","","CRDL","","IS","95.7","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C5-PFNA","13C5-
PFNA","85.6","%R","","","CRDL","","IS","85.6","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C8-PFOS","13C8-
PFOS","84.2","%R","","","CRDL","","IS","84.2","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C2-PFDA","13C2-
PFDA","73.8","%R","","","CRDL","","IS","73.8","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","d3-MeFOSAA","d3-
MeFOSAA","59.5","%R","","","CRDL","","IS","59.5","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","d5-EtFOSAA","d5-
EtFOSAA","68.8","%R","","","CRDL","","IS","68.8","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C2-PFUnA","13C2-
PFUnA","72.2","%R","","","CRDL","","IS","72.2","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C2-PFDoA","13C2-
PFDoA","70.8","%R","","","CRDL","","IS","70.8","","","CRDL","",""
"EB-07012019","537 MOD","RES","1901920-12","Vista","13C2-PFTeDA","13C2-

PFTeDA","78.9","%R","","","CRDL","","IS","78.9","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","375-73-
5","PFBS","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","307-24-
4","PFHxA","0.926","ug/kg","J","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","375-85-
9","PFHpA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","355-46-
4","PFHxS","1.80","ug/kg","J","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","335-67-
1","PFOA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","375-95-
1","PFNA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","1763-23-
1","PFOS","3.87","ug/kg","","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","335-76-
2","PFDA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","2355-31-
9","NMeFOSAA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","2991-50-
6","NEtFOSAA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","2058-94-
8","PFUnA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","307-55-
1","PFDoA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","72629-94-
8","PFTrDA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","376-06-
7","PFTeDA","0.961","ug/kg","U","0.961","CRDL","","TRG","","","1.92","CRDL","YES","0.812"
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C3-PFBS","13C3-
PFBS","104","%R","","","CRDL","","IS","104","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C2-PFHxA","13C2-
PFHxA","93.2","%R","","","CRDL","","IS","93.2","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C4-PFHpA","13C4-
PFHpA","95.5","%R","","","CRDL","","IS","95.5","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C3-PFHxS","13C3-
PFHxS","97.3","%R","","","CRDL","","IS","97.3","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C2-PFOA","13C2-
PFOA","90.7","%R","","","CRDL","","IS","90.7","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C5-PFNA","13C5-
PFNA","80.7","%R","","","CRDL","","IS","80.7","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C8-PFOS","13C8-
PFOS","87.7","%R","","","CRDL","","IS","87.7","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C2-PFDA","13C2-
PFDA","69.5","%R","","","CRDL","","IS","69.5","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","d3-MeFOSAA","d3-
MeFOSAA","60.1","%R","","","CRDL","","IS","60.1","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","d5-EtFOSAA","d5-
EtFOSAA","65.4","%R","","","CRDL","","IS","65.4","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C2-PFUnA","13C2-
PFUnA","62.5","%R","","","CRDL","","IS","62.5","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C2-PFDoA","13C2-
PFDoA","58.1","%R","","","CRDL","","IS","58.1","","","CRDL","",""
"NAOA-B01-SO-1-1.5","537 MOD","RES","1901920-13","Vista","13C2-PFTeDA","13C2-

PFTeDA","68.7","%R","","","CRDL","","IS","68.7","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","375-73-
5","PFBS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","307-24-
4","PFHxA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","375-85-
9","PFHpA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","355-46-
4","PFHxS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","335-67-
1","PFOA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","375-95-
1","PFNA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","1763-23-
1","PFOS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","335-76-
2","PFDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","2355-31-
9","NMeFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","2991-50-
6","NEtFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","2058-94-
8","PFUnA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","307-55-
1","PFDoA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","72629-94-
8","PFTrDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","376-06-
7","PFTeDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C3-PFBS","13C3-
PFBS","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C2-PFHxA","13C2-
PFHxA","95.2","%R","","","CRDL","","IS","95.2","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C4-PFHpA","13C4-
PFHpA","86.4","%R","","","CRDL","","IS","86.4","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C3-PFHxS","13C3-
PFHxS","98.6","%R","","","CRDL","","IS","98.6","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C2-PFOA","13C2-
PFOA","92.1","%R","","","CRDL","","IS","92.1","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C5-PFNA","13C5-
PFNA","87.0","%R","","","CRDL","","IS","87.0","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C8-PFOS","13C8-
PFOS","87.1","%R","","","CRDL","","IS","87.1","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C2-PFDA","13C2-
PFDA","76.1","%R","","","CRDL","","IS","76.1","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","d3-MeFOSAA","d3-
MeFOSAA","66.5","%R","","","CRDL","","IS","66.5","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","d5-EtFOSAA","d5-
EtFOSAA","63.1","%R","","","CRDL","","IS","63.1","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C2-PFUnA","13C2-
PFUnA","79.4","%R","","","CRDL","","IS","79.4","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C2-PFDoA","13C2-
PFDoA","72.6","%R","","","CRDL","","IS","72.6","","","CRDL","",""
"FRB-07012019","537 MOD","RES","1901920-14","Vista","13C2-PFTeDA","13C2-

PFTeDA","79.5","%R","","","CRDL","","IS","79.5","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","375-73-
5","PFBS","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","307-24-
4","PFHxA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","375-85-
9","PFHpA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","355-46-
4","PFHxS","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","335-67-
1","PFOA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","375-95-
1","PFNA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","1763-23-
1","PFOS","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","335-76-
2","PFDA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","2355-31-
9","NMeFOSAA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","2991-50-
6","NEtFOSAA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","2058-94-
8","PFUnA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","307-55-
1","PFDoA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","72629-94-
8","PFTrDA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","376-06-
7","PFTeDA","0.976","ug/kg","U","0.976","CRDL","","TRG","","","1.95","CRDL","YES","0.824"
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C3-PFBS","13C3-
PFBS","105","%R","","","CRDL","","IS","105","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C2-PFHxA","13C2-
PFHxA","92.8","%R","","","CRDL","","IS","92.8","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C4-PFHpA","13C4-
PFHpA","93.3","%R","","","CRDL","","IS","93.3","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C3-PFHxS","13C3-
PFHxS","104","%R","","","CRDL","","IS","104","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C2-PFOA","13C2-
PFOA","90.5","%R","","","CRDL","","IS","90.5","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C5-PFNA","13C5-
PFNA","85.2","%R","","","CRDL","","IS","85.2","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C8-PFOS","13C8-
PFOS","96.5","%R","","","CRDL","","IS","96.5","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C2-PFDA","13C2-
PFDA","68.9","%R","","","CRDL","","IS","68.9","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","d3-MeFOSAA","d3-
MeFOSAA","62.3","%R","","","CRDL","","IS","62.3","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","d5-EtFOSAA","d5-
EtFOSAA","66.0","%R","","","CRDL","","IS","66.0","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C2-PFUnA","13C2-
PFUnA","64.0","%R","","","CRDL","","IS","64.0","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C2-PFDoA","13C2-
PFDoA","63.0","%R","","","CRDL","","IS","63.0","","","CRDL","",""
"NAOA-B01-SO-20-20.5","537 MOD","RES","1901920-15","Vista","13C2-PFTeDA","13C2-

PFTeDA","76.8","%R","","","CRDL","","IS","76.8","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","375-73-
5","PFBS","0.0823","ug/L","","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","307-24-
4","PFHxA","0.176","ug/L","","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","375-85-
9","PFHpA","0.0307","ug/L","","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","355-46-
4","PFHxS","0.167","ug/L","","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","335-67-
1","PFOA","0.00628","ug/L","J","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","375-95-
1","PFNA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","1763-23-
1","PFOS","0.0664","ug/L","","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","335-76-
2","PFDA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","2355-31-
9","NMeFOSAA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","2991-50-
6","NEtFOSAA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","2058-94-
8","PFUnA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","307-55-
1","PFDoA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","72629-94-
8","PFTrDA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","376-06-
7","PFTeDA","0.00388","ug/L","U","0.00388","CRDL","","TRG","","","0.00773","CRDL","YES","0.00265"
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C3-PFBS","13C3-
PFBS","93.7","%R","","","CRDL","","IS","93.7","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C2-PFHxA","13C2-
PFHxA","90.8","%R","","","CRDL","","IS","90.8","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C4-PFHpA","13C4-
PFHpA","84.3","%R","","","CRDL","","IS","84.3","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C3-PFHxS","13C3-
PFHxS","79.4","%R","","","CRDL","","IS","79.4","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C2-PFOA","13C2-
PFOA","91.2","%R","","","CRDL","","IS","91.2","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C5-PFNA","13C5-
PFNA","81.8","%R","","","CRDL","","IS","81.8","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C8-PFOS","13C8-
PFOS","92.3","%R","","","CRDL","","IS","92.3","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C2-PFDA","13C2-
PFDA","81.1","%R","","","CRDL","","IS","81.1","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","d3-MeFOSAA","d3-
MeFOSAA","67.9","%R","","","CRDL","","IS","67.9","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","d5-EtFOSAA","d5-
EtFOSAA","63.1","%R","","","CRDL","","IS","63.1","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C2-PFUnA","13C2-
PFUnA","74.8","%R","","","CRDL","","IS","74.8","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C2-PFDoA","13C2-
PFDoA","60.2","%R","","","CRDL","","IS","60.2","","","CRDL","",""
"NAOA-B01-GW","537 MOD","RES","1901920-16","Vista","13C2-PFTeDA","13C2-

PFTeDA","47.7","%R","H","","CRDL","","IS","47.7","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","375-73-
5","PFBS","0.170","ug/L","","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","307-24-
4","PFHxA","0.613","ug/L","","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","375-85-
9","PFHpA","0.0573","ug/L","","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","355-46-
4","PFHxS","0.120","ug/L","","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","335-67-
1","PFOA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","375-95-
1","PFNA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","1763-23-
1","PFOS","0.0447","ug/L","","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","335-76-
2","PFDA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","2355-31-
9","NMeFOSAA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","2991-50-
6","NEtFOSAA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","2058-94-
8","PFUnA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","307-55-
1","PFDoA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","72629-94-
8","PFTrDA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","376-06-
7","PFTeDA","0.00362","ug/L","U","0.00362","CRDL","","TRG","","","0.00726","CRDL","YES","0.00249"
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C3-PFBS","13C3-
PFBS","90.9","%R","","","CRDL","","IS","90.9","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C2-PFHxA","13C2-
PFHxA","88.8","%R","","","CRDL","","IS","88.8","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C4-PFHpA","13C4-
PFHpA","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C3-PFHxS","13C3-
PFHxS","87.3","%R","","","CRDL","","IS","87.3","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C2-PFOA","13C2-
PFOA","82.3","%R","","","CRDL","","IS","82.3","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C5-PFNA","13C5-
PFNA","78.8","%R","","","CRDL","","IS","78.8","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C8-PFOS","13C8-
PFOS","80.6","%R","","","CRDL","","IS","80.6","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C2-PFDA","13C2-
PFDA","65.1","%R","","","CRDL","","IS","65.1","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","d3-MeFOSAA","d3-
MeFOSAA","59.0","%R","","","CRDL","","IS","59.0","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","d5-EtFOSAA","d5-
EtFOSAA","60.4","%R","","","CRDL","","IS","60.4","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C2-PFUnA","13C2-
PFUnA","60.5","%R","","","CRDL","","IS","60.5","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C2-PFDoA","13C2-
PFDoA","56.4","%R","","","CRDL","","IS","56.4","","","CRDL","",""
"NAOA-B01-GW-D","537 MOD","RES","1901920-17","Vista","13C2-PFTeDA","13C2-

PFTeDA","39.8","%R","H","","CRDL","","IS","39.8","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","375-73-
5","PFBS","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","307-24-
4","PFHxA","2.13","ug/kg","","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","375-85-
9","PFHpA","1.01","ug/kg","J","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","355-46-
4","PFHxS","1.01","ug/kg","J","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","335-67-
1","PFOA","1.56","ug/kg","J","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","375-95-
1","PFNA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","1763-23-
1","PFOS","8.16","ug/kg","","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","335-76-
2","PFDA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","2355-31-
9","NMeFOSAA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","2991-50-
6","NEtFOSAA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","2058-94-
8","PFUnA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","307-55-
1","PFDoA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","72629-94-
8","PFTrDA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","376-06-
7","PFTeDA","0.973","ug/kg","U","0.973","CRDL","","TRG","","","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C3-PFBS","13C3-
PFBS","92.5","%R","","","CRDL","","IS","92.5","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C2-PFHxA","13C2-
PFHxA","91.2","%R","","","CRDL","","IS","91.2","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C4-PFHpA","13C4-
PFHpA","91.6","%R","","","CRDL","","IS","91.6","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C3-PFHxS","13C3-
PFHxS","91.0","%R","","","CRDL","","IS","91.0","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C2-PFOA","13C2-
PFOA","84.7","%R","","","CRDL","","IS","84.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C5-PFNA","13C5-
PFNA","79.5","%R","","","CRDL","","IS","79.5","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C8-PFOS","13C8-
PFOS","88.3","%R","","","CRDL","","IS","88.3","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C2-PFDA","13C2-
PFDA","68.4","%R","","","CRDL","","IS","68.4","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","d3-MeFOSAA","d3-
MeFOSAA","72.2","%R","","","CRDL","","IS","72.2","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","d5-EtFOSAA","d5-
EtFOSAA","74.0","%R","","","CRDL","","IS","74.0","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C2-PFUnA","13C2-
PFUnA","64.6","%R","","","CRDL","","IS","64.6","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C2-PFDoA","13C2-
PFDoA","66.9","%R","","","CRDL","","IS","66.9","","","CRDL","",""
"CAOA-B02-SO-0.5-1","537 MOD","RES","1901920-18","Vista","13C2-PFTeDA","13C2-

PFTeDA","75.6","%R","","","CRDL","","IS","75.6","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","375-73-
5","PFBS","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","307-24-
4","PFHxA","5.45","ug/kg","","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","375-85-
9","PFHpA","1.64","ug/kg","J","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","355-46-
4","PFHxS","3.38","ug/kg","","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","335-67-
1","PFOA","1.66","ug/kg","J","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","375-95-
1","PFNA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","1763-23-
1","PFOS","12.1","ug/kg","","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","335-76-
2","PFDA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","2355-31-
9","NMeFOSAA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","2991-50-
6","NEtFOSAA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","2058-94-
8","PFUnA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","307-55-
1","PFDoA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","72629-94-
8","PFTrDA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","376-06-
7","PFTeDA","0.997","ug/kg","U","0.997","CRDL","","TRG","","","1.99","CRDL","YES","0.843"
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C3-PFBS","13C3-
PFBS","93.2","%R","","","CRDL","","IS","93.2","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C2-PFHxA","13C2-
PFHxA","93.3","%R","","","CRDL","","IS","93.3","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C4-PFHpA","13C4-
PFHpA","94.3","%R","","","CRDL","","IS","94.3","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C3-PFHxS","13C3-
PFHxS","89.8","%R","","","CRDL","","IS","89.8","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C2-PFOA","13C2-
PFOA","85.9","%R","","","CRDL","","IS","85.9","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C5-PFNA","13C5-
PFNA","78.3","%R","","","CRDL","","IS","78.3","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C8-PFOS","13C8-
PFOS","91.2","%R","","","CRDL","","IS","91.2","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C2-PFDA","13C2-
PFDA","63.8","%R","","","CRDL","","IS","63.8","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","d3-MeFOSAA","d3-
MeFOSAA","52.3","%R","","","CRDL","","IS","52.3","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","d5-EtFOSAA","d5-
EtFOSAA","55.2","%R","","","CRDL","","IS","55.2","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C2-PFUnA","13C2-
PFUnA","50.1","%R","","","CRDL","","IS","50.1","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C2-PFDoA","13C2-
PFDoA","46.3","%R","H","","CRDL","","IS","46.3","","","CRDL","",""
"CAOA-B02-SO-20-20.5","537 MOD","RES","1901920-19","Vista","13C2-PFTeDA","13C2-

PFTeDA","69.8","%R","","","CRDL","","IS","69.8","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","375-73-
5","PFBS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","307-24-
4","PFHxA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","375-85-
9","PFHpA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","355-46-
4","PFHxS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","335-67-
1","PFOA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","375-95-
1","PFNA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","1763-23-
1","PFOS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","335-76-
2","PFDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","2355-31-
9","NMeFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","2991-50-
6","NEtFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","2058-94-
8","PFUnA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","307-55-
1","PFDoA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","72629-94-
8","PFTrDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","376-06-
7","PFTeDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C3-PFBS","13C3-
PFBS","111","%R","","","CRDL","","IS","111","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C2-PFHxA","13C2-
PFHxA","91.4","%R","","","CRDL","","IS","91.4","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C4-PFHpA","13C4-
PFHpA","85.6","%R","","","CRDL","","IS","85.6","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C3-PFHxS","13C3-
PFHxS","97.3","%R","","","CRDL","","IS","97.3","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C2-PFOA","13C2-
PFOA","93.3","%R","","","CRDL","","IS","93.3","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C5-PFNA","13C5-
PFNA","91.5","%R","","","CRDL","","IS","91.5","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C8-PFOS","13C8-
PFOS","84.5","%R","","","CRDL","","IS","84.5","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C2-PFDA","13C2-
PFDA","86.4","%R","","","CRDL","","IS","86.4","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","d3-MeFOSAA","d3-
MeFOSAA","65.1","%R","","","CRDL","","IS","65.1","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","d5-EtFOSAA","d5-
EtFOSAA","73.4","%R","","","CRDL","","IS","73.4","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C2-PFUnA","13C2-
PFUnA","82.9","%R","","","CRDL","","IS","82.9","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C2-PFDoA","13C2-
PFDoA","77.5","%R","","","CRDL","","IS","77.5","","","CRDL","",""
"EB-07022019","537 MOD","RES","1901920-20","Vista","13C2-PFTeDA","13C2-

PFTeDA","86.9","%R","","","CRDL","","IS","86.9","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","375-73-
5","PFBS","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","307-24-
4","PFHxA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","375-85-
9","PFHpA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","355-46-
4","PFHxS","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","335-67-
1","PFOA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","375-95-
1","PFNA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","1763-23-
1","PFOS","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","335-76-
2","PFDA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","2355-31-
9","NMeFOSAA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","2991-50-
6","NEtFOSAA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","2058-94-
8","PFUnA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","307-55-
1","PFDoA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","72629-94-
8","PFTrDA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","376-06-
7","PFTeDA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C3-PFBS","13C3-
PFBS","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C2-PFHxA","13C2-
PFHxA","93.3","%R","","","CRDL","","IS","93.3","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C4-PFHpA","13C4-
PFHpA","86.3","%R","","","CRDL","","IS","86.3","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C3-PFHxS","13C3-
PFHxS","95.6","%R","","","CRDL","","IS","95.6","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C2-PFOA","13C2-
PFOA","78.8","%R","","","CRDL","","IS","78.8","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C5-PFNA","13C5-
PFNA","77.7","%R","","","CRDL","","IS","77.7","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C8-PFOS","13C8-
PFOS","73.5","%R","","","CRDL","","IS","73.5","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C2-PFDA","13C2-
PFDA","70.1","%R","","","CRDL","","IS","70.1","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","d3-MeFOSAA","d3-
MeFOSAA","63.6","%R","","","CRDL","","IS","63.6","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","d5-EtFOSAA","d5-
EtFOSAA","65.1","%R","","","CRDL","","IS","65.1","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C2-PFUnA","13C2-
PFUnA","71.1","%R","","","CRDL","","IS","71.1","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C2-PFDoA","13C2-
PFDoA","59.6","%R","","","CRDL","","IS","59.6","","","CRDL","",""
"B9G0062-BLK1","537 MOD","RES","B9G0062-BLK1","Vista","13C2-PFTeDA","13C2-

PFTeDA","46.6","%R","H","","CRDL","","IS","46.6","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","375-73-
5","PFBS","0.0806","ug/L","","0.00400","CRDL","","SPK","101","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","307-24-
4","PFHxA","0.0850","ug/L","","0.00400","CRDL","","SPK","106","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","375-85-
9","PFHpA","0.0930","ug/L","","0.00400","CRDL","","SPK","116","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","355-46-
4","PFHxS","0.0995","ug/L","","0.00400","CRDL","","SPK","124","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","335-67-
1","PFOA","0.0870","ug/L","","0.00400","CRDL","","SPK","109","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","375-95-
1","PFNA","0.0840","ug/L","","0.00400","CRDL","","SPK","105","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","1763-23-
1","PFOS","0.0880","ug/L","","0.00400","CRDL","","SPK","110","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","335-76-
2","PFDA","0.0844","ug/L","","0.00400","CRDL","","SPK","106","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","2355-31-
9","NMeFOSAA","0.103","ug/L","","0.00400","CRDL","","SPK","129","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","2991-50-
6","NEtFOSAA","0.0901","ug/L","","0.00400","CRDL","","SPK","113","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","2058-94-
8","PFUnA","0.0827","ug/L","","0.00400","CRDL","","SPK","103","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","307-55-
1","PFDoA","0.0925","ug/L","","0.00400","CRDL","","SPK","116","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","72629-94-
8","PFTrDA","0.0869","ug/L","","0.00400","CRDL","","SPK","109","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","376-06-
7","PFTeDA","0.0906","ug/L","","0.00400","CRDL","","SPK","113","","0.00800","CRDL","YES","0.00274"
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C3-PFBS","13C3-
PFBS","95.8","%R","","","CRDL","","IS","95.8","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C2-PFHxA","13C2-
PFHxA","97.5","%R","","","CRDL","","IS","97.5","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C4-PFHpA","13C4-
PFHpA","85.1","%R","","","CRDL","","IS","85.1","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C3-PFHxS","13C3-
PFHxS","82.4","%R","","","CRDL","","IS","82.4","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C2-PFOA","13C2-
PFOA","82.8","%R","","","CRDL","","IS","82.8","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C5-PFNA","13C5-
PFNA","78.9","%R","","","CRDL","","IS","78.9","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C8-PFOS","13C8-
PFOS","67.8","%R","","","CRDL","","IS","67.8","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C2-PFDA","13C2-
PFDA","70.9","%R","","","CRDL","","IS","70.9","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","60.3","%R","","","CRDL","","IS","60.3","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","69.6","%R","","","CRDL","","IS","69.6","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C2-PFUnA","13C2-
PFUnA","63.0","%R","","","CRDL","","IS","63.0","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C2-PFDoA","13C2-
PFDoA","52.5","%R","","","CRDL","","IS","52.5","","","CRDL","",""
"B9G0062-BS1","537 MOD","RES","B9G0062-BS1","Vista","13C2-PFTeDA","13C2-

PFTeDA","52.0","%R","","","CRDL","","IS","52.0","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","375-73-
5","PFBS","0.0817","ug/L","","0.00400","CRDL","","SPK","102","1.31","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","307-24-
4","PFHxA","0.0890","ug/L","","0.00400","CRDL","","SPK","111","4.67","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","375-85-
9","PFHpA","0.0834","ug/L","","0.00400","CRDL","","SPK","104","10.9","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","355-46-
4","PFHxS","0.0894","ug/L","","0.00400","CRDL","","SPK","112","10.7","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","335-67-
1","PFOA","0.0846","ug/L","","0.00400","CRDL","","SPK","106","2.89","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","375-95-
1","PFNA","0.0831","ug/L","","0.00400","CRDL","","SPK","104","1.12","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","1763-23-
1","PFOS","0.0817","ug/L","","0.00400","CRDL","","SPK","102","7.33","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","335-76-
2","PFDA","0.0808","ug/L","","0.00400","CRDL","","SPK","101","4.37","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","2355-31-
9","NMeFOSAA","0.0845","ug/L","","0.00400","CRDL","","SPK","106","19.8","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","2991-50-
6","NEtFOSAA","0.0910","ug/L","","0.00400","CRDL","","SPK","114","1.06","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","2058-94-
8","PFUnA","0.0860","ug/L","","0.00400","CRDL","","SPK","108","4.01","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","307-55-
1","PFDoA","0.0862","ug/L","","0.00400","CRDL","","SPK","108","7.04","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","72629-94-
8","PFTrDA","0.0817","ug/L","","0.00400","CRDL","","SPK","102","6.11","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","376-06-
7","PFTeDA","0.0883","ug/L","","0.00400","CRDL","","SPK","110","2.54","0.00800","CRDL","YES","0.00274"
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C3-PFBS","13C3-
PFBS","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C2-PFHxA","13C2-
PFHxA","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C4-PFHpA","13C4-
PFHpA","97.7","%R","","","CRDL","","IS","97.7","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C3-PFHxS","13C3-
PFHxS","84.2","%R","","","CRDL","","IS","84.2","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C2-PFOA","13C2-
PFOA","80.0","%R","","","CRDL","","IS","80.0","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C5-PFNA","13C5-
PFNA","71.0","%R","","","CRDL","","IS","71.0","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C8-PFOS","13C8-
PFOS","72.8","%R","","","CRDL","","IS","72.8","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C2-PFDA","13C2-
PFDA","67.0","%R","","","CRDL","","IS","67.0","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","d3-MeFOSAA","d3-
MeFOSAA","68.3","%R","","","CRDL","","IS","68.3","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","d5-EtFOSAA","d5-
EtFOSAA","59.3","%R","","","CRDL","","IS","59.3","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C2-PFUnA","13C2-
PFUnA","59.0","%R","","","CRDL","","IS","59.0","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C2-PFDoA","13C2-
PFDoA","45.8","%R","H","","CRDL","","IS","45.8","","","CRDL","",""
"B9G0062-BSD1","537 MOD","RES","B9G0062-BSD1","Vista","13C2-PFTeDA","13C2-

PFTeDA","41.4","%R","H","","CRDL","","IS","41.4","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","307-24-
4","PFHxA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","355-46-
4","PFHxS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","335-67-
1","PFOA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","1763-23-
1","PFOS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C3-PFBS","13C3-
PFBS","92.1","%R","","","CRDL","","IS","92.1","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C2-PFHxA","13C2-
PFHxA","92.8","%R","","","CRDL","","IS","92.8","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C4-PFHpA","13C4-
PFHpA","92.2","%R","","","CRDL","","IS","92.2","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C3-PFHxS","13C3-
PFHxS","89.0","%R","","","CRDL","","IS","89.0","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C2-PFOA","13C2-
PFOA","81.4","%R","","","CRDL","","IS","81.4","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C5-PFNA","13C5-
PFNA","81.9","%R","","","CRDL","","IS","81.9","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C8-PFOS","13C8-
PFOS","76.8","%R","","","CRDL","","IS","76.8","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C2-PFDA","13C2-
PFDA","65.9","%R","","","CRDL","","IS","65.9","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","d3-MeFOSAA","d3-
MeFOSAA","55.4","%R","","","CRDL","","IS","55.4","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","d5-EtFOSAA","d5-
EtFOSAA","47.3","%R","H","","CRDL","","IS","47.3","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C2-PFUnA","13C2-
PFUnA","56.8","%R","","","CRDL","","IS","56.8","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C2-PFDoA","13C2-
PFDoA","55.4","%R","","","CRDL","","IS","55.4","","","CRDL","",""
"B9G0116-BLK1","537 MOD","RES","B9G0116-BLK1","Vista","13C2-PFTeDA","13C2-

PFTeDA","67.3","%R","","","CRDL","","IS","67.3","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","375-73-
5","PFBS","10.4","ug/kg","","1.00","CRDL","","SPK","104","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","307-24-
4","PFHxA","11.4","ug/kg","","1.00","CRDL","","SPK","114","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","375-85-
9","PFHpA","10.8","ug/kg","","1.00","CRDL","","SPK","108","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","355-46-
4","PFHxS","10.3","ug/kg","","1.00","CRDL","","SPK","103","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","335-67-
1","PFOA","10.8","ug/kg","","1.00","CRDL","","SPK","108","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","375-95-
1","PFNA","11.1","ug/kg","","1.00","CRDL","","SPK","111","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","1763-23-
1","PFOS","10.5","ug/kg","","1.00","CRDL","","SPK","105","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","335-76-
2","PFDA","11.5","ug/kg","","1.00","CRDL","","SPK","115","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","2355-31-
9","NMeFOSAA","9.66","ug/kg","","1.00","CRDL","","SPK","96.6","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","2991-50-
6","NEtFOSAA","13.4","ug/kg","H","1.00","CRDL","","SPK","134","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","2058-94-
8","PFUnA","11.7","ug/kg","","1.00","CRDL","","SPK","117","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","307-55-
1","PFDoA","11.5","ug/kg","","1.00","CRDL","","SPK","115","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","72629-94-
8","PFTrDA","12.3","ug/kg","","1.00","CRDL","","SPK","123","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","376-06-
7","PFTeDA","11.6","ug/kg","","1.00","CRDL","","SPK","116","","2.00","CRDL","YES","0.845"
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C3-PFBS","13C3-
PFBS","95.4","%R","","","CRDL","","IS","95.4","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C2-PFHxA","13C2-
PFHxA","90.3","%R","","","CRDL","","IS","90.3","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C4-PFHpA","13C4-
PFHpA","90.3","%R","","","CRDL","","IS","90.3","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C3-PFHxS","13C3-
PFHxS","99.5","%R","","","CRDL","","IS","99.5","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C2-PFOA","13C2-
PFOA","89.8","%R","","","CRDL","","IS","89.8","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C5-PFNA","13C5-
PFNA","80.3","%R","","","CRDL","","IS","80.3","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C8-PFOS","13C8-
PFOS","82.0","%R","","","CRDL","","IS","82.0","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C2-PFDA","13C2-
PFDA","67.0","%R","","","CRDL","","IS","67.0","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","54.5","%R","","","CRDL","","IS","54.5","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","45.5","%R","H","","CRDL","","IS","45.5","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C2-PFUnA","13C2-
PFUnA","56.4","%R","","","CRDL","","IS","56.4","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C2-PFDoA","13C2-
PFDoA","54.8","%R","","","CRDL","","IS","54.8","","","CRDL","",""
"B9G0116-BS1","537 MOD","RES","B9G0116-BS1","Vista","13C2-PFTeDA","13C2-

PFTeDA","67.8","%R","","","CRDL","","IS","67.8","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","375-73-
5","PFBS","11.2","ug/kg","","0.992","CRDL","","SPK","111","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","307-24-
4","PFHxA","14.6","ug/kg","","0.992","CRDL","","SPK","126","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","375-85-
9","PFHpA","12.3","ug/kg","","0.992","CRDL","","SPK","114","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","355-46-
4","PFHxS","12.9","ug/kg","","0.992","CRDL","","SPK","120","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","335-67-
1","PFOA","13.7","ug/kg","","0.992","CRDL","","SPK","122","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","375-95-
1","PFNA","11.6","ug/kg","","0.992","CRDL","","SPK","111","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","1763-23-
1","PFOS","19.2","ug/kg","","0.992","CRDL","","SPK","111","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","335-76-
2","PFDA","12.6","ug/kg","","0.992","CRDL","","SPK","121","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","2355-31-
9","NMeFOSAA","10.6","ug/kg","","0.992","CRDL","","SPK","107","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","2991-50-
6","NEtFOSAA","12.7","ug/kg","","0.992","CRDL","","SPK","128","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","2058-94-
8","PFUnA","12.1","ug/kg","","0.992","CRDL","","SPK","122","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","307-55-
1","PFDoA","11.6","ug/kg","","0.992","CRDL","","SPK","117","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","72629-94-
8","PFTrDA","12.0","ug/kg","","0.992","CRDL","","SPK","121","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","376-06-
7","PFTeDA","12.0","ug/kg","","0.992","CRDL","","SPK","121","","1.98","CRDL","YES","0.839"
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C3-PFBS","13C3-
PFBS","104","%R","","","CRDL","","IS","104","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C2-PFHxA","13C2-
PFHxA","88.7","%R","","","CRDL","","IS","88.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C4-PFHpA","13C4-
PFHpA","89.0","%R","","","CRDL","","IS","89.0","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C3-PFHxS","13C3-
PFHxS","96.3","%R","","","CRDL","","IS","96.3","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C2-PFOA","13C2-
PFOA","83.1","%R","","","CRDL","","IS","83.1","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C5-PFNA","13C5-
PFNA","79.7","%R","","","CRDL","","IS","79.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C8-PFOS","13C8-
PFOS","88.9","%R","","","CRDL","","IS","88.9","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C2-PFDA","13C2-
PFDA","65.1","%R","","","CRDL","","IS","65.1","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","71.4","%R","","","CRDL","","IS","71.4","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","70.7","%R","","","CRDL","","IS","70.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C2-PFUnA","13C2-
PFUnA","62.7","%R","","","CRDL","","IS","62.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C2-PFDoA","13C2-
PFDoA","68.1","%R","","","CRDL","","IS","68.1","","","CRDL","",""
"CAOA-B02-SO-0.5-1MS","537 MOD","RES","B9G0116-MS1","Vista","13C2-PFTeDA","13C2-

PFTeDA","73.8","%R","","","CRDL","","IS","73.8","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","375-73-
5","PFBS","10.3","ug/kg","","0.973","CRDL","","SPK","104","6.51","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","307-24-
4","PFHxA","15.5","ug/kg","H","0.973","CRDL","","SPK","138","9.09","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","375-85-
9","PFHpA","13.0","ug/kg","","0.973","CRDL","","SPK","123","7.59","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","355-46-
4","PFHxS","12.2","ug/kg","","0.973","CRDL","","SPK","115","4.26","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","335-67-
1","PFOA","12.7","ug/kg","","0.973","CRDL","","SPK","115","5.91","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","375-95-
1","PFNA","11.3","ug/kg","","0.973","CRDL","","SPK","110","0.905","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","1763-23-
1","PFOS","19.1","ug/kg","","0.973","CRDL","","SPK","112","0.897","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","335-76-
2","PFDA","11.6","ug/kg","","0.973","CRDL","","SPK","114","5.96","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","2355-31-
9","NMeFOSAA","9.52","ug/kg","","0.973","CRDL","","SPK","97.9","8.88","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","2991-50-
6","NEtFOSAA","10.2","ug/kg","","0.973","CRDL","","SPK","105","19.7","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","2058-94-
8","PFUnA","11.4","ug/kg","","0.973","CRDL","","SPK","117","4.18","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","307-55-
1","PFDoA","11.0","ug/kg","","0.973","CRDL","","SPK","113","3.48","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","72629-94-
8","PFTrDA","11.6","ug/kg","","0.973","CRDL","","SPK","119","1.67","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","376-06-
7","PFTeDA","11.4","ug/kg","","0.973","CRDL","","SPK","117","3.36","1.95","CRDL","YES","0.822"
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C3-PFBS","13C3-
PFBS","97.0","%R","","","CRDL","","IS","97.0","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C2-PFHxA","13C2-
PFHxA","84.4","%R","","","CRDL","","IS","84.4","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C4-PFHpA","13C4-
PFHpA","84.2","%R","","","CRDL","","IS","84.2","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C3-PFHxS","13C3-
PFHxS","95.0","%R","","","CRDL","","IS","95.0","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C2-PFOA","13C2-
PFOA","82.7","%R","","","CRDL","","IS","82.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C5-PFNA","13C5-
PFNA","72.6","%R","","","CRDL","","IS","72.6","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C8-PFOS","13C8-
PFOS","83.7","%R","","","CRDL","","IS","83.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C2-PFDA","13C2-
PFDA","62.6","%R","","","CRDL","","IS","62.6","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","d3-MeFOSAA","d3-
MeFOSAA","74.6","%R","","","CRDL","","IS","74.6","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","d5-EtFOSAA","d5-
EtFOSAA","73.9","%R","","","CRDL","","IS","73.9","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C2-PFUnA","13C2-
PFUnA","63.7","%R","","","CRDL","","IS","63.7","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C2-PFDoA","13C2-
PFDoA","70.6","%R","","","CRDL","","IS","70.6","","","CRDL","",""
"CAOA-B02-SO-0.5-1MSD","537 MOD","RES","B9G0116-MSD1","Vista","13C2-PFTeDA","13C2-

PFTeDA","74.7","%R","","","CRDL","","IS","74.7","","","CRDL","","",""
"4663.3803","CTO 17F3803 Yuma","SAOA-B08-SO-30-30.5","06/27/2019 15:35","SO","1901920-01","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/12/2019
22:49","Vista","COA","DRY","","1","","","","0.95","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B08-GW","06/27/2019 16:40","AQ","1901920-02","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
04:10","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","EB-06272019-GW","06/27/2019 17:00","AQ","1901920-03","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
04:20","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","FRB-06282019","06/28/2019 09:20","AQ","1901920-04","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
04:31","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B12-GW","06/28/2019 10:20","AQ","1901920-05","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
04:41","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B12-GW-D","06/28/2019 10:25","AQ","1901920-06","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
04:52","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B08-SO-1-1.5","07/01/2019 08:00","SO","1901920-07","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/12/2019
22:59","Vista","COA","DRY","","1","","","","1.48","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B08-SO-20-20.5","07/01/2019 08:30","SO","1901920-08","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/12/2019
23:10","Vista","COA","DRY","","1","","","","1.23","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B09-SO-1-1.5","07/01/2019 09:25","SO","1901920-09","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/12/2019
23:52","Vista","COA","DRY","","1","","","","0.71","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B09-SO-20-20.5","07/01/2019 09:55","SO","1901920-10","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/13/2019
00:03","Vista","COA","DRY","","1","","","","1.14","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B02-GW","07/01/2019 14:30","AQ","1901920-11","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
20:52","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","EB-07012019","07/01/2019 16:00","AQ","1901920-12","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
05:13","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B01-SO-1-1.5","07/01/2019 16:50","SO","1901920-13","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/13/2019
00:14","Vista","COA","DRY","","1","","","","0.88","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","FRB-07012019","07/01/2019 17:00","AQ","1901920-14","","","","537

MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
05:24","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B01-SO-20-20.5","07/01/2019 17:15","SO","1901920-15","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/13/2019
00:24","Vista","COA","DRY","","1","","","","1.45","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B01-GW","07/02/2019 08:25","AQ","1901920-16","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
05:34","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NAOA-B01-GW-D","07/02/2019 08:30","AQ","1901920-17","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
21:03","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","CAOA-B02-SO-0.5-1","07/02/2019 11:30","SO","1901920-18","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/13/2019
00:35","Vista","COA","DRY","","1","","","","0.24","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","CAOA-B02-SO-20-20.5","07/02/2019 12:00","SO","1901920-19","","","","537
MOD","Gen Prep","RES","07/10/2019 15:58","07/13/2019
00:45","Vista","COA","DRY","","1","","","","1.68","B9G0116","B9G0116","S9G0029","S9G0029","1901920","07/03/
2019 09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","EB-07022019","07/02/2019 12:15","AQ","1901920-20","","","","537
MOD","Gen Prep","RES","07/10/2019 06:42","07/12/2019
06:27","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","07/03/2019
09:10","07/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0062-BLK1","","AQ","B9G0062-BLK1","MB","","","537 MOD","Gen
Prep","RES","07/10/2019 06:42","07/12/2019
03:38","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","","07/17/2019
00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0062-BS1","","AQ","B9G0062-BS1","LCS","","","537 MOD","Gen
Prep","RES","07/10/2019 06:42","07/12/2019
03:16","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","","07/17/2019
00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0062-BSD1","","AQ","B9G0062-BSD1","LCSD","","","537 MOD","Gen
Prep","RES","07/10/2019 06:42","07/12/2019
03:27","Vista","COA","","","1","","","","","B9G0062","B9G0062","S9G0025","S9G0025","1901920","","07/17/2019
00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0116-BLK1","","SO","B9G0116-BLK1","MB","","","537 MOD","Gen
Prep","RES","07/10/2019 15:58","07/12/2019
21:45","Vista","COA","DRY","","1","","","","","100.00","B9G0116","B9G0116","S9G0029","S9G0029","1901920","","0
7/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0116-BS1","","SO","B9G0116-BS1","LCS","","","537 MOD","Gen
Prep","RES","07/10/2019 15:58","07/12/2019
21:13","Vista","COA","DRY","","1","","","","","100.00","B9G0116","B9G0116","S9G0029","S9G0029","1901920","","0
7/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","CAOA-B02-SO-0.5-1MS","07/10/2019 15:58","SO","B9G0116-
MS1","MS","","","537 MOD","Gen Prep","RES","07/10/2019 15:58","07/12/2019
21:24","Vista","COA","DRY","","1","","","","","100.00","B9G0116","B9G0116","S9G0029","S9G0029","1901920","","0
7/17/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","CAOA-B02-SO-0.5-1MSD","07/10/2019 15:58","SO","B9G0116-
MSD1","MSD","","","537 MOD","Gen Prep","RES","07/10/2019 15:58","07/12/2019
21:35","Vista","COA","DRY","","1","","","","","100.00","B9G0116","B9G0116","S9G0029","S9G0029","1901920","","0

7/17/2019 00:00"

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Tetra Tech EC, Inc.
17885 Von Karman Avenue, Suite 500
Irvine, CA 92614
ATTN: Ms. Lisa Bienkowski
Lisa.Bienkowski@tetratech.com

August 22, 2019

SUBJECT: Revised MCAS Yuma, CTO 17F3803, Data Validation

Dear Ms. Bienkowski,

Enclosed are the revised validation reports for the fraction listed below. These SDGs were received on July 23, 2019. Attachment 1 is a summary of the samples that were reviewed for each analysis.

- A: Updated the validation references. Corrected the LCS/OPR section.
- B: Updated the validation references. Removed the PFTrDA OPR qualifier since the compound recovered within laboratory limits.
- C: Updated the validation references. Corrected the LCS/OPR section. Corrected the 13C2-PFTeDA concentration listed in the "Labeled Compounds" section.
- D: Updated the validation references. Added the field blank qualifier to sample SAOA-B08-GW for PFDA. Corrected the LCS/OPR section.
- E: Updated the validation references.

LDC Project #45580_RV1:

SDG #	**Fraction**
1901705, 1901766, 1901857 1901920, 1901922	Perfluoroalkyl & Polyfluoroalkyl Substances

The data validation was performed under Stage 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Site Inspection for Per- and Polyfluoroalkyl Substances, Marine Corps Air Station Yuma, Arizona; May 2019,
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1; 2017
- USEPA National Functional Guidelines for Superfund Organic Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink

Christina Rink
crink@lab-data.com
Project Manager/Senior Chemist

Stage 4

LDC #45580 (Tetra Tech-EC, Inc.-Irvine, CA / MCAS Yuma, CTO 3803)

PO# 1164819

LDC	SDG#	DATE REC'D	(3) DATE DUE	PFAs (537)																																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	1901705	07/23/19	08/13/19	6	13																																
B	1901766	07/23/19	08/13/19	7	3																																
C	1901857	07/23/19	08/13/19	7	5																																
D	1901920	07/23/19	08/13/19	11	9																																
E	1901922	07/23/19	08/13/19	2	0																																
Total	T/CR			33	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation).

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1901705

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
NAOA-B05-SO	1901705-01	Soil	06/18/19
FRB-06182019	1901705-02	Water	06/18/19
NAOA-B10-SO-20-20.5	1901705-03	Soil	06/19/19
NAOA-B10-SO-0.5-1	1901705-04	Soil	06/19/19
NAOA-B11-SO-0.5-1	1901705-05	Soil	06/19/19
NAOA-B11-SO-20-20.5	1901705-06	Soil	06/19/19
NAOA-B15-SO-0.5-1	1901705-07	Soil	06/19/19
EB-06192019	1901705-08	Water	06/19/19
NAOA-B15-SO-20-20.5	1901705-09	Soil	06/19/19
NAOA-B12-SO-0.5-1	1901705-10	Soil	06/20/19
NAOA-B12-SO-20-20.5	1901705-11	Soil	06/20/19
NAOA-B13-SO-0.5-1	1901705-12	Soil	06/20/19
NAOA-B13-SO-20-20.5	1901705-13	Soil	06/20/19
NAOA-B14-SO-0.5-1	1901705-14	Soil	06/20/19
NAOA-B14-SO-20-20.5	1901705-15	Soil	06/20/19
FRB-06192019	1901705-16	Water	06/19/19
EB-06202019	1901705-17	Water	06/20/19
FRB-06202019	1901705-18	Water	06/20/19
NAOA-B07-GW	1901705-19	Water	06/20/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Site Inspection for Per- and Polyfluoroalkyl Substances, Marine Corps Air Station Yuma, Arizona (May 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB-GW-06202019 (from SDG 1901766), EB-06192019, and EB-06202019 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples In This SDG
EB-06202019	06/20/19	PFOS	0.0582 ug/L	NAOA-B12-SO-0.5-1 NAOA-B13-SO-0.5-1 NAOA-B14-SO-0.5-1

Samples FRB-06182019, FRB-06192019, and FRB-06202019 were identified as field reagent blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for contaminants) than the concentrations found in the associated field blanks.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples/Ongoing Precision Recovery

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	Flag	A or P
B9F0278-BS1/BSD1 (All soil samples in SDG 1901705)	PFTrDA	-	131 (60-130)	NA	-

NA (Not Applicable): The percent recovery demonstrates a high bias and the affected compound was not detected in the associated samples. Sample qualification was not necessary.

Relative percent differences (RPD) were within QC limits.

Ongoing precision recovery (OPR) samples were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

OPR ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
B9F0253-BS1	PFTrDA	56.4 (60-130)	All water samples in SDG 1901705	UJ (all non-detects)	P

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
NAOA-B05-SO	13C2-PFDoA	44.9 (50-150)	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P
NAOA-B10-SO-20-20.5	d5-EtFOSAA 13C2-PFUnA 13C2-PFDoA	49.1 (50-150) 47.8 (50-150) 46.9 (50-150)	EtFOSAA PFUnA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
NAOA-B12-SO-20-20.5	13C5-PFNA 13C2-PFDA d3-MeFOSAA d5-EtFOSAA 13C2-PFUnA 13C2-PFDoA 13C2-PFTeDA	47.6 (50-150) 38.0 (50-150) 40.7 (50-150) 41.4 (50-150) 33.4 (50-150) 33.8 (50-150) 40.3 (50-150)	PFNA PFDA MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
NAOA-B11-SO-0.5-1	d3-MeFOSAA d5-EtFOSAA 13C2-PFUnA 13C2-PFDoA	43.3 (50-150) 47.5 (50-150) 45.9 (50-150) 40.9 (50-150)	MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
NAOA-B14-SO-0.5-1	d3-MeFOSAA	49.2 (50-150)	MeFOSAA	UJ (all non-detects)	P
NAOA-B07-GW	13C2-PFTeDA	25.8 (50-150)	PFTeDA	UJ (all non-detects)	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the limit of quantitation (LOQ) were qualified as follows:

Sample	Finding	Flag	A or P
NAOA-B10-SO-20-20.5 NAOA-B10-SO-0.5-1 NAOA-B11-SO-20-20.5 NAOA-B15-SO-0.5-1 NAOA-B15-SO-20-20.5 NAOA-B12-SO-0.5-1 NAOA-B12-SO-20-20.5 NAOA-B13-SO-0.5-1	All compounds reported below the LOQ.	J (all detects)	A

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to OPR %R, labeled compound %R, and results below the LOQ, data were qualified as estimated in seventeen samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 1901705

Sample	Compound	Flag	A or P	Reason
FRB-06182019 EB-06192019 FRB-06192019 EB-06202019 FRB-06202019 NAOA-B07-GW	PFTrDA	UJ (all non-detects)	P	Ongoing precision and recovery (%R)
NAOA-B05-SO	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
NAOA-B10-SO-20-20.5	EtFOSAA PFUnA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
NAOA-B12-SO-20-20.5	PFNA PFDA MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
NAOA-B11-SO-0.5-1	MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
NAOA-B14-SO-0.5-1	MeFOSAA	UJ (all non-detects)	P	Labeled compounds (%R)
NAOA-B07-GW	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
NAOA-B10-SO-20-20.5 NAOA-B10-SO-0.5-1 NAOA-B11-SO-20-20.5 NAOA-B15-SO-0.5-1 NAOA-B15-SO-20-20.5 NAOA-B12-SO-0.5-1 NAOA-B12-SO-20-20.5 NAOA-B13-SO-0.5-1	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 1901705

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1901705

No Sample Data Qualified in this SDG

LDC #: 45580A96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/12/19
SDG #: 1901705 Stage 4 Page: 1 of 2
Laboratory: Vista Analytical Laboratory Reviewer: SVG
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537)(M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	✓ Individual ≤ 30% ICV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	*FRB = 2, 16, 18 EB = *8, 17, *EB-GW-06202019 (1901766)
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	SW	LCS/D, OPR
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
* ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank
SB=Source blank
OTHER:
FRB = Field Reagent Blank

	Client ID	Lab ID	Matrix	Date
1	NAOA-B05-SO	1901705-01	Soil	06/18/19
2	FRB-06182019	1901705-02	Water	06/18/19
3	NAOA-B10-SO-20-20.5	1901705-03	Soil	06/19/19
4	NAOA-B10-SO-0.5-1	1901705-04	Soil	06/19/19
5	NAOA-B11-SO-0.5-1	1901705-05	Soil	06/19/19
6	NAOA-B11-SO-20-20.5	1901705-06	Soil	06/19/19
7	NAOA-B15-SO-0.5-1	1901705-07	Soil	06/19/19
8	EB-06192019	1901705-08	Water	06/19/19
9	NAOA-B15-SO-20-20.5	1901705-09	Soil	06/19/19
10	NAOA-B12-SO-0.5-1	1901705-10	Soil	06/20/19
11	NAOA-B12-SO-20-20.5	1901705-11	Soil	06/20/19
12	NAOA-B13-SO-0.5-1	1901705-12	Soil	06/20/19
13	NAOA-B13-SO-20-20.5	1901705-13	Soil	06/20/19
14	NAOA-B14-SO-0.5-1	1901705-14	Soil	06/20/19
15	NAOA-B14-SO-20-20.5	1901705-15	Soil	06/20/19

1x/5x
1x/5x

LDC #: 45580A96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/12/19
SDG #: 1901705 Stage 4 Page: 2 of 2
Laboratory: Vista Analytical Laboratory Reviewer: SV6
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537)

	Client ID	Lab ID	Matrix	Date
16	FRB-06192019	1901705-16	Water	06/19/19
17	EB-06202019	1901705-17	Water	06/20/19
18	FRB-06202019	1901705-18	Water	06/20/19
19	NAOA-B07-GW	1901705-19	Water	06/20/19
20				
21				
22				
23				
24				

Notes:

1	BQF0278-BLK1						
2	BQF0253- ↓						

LDC #: 45580 A96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537M)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤30%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard except the lowest point (50-150%)?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzedin this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch in this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		

LDC #: 45580A96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?.			✓	
XI. Labeled Compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Was m/z 499 to m/z 80 transition used as the quantitation transition for PFOS?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: Perfluorinated Alkyl Acids (EPA Method 537)

A. PFBA	375-22-4
B. PFPeA	2706-90-3
C. PFBS	375-73-5
D. PFHxA	307-24-4
E. PFHpA	375-85-9
F. PFHxS	355-46-4
G. PFOA	335-67-1
H. PFHpS	375-92-8
I. PFNA	375-95-1
J. PFOSA	754-91-6
K. PFOS	1763-23-1
L. PFDA	335-76-2
M. PFUnA	2058-94-8
N. PFDS	335-77-3
O. PFDoA	307-55-1
P. MeFOSA	31506-32-8
Q. PFTrDA	72629-94-8
R. PFTeDA	376-06-7
S. EtFOSA	4151-50-2
T. MeFOSE	24448-09-7
U. EtFOSE	1691-99-2
V. MeFOSAA	2355-31-9
W. EtFOSAA	2991-50-6

Notes: _____

LDC #: 45580A96

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/kg

Sampling date: 06/20/19

Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: EB Associated Samples: ~~10~~ ~~15~~ 19 (>5x) 10,12,14

Compound	Blank ID	Sample Identification								
	17	(5x)		~~19~~						
>LOQ K	0.0582	0.291		~~0.118~~ J						

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

LDC #: 45580A96

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: JVG
2nd Reviewer: Q

METHOD: LC/MS PFCs (EPA Method 537)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	B9F0278-BS1/BSD1	Q	( )	131 (~~70-130~~ 60)	( )	All S, MB1 (ND)	J det/p
	B9F0253-BS1 (ORR)	Q	56.4 (~~70-130~~ 60)	( )	( )	All W, MB2 (ND)	J/UJ/p

LDC #: 45380 A96

VALIDATION FINDINGS WORKSHEET
Labeled Compound

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compounds within -50 to +150% of the associated calibration standard?

#	Date	Sample ID	Labeled Compound	%R	Limits (%)	Qualifications
		1 (ND)	13C2-O	44.9	50-150	J/UJ/P (qual O, R) Q
		3 (ND)	d5-W	49.1		W
			13C2-M	47.8		M
			13C2-O	46.9		O, Q
		11 (ND)	13C5-I	47.6		I
			13C2-L	38.0		L
			d3-V	40.7		V
			d5-W	41.4		W
			13C2-M	33.4		M
			13C2-O	33.8		O, Q
			13C2-R	40.3		R, R
		5 (ND)	d3-V	43.3		V
			d5-W	47.5		W
			13C2-M	45.9		M
			13C2-O	40.9		O, Q
		14 (ND)	d3-V	49.2		V
		19	13C2-R	25.8		R, R

LDC#: 45580A96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/1/2019	SCN945	PFOA	0.25	0.03318	3.125
			0.5	0.05895	6.250
	190701M1-CRV		1	0.11824	12.500
		13C2-PFOA	2	0.21986	25.000
			5	0.57756	62.500
			10	1.11263	125.000
			50	5.66807	625.000
			100	11.64186	1250.000
			250	27.00102	3125.000
			500	58.36004	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.117761	0.031497
Std Err of Y Est		
R Squared	0.999111	0.998858
Degrees of Freedom		
X Coefficient(s)	0.00922723	1.425390
Std Err of Coef.		
Correlation Coefficient	0.999555	
Coefficient of Determination (r^2)	0.999111	0.998858

LDC #_45580A96_

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/1/2019	SCN945	PFOS	0.25	0.0123	0.02	0.00040
			0.5	0.0295	0.04	0.0016
	190701M1-CRV	13C8-PFOS	1	0.0651	0.08	0.0064
			2	0.1540	0.16	0.0256
			5	0.3969	0.40	0.1600
			10	0.9108	0.80	0.6400
			50	4.3887	4.00	16.0000
			100	9.6322	8.00	64.0000
			250	22.4459	20.00	400.0000
			500	45.9623	40.00	1600.0000

Regression Output	**Calculated**		***Reported WQR***	
Constant	*c*	*0.00905*	*c*	*-0.0827669*
Std Err of Y Est				
R Squared		*0.9998336*		*0.9992030*
Degrees of Freedom				
	m1	*m2*	*m1*	*m2*
X Coefficient(s)	*1.1286105*	*0.0004752*	*1.0321200*	*0.00169096*
Std Err of Coef.				
Correlation Coefficient		*0.999917*		
Coefficient of Determination (r^2)		*0.999834*		

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/8/2019	SCN945	PFOA	0.25	0.03026	3.125
			0.5	0.05635	6.250
	190707M2-CRV		1	0.12819	12.500
		13C2-PFOA	2	0.23652	25.000
			5	0.56342	62.500
			10	1.13496	125.000
			50	5.69897	625.000
			100	11.70763	1250.000
			250	27.83374	3125.000
			500	58.24964	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.064747	0.024985
Std Err of Y Est		
R Squared	0.999685	0.999567
Degrees of Freedom		
X Coefficient(s)	0.00925494	1.437000
Std Err of Coef.		
Correlation Coefficient	0.999843	
Coefficient of Determination (r^2)	0.999685	0.999567

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/8/2019	SCN945	PFOS	0.25	0.01762	3.125
			0.5	0.03271	6.250
			1	0.07312	12.500
	190707M2-CRV	13C8-PFOS	2	0.16106	25.000
			5	0.42655	62.500
			10	0.82050	125.000
			50	4.47916	625.000
			100	9.43586	1250.000
			250	20.96613	3125.000
			500	47.95613	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.206548	-0.104113
Std Err of Y Est		
R Squared	0.997431	0.996565
Degrees of Freedom		
X Coefficient(s)	0.00752625	1.149010
Std Err of Coef.		
Correlation Coefficient	0.998715	
Coefficient of Determination (r^2)	0.997431	0.996565

LDC #: 45580A96

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG

2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 89F0278-BS1/BSD1

Compound	Spike Added (ng/L)		Spike Concentration (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	10.0	10.0	10.7	10.9	107	107	109	109	1.95	1.85
PFOS	↓	↓								

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 45580A96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(IS)	Conc	Reported	Recalculated	Reported % R	Recalculated % R
1	190702M2-4 ISC	7/2/2019	PFOA	(13C2-PFOA)	1.000	0.960	0.960	96.0	96.0
			PFOS	(13C8-PFOS)	1.000	0.936	0.936	93.6	93.6
2	190707M2-14 ICV	7/7/2019	PFOA	(13C2-PFOA)	10.000	7.882	7.882	78.8	78.8
			PFOS	(13C8-PFOS)	9.240	7.150	7.150	77.4	77.4

LDC #: 45580#96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

(Y) N N/A Were all reported results recalculated and verified for all level IV samples?

(Y) N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 4, PFOS:

Conc. = $\frac{\left[\left(\left(\frac{9800}{2100}\right)(12.5)\right)-(-0.104113)\right](1\ mL)}{(1.14901)(1.07\ g)(0.946)}$

= 50.24 ng/kg

#	Sample ID	Compound	Reported Concentration (ng/kg)	Calculated Concentration ( )	Qualification
			50.2		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1901766

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
EB-GW-06202019	1901766-01	Water	06/20/19
SAOA-B06-GW	1901766-02	Water	06/24/19
FRB-06242019	1901766-03	Water	06/24/19
SAOA-B07-GW	1901766-04	Water	06/25/19
SAOA-B04-SO-5-5.5	1901766-05	Soil	06/25/19
SAOA-B04-SO-20-20.5	1901766-06	Soil	06/25/19
SAOA-B04-SO-47-47.5	1901766-07	Soil	06/25/19
SAOA-B04-GW	1901766-08	Water	06/25/19
EB-06252019	1901766-09	Water	06/25/19
FRB-06252019	1901766-10	Water	06/25/19
SAOA-B06-GWMS	1901766-02MS	Water	06/24/19
SAOA-B06-GWMSD	1901766-02MSD	Water	06/24/19
SAOA-B04-SO-5-5.5MS	1901766-05MS	Soil	06/25/19
SAOA-B04-SO-5-5.5MSD	1901766-05MSD	Soil	06/25/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Site Inspection for Per- and Polyfluoroalkyl Substances, Marine Corps Air Station Yuma, Arizona (May 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB-GW-06202019 and EB-06252019 were identified as equipment blanks. No contaminants were found.

Samples FRB-06242019 and FRB-06252019 were identified as field reagent blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SAOA-B04-SO-5-5.5MS/MSD (SAOA-B04-SO-5-5.5)	PFHxA	139 (70-130)	-	J (all detects)	A
	PFHpA	140 (70-130)	-	J (all detects)	
	PFHxS	152 (70-130)	-	J (all detects)	
	PFOA	140 (70-130)	-	J (all detects)	

For SAOA-B04-SO-5-5.5MS/MSD, no data were qualified for PFOS percent recoveries (%R) and relative percent differences (RPD) outside the QC limits since the MS/MSD was analyzed at greater than or equal to a 5X dilution.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
SAOA-B04-SO-5-5.5MS/MSD (SAOA-B04-SO-5-5.5)	PFHxA	59.2 (≤30)	J (all detects)	A
	PFHpA	45.1 (≤30)	J (all detects)	
	PFHxS	68.3 (≤30)	J (all detects)	
	PFOA	38.2 (≤30)	J (all detects)	

VIII. Laboratory Control Samples/Ongoing Precision Recovery

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

Ongoing precision recovery (OPR) samples were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
SAOA-B06-GW	13C2-PFTeDA	38.4 (50-150)	PFTeDA	UJ (all non-detects)	P
SAOA-B04-SO-20-20.5	13C2-PFDA d3-MeFOSAA d5-EtFOSAA 13C2-PFUnA 13C2-PFDoA 13C2-PFTeDA	48.6 (50-150) 48.2 (50-150) 46.7 (50-150) 41.1 (50-150) 41.0 (50-150) 36.6 (50-150)	PFDA MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
SAOA-B04-GW	13C2-PFTeDA	26.5 (50-150)	PFTeDA	UJ (all non-detects)	P
FRB-06252019	d3-MeFOSAA	43.8 (50-150)	MeFOSAA	UJ (all non-detects)	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the limit of quantitation (LOQ) were qualified as follows:

Sample	Finding	Flag	A or P
SAOA-B07-GW SAOA-B04-SO-5-5.5 SAOA-B04-SO-20-20.5 SAOA-B04-GW	All compounds reported below the LOQ.	J (all detects)	A

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R and RPD, labeled compound %R, and results below the LOQ, data were qualified as estimated in six samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 1901766

Sample	Compound	Flag	A or P	Reason
SAOA-B04-SO-5-5.5	PFHxA PFHpA PFHxS PFOA	J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SAOA-B04-SO-5-5.5	PFHxA PFHpA PFHxS PFOA	J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SAOA-B06-GW	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B04-SO-20-20.5	PFDA MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B04-GW	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
FRB-06252019	MeFOSAA	UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B07-GW SAOA-B04-SO-5-5.5 SAOA-B04-SO-20-20.5 SAOA-B04-GW	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 1901766

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1901766

No Sample Data Qualified in this SDG

LDC #: 45580B96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/12/19
SDG #: 1901766 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	r² Individual ≤30% ICV≤30%
IV.	Continuing calibration/ISC	A	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 1, 9 FRB = 3, 10
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	ASW	LCS/D, OPR
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER: FRB= Field Reagent Blank

	Client ID	Lab ID	Matrix	Date
1	EB-GW-06202019	1901766-01	Water	06/20/19
2	SAOA-B06-GW	1901766-02	Water	06/24/19
3	FRB-06242019	1901766-03	Water	06/24/19
4	SAOA-B07-GW	1901766-04	Water	06/25/19
5	SAOA-B04-SO-5-5.5	1901766-05	Soil	06/25/19
6	SAOA-B04-SO-20-20.5	1901766-06	Soil	06/25/19
7	SAOA-B04-SO-47-47.5	1901766-07	Soil	06/25/19
8	SAOA-B04-GW	1901766-08	Water	06/25/19
9	EB-06252019	1901766-09	Water	06/25/19
10	FRB-06252019	1901766-10	Water	06/25/19
11	SAOA-B06-GWMS	1901766-02MS	Water	06/24/19
12	SAOA-B06-GWMSD	1901766-02MSD	Water	06/24/19
13	SAOA-B04-SO-5-5.5MS	1901766-05MS	Soil	06/25/19
14	SAOA-B04-SO-5-5.5MSD	1901766-05MSD	Soil	06/25/19
15	B9F0253-BLK1			
-2	B9F0280-BLK1			

LDC #: 45580 B96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537M)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤30%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard except the lowest point (50-150%)?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzedin this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch in this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?.			✓	
XI. Labeled Compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓			
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Was m/z 499 to m/z 80 transition used as the quantitation transition for PFOS?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: Perfluorinated Alkyl Acids (EPA Method 537)

A. PFBA	375-22-4
B. PFPeA	2706-90-3
C. PFBS	375-73-5
D. PFHxA	307-24-4
E. PFHpA	375-85-9
F. PFHxS	355-46-4
G. PFOA	335-67-1
H. PFHpS	375-92-8
I. PFNA	375-95-1
J. PFOSA	754-91-6
K. PFOS	1763-23-1
L. PFDA	335-76-2
M. PFUnA	2058-94-8
N. PFDS	335-77-3
O. PFDoA	307-55-1
P. MeFOSA	31506-32-8
Q. PFTrDA	72629-94-8
R. PFTeDA	376-06-7
S. EtFOSA	4151-50-2
T. MeFOSE	24448-09-7
U. EtFOSE	1691-99-2
V. MeFOSAA	2355-31-9
W. EtFOSAA	2991-50-6

Notes:_____

LDC #: 45580 B96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed in this SDG?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		13/14	D	139 (70-130)	( )	( )	5 (det)	J det/A
			E	140 ( )	( )	( )		
			F	152 ( )	( )	( )		
			G	140 ( )	( )	( )		
	(5X)		K	321 ( )	-98.5 (70-130)	( )		NA (dil)
			D	( )	( )	59.2 (30)	(det)	J det/A
			E	( )	( )	45.1 ( )		
			F	( )	( )	68.3 ( )		
			G	( )	( )	38.2 ( )		
			K	( )	( )	271 ( )		NA (dil)
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC #: 45580 B96

VALIDATION FINDINGS WORKSHEET
Labeled Compound

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compounds within -50 to +150% of the associated calibration standard?

#	Date	Sample ID	Labeled Compound	%R	Limits (%)	Qualifications
		2 (ND)	13C2 - R	38.4	50 - 150	J / UJ / P (qual R)
		6 (ND)	13C2 - L	48.6		(qual L)
			d3 - V	48.2		V
			d5 - W	46.7		W
			13C2 - M	41.1		M
			13C2 - O	41.0		O, Q
			13C2 - R	36.6		R
		8 (ND)	13C2 - R	26.5		(qual R)
		10 (ND)	d3 - V	43.8		(qual V)
		11	13C2 - R	25.7		NQ (QC)
		12	13C2 - R	33.4		

LDC#: 45580B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/1/2019	SCN945	PFOA	0.25	0.03318	3.125
			0.5	0.05895	6.250
	190701M1-CRV		1	0.11824	12.500
		13C2-PFOA	2	0.21986	25.000
			5	0.57756	62.500
			10	1.11263	125.000
			50	5.66807	625.000
			100	11.64186	1250.000
			250	27.00102	3125.000
			500	58.36004	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.117761	0.031497
Std Err of Y Est		
R Squared	0.999111	0.998858
Degrees of Freedom		
X Coefficient(s)	0.00922723	1.425390
Std Err of Coef.		
Correlation Coefficient	0.999555	
Coefficient of Determination (r^2)	0.999111	0.998858

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/1/2019	SCN945	PFOS	0.25	0.0123	0.02	0.00040
			0.5	0.0295	0.04	0.0016
	190701M1-CRV	13C8-PFOS	1	0.0651	0.08	0.0064
			2	0.1540	0.16	0.0256
			5	0.3969	0.40	0.1600
			10	0.9108	0.80	0.6400
			50	4.3887	4.00	16.0000
			100	9.6322	8.00	64.0000
			250	22.4459	20.00	400.0000
			500	45.9623	40.00	1600.0000

Regression Output	**Calculated**		***Reported WQR***	
Constant	*c*	*0.00905*	*c*	*-0.0827669*
Std Err of Y Est				
R Squared		*0.9998336*		*0.9992030*
Degrees of Freedom				
	m1	*m2*	*m1*	*m2*
X Coefficient(s)	*1.1286105*	*0.0004752*	*1.0321200*	*0.00169096*
Std Err of Coef.				
Correlation Coefficient		*0.999917*		
Coefficient of Determination (r^2)		*0.999834*		

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/10/2019	SCN945	PFOA	0.25	0.04424	3.125
			0.5	0.06626	6.250
			1	0.16054	12.500
		13C2-PFOA	2	0.28982	25.000
			5	0.76540	62.500
			10	1.42501	125.000
			50	7.42635	625.000
			100	14.79889	1250.000

Regression Output	Calculated	Reported WLR
Constant	-0.001555	0.038532
Std Err of Y Est		
R Squared	0.999983	0.999749
Degrees of Freedom		
X Coefficient(s)	0.01184661	1.848290
Std Err of Coef.		
Correlation Coefficient	0.999992	
Coefficient of Determination (r^2)	0.999983	0.999749

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/10/2019	SCN945	PFOS	0.25	0.00818	3.125
			0.5	0.03295	6.250
	190710M2-CRV		1	0.10211	12.500
		13C8-PFOS	2	0.14330	25.000
			5	0.43202	62.500
			10	0.82840	125.000
			50	5.02607	625.000
			100	10.45259	1250.000

Regression Output	Calculated	Reported WLR
Constant	-0.076994	-0.175183
Std Err of Y Est		
R Squared	0.999354	0.995937
Degrees of Freedom		
X Coefficient(s)	0.00836341	1.269460
Std Err of Coef.		
Correlation Coefficient	0.999677	
Coefficient of Determination (r^2)	0.999354	0.995937

LDC # 45580B96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(IS)	Conc	Reported	Recalculated	Reported % R	Recalculated % R
1	190702M2-4 ISC	7/2/2019	PFOA	(13C2-PFOA)	1.000	0.960	0.960	96.0	96.0
			PFOS	(13C8-PFOS)	1.000	0.936	0.936	93.6	93.6
2	190710M2-17 ICV	7/10/2019	PFOA	(13C2-PFOA)	10.000	7.241	7.241	72.4	72.4
			PFOS	(13C8-PFOS)	9.240	7.763	7.763	84.0	84.0
3	090712M1-2	7/12/2019	PFOA	(13C2-PFOA)	1.000	0.909	0.909	90.9	90.9
			PFOS	(13C8-PFOS)	1.000	0.983	0.983	98.3	98.3

LDC #: 45580 B96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: LC/MS PFAS (EPA Method 537Mod)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = | MSC - MSC | * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 11/12

Compound	Spike Added (ng/L)		Sample Conc (ng/L)	Spiked Sample Concentration (ng/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
PFOA	0.0847	0.0876	0.177	0.276	0.290	117	117	129	129	9.76	9.76
PFOS	↓	↓	0.0677	0.159	0.165	108	108	112	112	3.64	3.64

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

% RPD based on % R

LDC #: 45580 B96

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: B9F0280-BS1

Compound	Spike Added (ng/kg)		Spike Concentration (ng/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	10.0	NA	10.3	NA	103	103				
PFOS	↓	↓	10.5	↓	105	105				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45580 B96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 5 , PFOS :

Conc. = $\frac{\left[\left(\frac{11500}{1190} \times 12.5\right) - (-0.175183)\right](1ml)}{(1.26996)\ (1.08g)\ (0.967)}$

= 91.1 ug/kg

#	Sample ID	Compound	Reported Concentration (ug/kg)	Calculated Concentration ( )	Qualification
			91.1		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1901857

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SAOA-B05-GW	1901857-01	Water	06/26/19
SAOA-B09-SO-1-1.5	1901857-02	Soil	06/26/19
SAOA-B09-SO-20-20.5	1901857-03	Soil	06/26/19
SAOA-B09-GW	1901857-04	Water	06/26/19
FRB-06262019	1901857-05	Water	06/26/19
EB-06262019	1901857-06	Water	06/26/19
SAOA-B11-SO-1-1.5	1901857-07	Soil	06/27/19
SAOA-B11-SO-20-20.5	1901857-08	Soil	06/27/19
SAOA-B11-GW	1901857-09	Water	06/27/19
SAOA-B08-SO-1-1.5	1901857-10	Soil	06/27/19
EB-06272019	1901857-11	Water	06/27/19
FRB-06272019	1901857-12	Water	06/27/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Site Inspection for Per- and Polyfluoroalkyl Substances, Marine Corps Air Station Yuma, Arizona (May 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB-06272019-GW (from SDG 1901920), EB-06262019, and EB-06272019 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples In This SDG
EB-06272019-GW	06/27/19	PFOS PFDA	0.0103 ug/L 0.00428 ug/L	SAOA-B11-GW

Samples FRB-06262019 and FRB-06272019 were identified as field reagent blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SAOA-B11-GW	PFOS	0.00941 ug/L	0.00941J ug/L

Sample results were qualified as follows:

- If sample concentration was < 5X the blank concentration and the sample was <limit of quantitation (LOQ), the sample result was qualified as nondetect (U).
- If sample concentration was < 5X the blank concentration and the sample was >LOQ, the sample result was qualified as estimated (J).

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples/Ongoing Precision Recovery

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

Ongoing precision recovery (OPR) samples were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

OPR ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
B9G0116-BS1	EtFOSAA	137 (70-130)	SAOA-B09-SO-1-1.5 SAOA-B09-SO-20-20.5 SAOA-B11-SO-1-1.5 SAOA-B11-SO-20-20.5 SAOA-B08-SO-1-1.5	NA	-

NA (Not Applicable): The percent recovery demonstrates a high bias and the affected compound was not detected in the associated samples. Sample qualification was not necessary.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
SAOA-B05-GW	d5-EtFOSAA 13C2-PFUnA 13C2-PFDoA 13C2-PFTeDA	49.4 (50-150) 43.1 (50-150) 35.9 (50-150) 17.0 (50-150)	EtFOSAA PFUnA PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
SAOA-B11-GW	13C2-PFTeDA	47.2 (50-150)	PFTeDA	UJ (all non-detects)	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the limit of quantitation (LOQ) were qualified as follows:

Sample	Finding	Flag	A or P
SAOA-B09-SO-1-1.5 SAOA-B09-GW SAOA-B11-SO-1-1.5 SAOA-B11-GW SAOA-B08-SO-1-1.5	All compounds reported below the LOQ.	J (all detects)	A

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to labeled compound %R and results below the LOQ, data were qualified as estimated in six samples.

Due to equipment blank contamination, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 1901857

Sample	Compound	Flag	A or P	Reason
SAOA-B05-GW	EtFOSAA PFUnA PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B11-GW	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B09-SO-1-1.5 SAOA-B09-GW SAOA-B11-SO-1-1.5 SAOA-B11-GW SAOA-B08-SO-1-1.5	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 1901857

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1901857

Sample	Compound	Modified Final Concentration	A or P
SAOA-B11-GW	PFOS	0.00941J ug/L	A

LDC #: 45580C96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/12/19
SDG #: 1901857 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer: JV6
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537(M))

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r² Individual ≤ 30% ICV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	*FRB = 5, 12 EB = *6, *11, EB-06272019-GW (1901920)
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	SW	LCS/D, OPR
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER: FRB = Field Reagent Blank

	Client ID	Lab ID	Matrix	Date
1	SAOA-B05-GW	1901857-01	Water	06/26/19
2	SAOA-B09-SO-1-1.5	1901857-02	Soil	06/26/19
3	SAOA-B09-SO-20-20.5	1901857-03	Soil	06/26/19
4	SAOA-B09-GW	1901857-04	Water	06/26/19
5	FRB-06262019	1901857-05	Water	06/26/19
6	EB-06262019	1901857-06	Water	06/26/19
7	SAOA-B11-SO-1-1.5	1901857-07	Soil	06/27/19
8	SAOA-B11-SO-20-20.5	1901857-08	Soil	06/27/19
9	SAOA-B11-GW	1901857-09	Water	06/27/19
10	SAOA-B08-SO-1-1.5	1901857-10	Soil	06/27/19
11	EB-06272019	1901857-11	Water	06/27/19
12	FRB-06272019	1901857-12	Water	06/27/19
13				
14	1. B9G0050-BLK1			
15	2. B9G0116-1			

LDC #: 45580C96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537M)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤30%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard except the lowest point (50-150%)?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzedin this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch in this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		

LDC #: 45580C96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?.			✓	
XI. Labeled Compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Was m/z 499 to m/z 80 transition used as the quantitation transition for PFOS?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: Perfluorinated Alkyl Acids (EPA Method 537)

A. PFBA	375-22-4
B. PFPeA	2706-90-3
C. PFBS	375-73-5
D. PFHxA	307-24-4
E. PFHpA	375-85-9
F. PFHxS	355-46-4
G. PFOA	335-67-1
H. PFHpS	375-92-8
I. PFNA	375-95-1
J. PFOSA	754-91-6
K. PFOS	1763-23-1
L. PFDA	335-76-2
M. PFUnA	2058-94-8
N. PFDS	335-77-3
O. PFDoA	307-55-1
P. MeFOSA	31506-32-8
Q. PFTrDA	72629-94-8
R. PFTeDA	376-06-7
S. EtFOSA	4151-50-2
T. MeFOSE	24448-09-7
U. EtFOSE	1691-99-2
V. MeFOSAA	2355-31-9
W. EtFOSAA	2991-50-6

Notes: _____

LDC #: 45580 C96

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: LC/MS PFAS (EPA Method 537M)

(Y) N N/A Were field blanks identified in this SDG?
Y/N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ng/L
Sampling date: 06/27/19
Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: _____ Associated Samples: 9

Compound	Blank ID	Sample Identification								
EB-06272019-GW		9								
>LOQ K	0.0103		0.00941 J							
<LOQ L	0.00428									

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

LDC #: 45580C96

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	BG0116-BS1 (COPR)	W	137 (70-130)	( )	( )	2,3,7,8,16, MB2 (ND)	J dets / p
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		

LDC #: 45580 C96

VALIDATION FINDINGS WORKSHEET
Labeled Compound

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compounds within -50 to +150% of the associated calibration standard?

#	Date	Sample ID	Labeled Compound	%R	Limits (%)	Qualifications
		1 (ND)	d5-N	99.4	50-150	J/UJ/P (qual N)
		↓	13C2-M	43.1	↓	M
			13C2-O	35.9		O,Q
			13C2-R	17.0		R,
		9 (ND)	13C2-R	47.2		R,
		BG0050-BLK1	13C2-R	39.8		R
		BG0116-BLK1	13C2-R	47.3	↓	R

LDC#: 45580C96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/8/2019	SCN945	PFOA	0.25	0.03026	3.125
			0.5	0.05635	6.250
			1	0.12819	12.500
		13C2-PFOA	2	0.23652	25.000
			5	0.56342	62.500
			10	1.13496	125.000
			50	5.69897	625.000
			100	11.70763	1250.000
			250	27.83374	3125.000
			500	58.24964	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.064747	0.024985
Std Err of Y Est		
R Squared	0.999685	0.999567
Degrees of Freedom		
X Coefficient(s)	0.00925494	1.437000
Std Err of Coef.		
Correlation Coefficient	0.999843	
Coefficient of Determination (r^2)	0.999685	0.999567

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/8/2019	SCN945	PFOS	0.25	0.01762	3.125
			0.5	0.03271	6.250
			1	0.07312	12.500
		13C8-PFOS	2	0.16106	25.000
			5	0.42655	62.500
			10	0.82050	125.000
			50	4.47916	625.000
			100	9.43586	1250.000
			250	20.96613	3125.000
			500	47.95613	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.206548	-0.104113
Std Err of Y Est		
R Squared	0.997431	0.996565
Degrees of Freedom		
X Coefficient(s)	0.00752625	1.149010
Std Err of Coef.		
Correlation Coefficient	0.998715	
Coefficient of Determination (r^2)	0.997431	0.996565

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/12/2019	SCN945	PFOA	0.25	0.03226	3.125
			0.5	0.06127	6.250
			1	0.11149	12.500
		13C2-PFOA	2	0.22345	25.000
			5	0.55250	62.500
			10	1.13393	125.000
			50	5.63506	625.000
			100	10.95602	1250.000
			250	26.97489	3125.000
			500	54.69562	6250.000

Regression Output	Calculated	Reported WLR
Constant	0.014494	0.073917
Std Err of Y Est		
R Squared	0.999962	0.999890
Degrees of Freedom		
X Coefficient(s)	0.00872764	1.364860
Std Err of Coef.		
Correlation Coefficient	0.999981	
Coefficient of Determination (r^2)	0.999962	0.999890

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/12/2019	SCN945	PFOS	0.25	0.02715	3.125
			0.5	0.02748	6.250
			1	0.07680	12.500
		13C8-PFOS	2	0.14878	25.000
			5	0.44086	62.500
			10	0.85959	125.000
			50	4.21093	625.000
			100	8.30061	1250.000
			250	22.46399	3125.000
			500	45.30008	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.133686	-0.160592
Std Err of Y Est		
R Squared	0.999751	0.999099
Degrees of Freedom		
X Coefficient(s)	0.00724403	1.115200
Std Err of Coef.		
Correlation Coefficient	0.999876	
Coefficient of Determination (r^2)	0.999751	0.999099

LDC # 45580C96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(IS)	Conc	Reported	Recalculated	Reported % R	Recalculated % R
1	090708M3_2	7/8/2020	PFOA	(13C2-PFOA)	1.000	1.033	1.033	103.3	103.3
			PFOS	(13C8-PFOS)	1.000	0.998	0.998	99.8	99.8
2	190712M2_17 ICV	7/12/2019	PFOA	(13C2-PFOA)	10.000	7.535	7.535	75.3	75.3
			PFOS	(13C8-PFOS)	9.240	6.554	6.554	70.9	70.9

LDC #: 45580 C96

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: B9G0050-BS1/BSD1

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.040	0.040	0.0418	0.0425	104	104	106	106	1.84	1.7
PFOS	↓	↓	0.0378	0.0434	94.4	94.4	109	109	13.9	13.6

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45580C96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 2, PFOS:

Conc. $= \frac{\left[\left(\left(\frac{5630}{2550}\right)(12.5)\right) - (-0.160592)\right]}{(1.1152)} = 16.10$

final conc. $= \frac{(16.10)(1\ mL)}{(1.0\ g)(0.995)}$

$= 16.0\ ug/kg$

#	Sample ID	Compound	Reported Concentration (ug/kg)	Calculated Concentration ( )	Qualification
			16.0		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1901920

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SAOA-B08-SO-30-30.5	1901920-01	Soil	06/27/19
SAOA-B08-GW	1901920-02	Water	06/27/19
EB-06272019-GW	1901920-03	Water	06/27/19
FRB-06282019	1901920-04	Water	06/28/19
SAOA-B12-GW	1901920-05	Water	06/28/19
SAOA-B12-GW-D	1901920-06	Water	06/28/19
NAOA-B08-SO-1-1.5	1901920-07	Soil	07/01/19
NAOA-B08-SO-20-20.5	1901920-08	Soil	07/01/19
NAOA-B09-SO-1-1.5	1901920-09	Soil	07/01/19
NAOA-B09-SO-20-20.5	1901920-10	Soil	07/01/19
NAOA-B02-GW	1901920-11	Water	07/01/19
EB-07012019	1901920-12	Water	07/01/19
NAOA-B01-SO-1-1.5	1901920-13	Soil	07/01/19
FRB-07012019	1901920-14	Water	07/01/19
NAOA-B01-SO-20-20.5	1901920-15	Soil	07/01/19
NAOA-B01-GW	1901920-16	Water	07/02/19
NAOA-B01-GW-D	1901920-17	Water	07/02/19
CAOA-B02-SO-0.5-1	1901920-18	Soil	07/02/19
CAOA-B02-SO-20-20.5	1901920-19	Soil	07/02/19
EB-07022019	1901920-20	Water	07/02/19
CAOA-B02-SO-0.5-1MS	1901920-18MS	Soil	07/02/19
CAOA-B02-SO-0.5-1MSD	1901920-18MSD	Soil	07/02/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Site Inspection for Per- and Polyfluoroalkyl Substances, Marine Corps Air Station Yuma, Arizona (May 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB-06272019-GW, EB-07012019, and EB-07022019 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples in this SDG
EB-06272019-GW	06/27/19	PFOS PFDA	0.0103 ug/L 0.00428 ug/L	SAOA-B08-GW

Samples FRB-06272019 (from SDG 1901857), FRB-06282019, and FRB-07012019 were identified as field reagent blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SAOA-B08-GW	PFDA	0.00298 ug/L	0.00298U ug/L

Sample results were qualified as follows:

- If sample concentration was < 5X the blank concentration and the sample was <limit of quantitation (LOQ), the sample result was qualified as nondetect (U).
- If sample concentration was < 5X the blank concentration and the sample was >LOQ, the sample result was qualified as estimated (J).

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
CAOA-B02-SO-0.5-1MS/MSD (CAOA-B02-SO-0.5-1)	PFHxA	-	138 (70-130)	J (all detects)	A

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples/Ongoing Precision Recovery

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

Ongoing precision recovery (OPR) samples were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

OPR ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
B9G0116-BS1	EtFOSAA	134 (70-130)	SAOA-B08-SO-30-30.5 NAOA-B08-SO-1-1.5 NAOA-B08-SO-20-20.5 NAOA-B09-SO-1-1.5 NAOA-B09-SO-20-20.5 NAOA-B01-SO-1-1.5 NAOA-B01-SO-20-20.5 CAOA-B02-SO-0.5-1 CAOA-B02-SO-20-20.5	NA	-

NA (Not Applicable): The percent recovery demonstrates a high bias and the affected compound was not detected in the associated samples. Sample qualification was not necessary.

IX. Field Duplicates

Samples SAOA-B12-GW and SAOA-B12-GW-D and samples NAOA-B01-GW and NAOA-B01-GW-D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SAOA-B12-GW	SAOA-B12-GW-D			
PFBS	0.00758	0.00664	Not calculable	-	-
PFHxA	0.0178	0.0203	Not calculable	-	-
PFHpA	0.00410U	0.00361	Not calculable	-	-
PFHxS	0.00478	0.0157	Not calculable	-	-
PFOA	0.00410U	0.00635	Not calculable	-	-
PFNA	0.00410U	0.00302	Not calculable	-	-
PFOS	0.0127	0.0904	Not calculable	-	-
PFDA	0.00410U	0.00407	Not calculable	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	NAOA-B01-GW	NAOA-B01-GW-D			
PFBS	0.0823	0.170	70 (≤30)	J (all detects)	A
PFHxA	0.176	0.613	111 (≤30)	J (all detects)	A
PFHpA	0.0307	0.0573	60 (≤30)	J (all detects)	A

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	NAOA-B01-GW	NAOA-B01-GW-D			
PFHxS	0.167	0.120	33 (≤30)	J (all detects)	A
PFOA	0.00628	0.00362U	Not calculable	-	-
PFOS	0.0664	0.0447	39 (≤30)	J (all detects)	A

Not calculable = One or both results were less than 5x the limit of quantitation.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
SAOA-B08-GW	13C2-PFTeDA	44.1 (50-150)	PFTeDA	UJ (all non-detects)	P
SAOA-B12-GW-D	13C2-PFTeDA	30.7 (50-150)	PFTeDA	UJ (all non-detects)	P
NAOA-B02-GW	13C2-PFTeDA	45.7 (50-150)	PFTeDA	UJ (all non-detects)	P
NAOA-B01-GW	13C2-PFTeDA	47.7 (50-150)	PFTeDA	UJ (all non-detects)	P
NAOA-B01-GW-D	13C2-PFTeDA	39.8 (50-150)	PFTeDA	UJ (all non-detects)	P
CAOA-B02-SO-20-20.5	13C2-PFDoA	46.3 (50-150)	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the limit of quantitation (LOQ) were qualified as follows:

Sample	Finding	Flag	A or P
SAOA-B08-GW EB-06272019-GW SAOA-B12-GW SAOA-B12-GW-D NAOA-B09-SO-1-1.5 NAOA-B02-GW NAOA-B01-SO-1-1.5 NAOA-B01-GW CAOA-B02-SO-0.5-1 CAOA-B02-SO-20-20.5	All compounds reported below the LOQ.	J (all detects)	A

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R, field duplicate RPD, labeled compound %R, and results below the LOQ, data were qualified as estimated in eleven samples.

Due to equipment blank contamination, data were qualified as not detected in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 1901920

Sample	Compound	Flag	A or P	Reason
CAOA-B02-SO-0.5-1	PFHxA	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
NAOA-B01-GW NAOA-B01-GW-D	PFBS PFHxA PFHpA PFHxS PFOS	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Field duplicates (RPD)
SAOA-B08-GW SAOA-B12-GW-D NAOA-B02-GW NAOA-B01-GW NAOA-B01-GW-D	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
CAOA-B02-SO-20-20.5	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B08-GW EB-06272019-GW SAOA-B12-GW SAOA-B12-GW-D NAOA-B09-SO-1-1.5 NAOA-B02-GW NAOA-B01-SO-1-1.5 NAOA-B01-GW CAOA-B02-SO-0.5-1 CAOA-B02-SO-20-20.5	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 1901920

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1901920

Sample	Compound	Modified Final Concentration	A or P
SAOA-B08-GW	PFDA	0.00298U ug/L	A

LDC #: 45580D96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/12/19
SDG #: 1901920 Stage 4 Page: 1 of 2
Laboratory: Vista Analytical Laboratory Reviewer: SVG
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	Vr Individual ≤ 30% ICV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	EB = 3, 12*, 20 FRB = 4, 14*, FRB-06272019 (1901857)
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	SW	LCS/D
IX.	Field duplicates	SW	D = 16/17, 5/6
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER: FRB = Field Reagent Blank

	Client ID	Lab ID	Matrix	Date
1	SAOA-B08-SO-30-30.5	1901920-01	Soil	06/27/19
2	SAOA-B08-GW	1901920-02	Water	06/27/19
3	EB-06272019-GW	1901920-03	Water	06/27/19
4	FRB-06282019	1901920-04	Water	06/28/19
5	SAOA-B12-GW D	1901920-05	Water	06/28/19
6	SAOA-B12-GW-D D	1901920-06	Water	06/28/19
7	NAOA-B08-SO-1-1.5	1901920-07	Soil	07/01/19
8	NAOA-B08-SO-20-20.5	1901920-08	Soil	07/01/19
9	NAOA-B09-SO-1-1.5	1901920-09	Soil	07/01/19
10	NAOA-B09-SO-20-20.5	1901920-10	Soil	07/01/19
11	NAOA-B02-GW	1901920-11	Water	07/01/19
12	EB-07012019	1901920-12	Water	07/01/19
13	NAOA-B01-SO-1-1.5	1901920-13	Soil	07/01/19
14	FRB-07012019	1901920-14	Water	07/01/19
15	NAOA-B01-SO-20-20.5	1901920-15	Soil	07/01/19

LDC #: 45580D96 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/12/19
SDG #: 1901920 Stage 4 Page: 2 of 2
Laboratory: Vista Analytical Laboratory Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537)

	Client ID	Lab ID	Matrix	Date
16	NAOA-B01-GW	1901920-16	Water	07/02/19
17	NAOA-B01-GW-D	1901920-17	Water	07/02/19
18	CAOA-B02-SO-0.5-1	1901920-18	Soil	07/02/19
19	CAOA-B02-SO-20-20.5	1901920-19	Soil	07/02/19
20	EB-07022019	1901920-20	Water	07/02/19
21	CAOA-B02-SO-0.5-1MS	1901920-18MS	Soil	07/02/19
22	CAOA-B02-SO-0.5-1MSD	1901920-18MSD	Soil	07/02/19
23				
24				
25				
26				
27				

Notes:

1	BQG0116-BLK1						
2	BQG0062-1						

LDC #: 45580 D96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537M)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤30%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard except the lowest point (50-150%)?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzedin this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch in this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?.	✓			
XI. Labeled Compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓	-		
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Was m/z 499 to m/z 80 transition used as the quantitation transition for PFOS?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: Perfluorinated Alkyl Acids (EPA Method 537)

A. PFBA	375-22-4
B. PFPeA	2706-90-3
C. PFBS	375-73-5
D. PFHxA	307-24-4
E. PFHpA	375-85-9
F. PFHxS	355-46-4
G. PFOA	335-67-1
H. PFHpS	375-92-8
I. PFNA	375-95-1
J. PFOSA	754-91-6
K. PFOS	1763-23-1
L. PFDA	335-76-2
M. PFUnA	2058-94-8
N. PFDS	335-77-3
O. PFDoA	307-55-1
P. MeFOSA	31506-32-8
Q. PFTrDA	72629-94-8
R. PFTeDA	376-06-7
S. EtFOSA	4151-50-2
T. MeFOSE	24448-09-7
U. EtFOSE	1691-99-2
V. MeFOSAA	2355-31-9
W. EtFOSAA	2991-50-6

Notes:_____

LDC #: 45580 D9G

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537)

(Y) N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ng/L **Associated sample units:** ng/L

>5x or <LOQ

Sampling date: 06/27/19

Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: EB Associated Samples: 2 (either < or > 5x)

Compound	Blank ID	Sample Identification								
	3		32							
>LOQ K	0.0103		0.144 J a							
<LOQ L	0.00428		0.00298 U							

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

LDC #: 45580D 96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: O

METHOD: LC/MS PFCs (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed in this SDG?

Y N (N/A) Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		21/22	D	( )	138 (70-130)	( )	18 (Det)	J dets/A
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		

LDC #: 45580 D96

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	B9G0116-BS1 (OPR)	W	134 (70-130)	( )	( )	1, 7-10, 13, 15, 18, 19, MB 1 (ND)	J dets/P
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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LDC#: 45580D96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: LCMS PFAS (EPA Method 537M)
Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤30%)	Qualifications (Parent only)
	5	6		
C	0.00758	0.00664	NC	
D	0.0178	0.0203	NC	
E	0.00410U	0.00361	NC	
F	0.00478	0.0157	NC	
G	0.00410U	0.00635	NC	
I	0.00410U	0.00302	NC	
K	0.0127	0.0904	NC	
L	0.00410U	0.00407	NC	

Compound	Concentration (ug/L)		RPD (≤30%)	Qualifications (Parent only)
	16	17		
C	0.0823	0.170	70	Jdets/A
D	0.176	0.613	111	Jdets/A
E	0.0307	0.0573	60	Jdets/A
F	0.167	0.120	33	Jdets/A
G	0.00628	0.00362U	NC	
K	0.0664	0.0447	39	Jdets/A

NC (<5XLOQ)

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LDC #: 45580B96

VALIDATION FINDINGS WORKSHEET
Labeled Compound

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all labeled compounds within -50 to +150% of the associated calibration standard?

#	Date	Sample ID	Labeled Compound	%R	Limits (%)	Qualifications
		2 (ND)	13C2-R	44.1	50-150	J/UJ (all R)
		6		30.7		
		11		45.7		
		16		47.7		
		17		39.8		
		19	13C2-O	46.3		(all O, R)
		BG0062-BLK1	13C2-R	46.6		R
		BG0116-BLK1	d5-W	47.3		W

LDC#: 45580D96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/10/2019	SCN945	PFOA	0.25	0.04424	3.125
			0.5	0.06626	6.250
			1	0.16054	12.500
		13C2-PFOA	2	0.28982	25.000
			5	0.76540	62.500
			10	1.42501	125.000
			50	7.42635	625.000
			100	14.79889	1250.000

Regression Output	Calculated	Reported WLR
Constant	-0.001555	0.038532
Std Err of Y Est		
R Squared	0.999983	0.999749
Degrees of Freedom		
X Coefficient(s)	0.01184661	1.848290
Std Err of Coef.		
Correlation Coefficient	0.999992	
Coefficient of Determination (r^2)	0.999983	0.999749

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/10/2019	SCN945	PFOS	0.25	0.00818	3.125
			0.5	0.03295	6.250
	190710M2-CRV		1	0.10211	12.500
		13C8-PFOS	2	0.14330	25.000
			5	0.43202	62.500
			10	0.82840	125.000
			50	5.02607	625.000
			100	10.45259	1250.000

Regression Output	Calculated	Reported WLR
Constant	-0.076994	-0.175183
Std Err of Y Est		
R Squared	0.999354	0.995937
Degrees of Freedom		
X Coefficient(s)	0.00836341	1.269460
Std Err of Coef.		
Correlation Coefficient	0.999677	
Coefficient of Determination (r^2)	0.999354	0.995937

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/12/2019	SCN945	PFOA	0.25	0.03226	3.125
			0.5	0.06127	6.250
	190712M-CRV		1	0.11149	12.500
		13C2-PFOA	2	0.22345	25.000
			5	0.55250	62.500
			10	1.13393	125.000
			50	5.63506	625.000
			100	10.95602	1250.000
			250	26.97489	3125.000
			500	54.69562	6250.000

Regression Output	Calculated	Reported WLR
Constant	0.014494	0.073917
Std Err of Y Est		
R Squared	0.999962	0.999890
Degrees of Freedom		
X Coefficient(s)	0.00872764	1.364860
Std Err of Coef.		
Correlation Coefficient	0.999981	
Coefficient of Determination (r^2)	0.999962	0.999890

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/12/2019	SCN945	PFOS	0.25	0.02715	3.125
			0.5	0.02748	6.250
			1	0.07680	12.500
	190712M-CRV	13C8-PFOS	2	0.14878	25.000
			5	0.44086	62.500
			10	0.85959	125.000
			50	4.21093	625.000
			100	8.30061	1250.000
			250	22.46399	3125.000
			500	45.30008	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.133686	-0.160592
Std Err of Y Est		
R Squared	0.999751	0.999099
Degrees of Freedom		
X Coefficient(s)	0.00724403	1.115200
Std Err of Coef.		
Correlation Coefficient	0.999876	
Coefficient of Determination (r^2)	0.999751	0.999099

LDC # 45580D96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(IS)	Conc	Reported	Recalculated	Reported % R	Recalculated % R
1	190711M3-32	7/12/2019	PFOA	(13C2-PFOA)	1.000	0.937	0.937	93.7	93.7
			PFOS	(13C8-PFOS)	1.000	1.090	1.090	109.0	109.0
2	190712M2-17 ICV	7/12/2019	PFOA	(13C2-PFOA)	10.000	7.535	7.535	75.3	75.3
			PFOS	(13C8-PFOS)	9.240	6.554	6.554	70.9	70.9
3	190712M2-35 CCV	7/12/2019	PFOA	(13C2-PFOA)	10.000	10.172	10.172	101.7	101.7
			PFOS	(13C8-PFOS)	10.000	9.410	9.410	94.1	94.1

LDC #: 45580 D96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537Mod)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = | MSC - MSC | * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 21/22

Compound	Spike Added (ng/kg)		Sample Conc (ng/kg)	Spiked Sample Concentration (ng/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
PFOA	9.97	9.73	1.56	13.7	12.7	122	122	115	115	5.91	5.91
PFOS	↓	↓	8.16	19.2	19.1	111	111	112	112	0.89%	0.90

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

% RPD based on %R

LDC #: 45580 D96

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 890116-BS1

Compound	Spike Added (ng/kg)		Spike Concentration (ng/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	10.0	NA	10.8	NA	108	108				
PFOS	"	"	10.5	"	105	105				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45580 D96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #7 , PFOS :

Conc. = $\frac{\left[\left(\left(\frac{6780}{2770}\right)(12.5)\right) - (-0.160592)\right](1\,ml)}{(1.1152)(1.03g)(0.985)}$

= 27.2 ng/kg

#	Sample ID	Compound	Reported Concentration (ng/kg)	Calculated Concentration ( )	Qualification
			27.2		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1901922

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FRB-07022019	1901922-01	Water	07/02/19
CAOA-B02-GW	1901922-02	Water	07/02/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Site Inspection for Per- and Polyfluoroalkyl Substances, Marine Corps Air Station Yuma, Arizona (May 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample FRB-07022019 was identified as a field reagent blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the limit of quantitation (LOQ) were qualified as follows:

Sample	Finding	Flag	A or P
CAOA-B02-GW	All compounds reported below the LOQ.	J (all detects)	A

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to results below the LOQ, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 1901922

Sample	Compound	Flag	A or P	Reason
CAOA-B02-GW	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 1901922

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1901922

No Sample Data Qualified in this SDG

LDC #: 45580E96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/12/19
SDG #: 1901922 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer: JV6
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	rr Individual ≤ 30% ICV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FRB = 1
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER: FRB= Field Reagent Blank

	Client ID	Lab ID	Matrix	Date
1	FRB-07022019	1901922-01	Water	07/02/19
2	CAOA-B02-GW	1901922-02	Water	07/02/19
3				
4				
5				
6				
7				
8				
9				
10				

Notes:

	890062-blk1						

LDC #: 45580E96

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537M)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤30%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard except the lowest point (50-150%)?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzedin this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch in this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

Validation Area	Yes	No	NA	Findings/Comments
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?.			✓	
XI. Labeled Compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓	✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Was m/z 499 to m/z 80 transition used as the quantitation transition for PFOS?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 45580 E96

VALIDATION FINDINGS WORKSHEET
Labeled Compound

Page: 1 of 1
Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Were all labeled compounds within -50 to +150% of the associated calibration standard?

#	Date	Sample ID	Labeled Compound	%R	Limits (%)	Qualifications
		B9G0062-BLK1	13C2-PFTeDA	46.6	50-150	J/UJ/P

Labeled cpd.wpd

LDC#: 45580E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
711/19	SCN945	PFOA	0.25	0.04424	3.125
			0.5	0.06626	6.250
			1	0.16054	12.500
		13C2-PFOA	2	0.28982	25.000
			5	0.76540	62.500
			10	1.42501	125.000
			50	7.42635	625.000
			100	14.79889	1250.000

Regression Output	Calculated	Reported WLR
Constant	-0.001555	0.038532
Std Err of Y Est		
R Squared	0.999983	0.999749
Degrees of Freedom		
X Coefficient(s)	0.01184661	1.848290
Std Err of Coef.		
Correlation Coefficient	0.999992	
Coefficient of Determination (r^2)	0.999983	0.999749

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: LC/MS PFCs (EPA Method 537Mod)

Calibration Date	System	Compound	Standard	(Y) Area ratio	(X) Conc ratio
7/11/2019	SCN945	PFOS	0.25	0.00818	3.125
			0.5	0.03295	6.250
			1	0.10211	12.500
		13C8-PFOS	2	0.14330	25.000
			5	0.43202	62.500
			10	0.82840	125.000
			50	5.02607	625.000
			100	10.45259	1250.000

Regression Output	Calculated	Reported WLR
Constant	-0.076994	-0.175183
Std Err of Y Est		
R Squared	0.999354	0.995937
Degrees of Freedom		
X Coefficient(s)	0.00836341	1.269460
Std Err of Coef.		
Correlation Coefficient	0.999677	
Coefficient of Determination (r^2)	0.999354	0.995937

LDC # 45580E96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Conc	Reported	Recalculated	Reported % R	Recalculated % R
1	190711M3_32	7/11/2019	PFOA (13C2-PFOA)	10.000	10.329	10.329	103.3	103.3
			PFOS (13C8-PFOS)	10.000	10.227	10.227	102.3	102.3

LDC #: 45580E96

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG
2nd Reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: BJG0062-BS1/BSD1

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.080	0.080	~~0.0887~~ 0.0880	0.0846	109	109	106	106	2.89	2.80
PFOS	1	1	0.0880	0.0817	110	110	102	102	7.33	7.42

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45580 E96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer:

METHOD: LC/MS PFAS (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 7, PFOS:

Conc. = $\frac{\left[\left(\frac{2550}{1250}\right)(12.5) - (-0.17518)\right]}{(1.26946)} = 20.225$

final conc. = $\frac{(20.225)(12)}{(0.1205)(1000)} = 0.1678$

≈ 0.168 ng/L

#	Sample ID	Compound	Reported Concentration (ng/L)	Calculated Concentration ( )	Qualification
			0.168		

LOCATION-NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIC_DESC	COLLECT_DATE
NAOA-B01	SITE 00019	YUMA_MCAS	BH	BOREHOLE	1901920	442543.926	606042.691	Perfluoroalkyl Compounds	NAOA-B01-GW	WG	GROUNDWATER	7/2/2019
NAOA-B02	SITE 00019	YUMA_MCAS	BH	BOREHOLE	1901920	441431.851	606800.181	Perfluoroalkyl Compounds	NAOA-B02-GW	WG	GROUNDWATER	7/1/2019
SAOA-B08	SITE 00019	YUMA_MCAS	BH	BOREHOLE	1901920	435494.065	600149.521	Perfluoroalkyl Compounds	SAOA-B08-GW	WG	GROUNDWATER	6/27/2019
SAOA-B12	SITE 00019	YUMA_MCAS	BH	BOREHOLE	1901920	433218.852	601537.721	Perfluoroalkyl Compounds	SAOA-B12-GW	WG	GROUNDWATER	6/28/2019